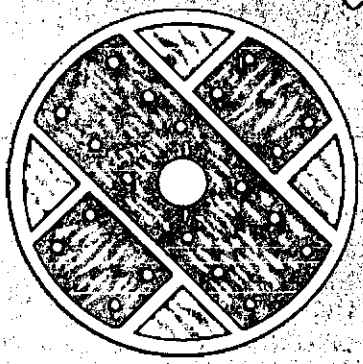


THE PROCESS OF INDUSTRIAL DEVELOPMENT IN LATIN AMERICA

United Nations

Economic Commission for Latin America

The process of industrial development in Latin America

UNITED NATIONS
New York, 1966

E/CN.12/716/Rev. 1

UNITED NATIONS PUBLICATION

Sales No.: 66. II.G. 4

Price: $U.S. 4.00
(or equivalent in other currencies)

CONTENTS

FOREWORD

Industrialization has always been regarded by the Economic Commission for Latin America as one of the basic factors for achieving economic development in the region. The Commission's concern with industrialization, expressed in a large number of resolutions, has been reflected by the secretariat, both in its annual economic surveys of Latin America, at the more general level, and in various sectoral and country studies.

The aim of the present study is to give an account of some of the experience with industrialization in the Latin American countries, and assess this experience in the light of the past evolution of manufacturing in the region and the existing structural features of this sector. In addition, past experience has been projected in an attempt to anticipate some of the problems likely to arise in industry's future development.

The basic data on which the analysis is founded, and the methodology used in making the analysis, are in the main set forth in a statistical annex, document E/CN. 12/716/Add.2., available in mimeographed form only. In most cases the sources not given in the tables and figures of the main part of the text will be found in the annex referred to.

The secretariat was fortunate in obtaining the valuable assistance of a number of Latin American professionals who helped to assess developments in their own countries, mainly in relation to chapter III, on industrial policy. Although these distinguished men cannot be mentioned individually, the secretariat wishes to express its gratitude for their contribution, without renouncing exclusive responsibility for the text that follows, in accordance with the usual practice in this type of study.

Chapter I

SALIENT FEATURES OF THE HISTORICAL EVOLUTION OF INDUSTRY IN LATIN AMERICA

1. Conditions which made industrial development essential

The present dimensions and characteristics of industry in Latin America are the product of a long-term growth process influenced by factors of various kinds, some of which are connected with salient economic events at the world level, and others with conditions peculiar to the region, and, among these, with the industrial policy pursued by the countries of Latin America.

Although these factors have many features in common, their importance has differed widely in each individual Latin American country, so that a considerable variety of situations is observable within the general picture of Latin American industry today. If the region is considered as a whole, the present phase of Latin America's industrial development process exhibits obvious achievements. The manufacturing sector has come to account for approximately 24 per cent of the region's gross product and to employ no less than 14 per cent of the active population. Domestic production satisfies much of the regional demand for non-durable consumer manufactures, and an appreciable contribution is now made to total supplies of durable consumer goods, intermediate products, building materials and production machinery and equipment. Alongside the expansion of the so-called "traditional industries" (primarily foodstuffs and beverages, textiles and clothing, chemical preparations, furniture, cement and other building materials, etc.), considerable strides have been made in the development of the basic industries (steel-making, manufacture of chemical products) and of those producing transport machinery and equipment (including the motor-vehicle industry) and machine tools. In terms of size and diversification, certain major industrial centres in Latin America are nowadays comparable to some of those found in economies at much more advanced stages of development and enjoying far higher income levels; in many instances these centres present a startling contrast with the retarded state of Latin America's vast rural areas, while in other cases they have contributed to the modernization and dynamic impetus of specific agricultural enterprises.

Thus, industrialization would seem to have constituted a fruitful part of Latin America's over-all economic development process. But such a conclusion is subject to reservations from more than one point of view, and, in particular, the advances made should be compared with the historical evolution of the factors determining industrialization requirements in Latin America. In other words, it is not enough to note the progress achieved; what must also be evaluated is the measure in which it has sufficed to meet the needs emanating from the over-all development process.

Many of the factors which make industrial development an indispensable part of the over-all growth process are common to all kinds of economies, whose respective stages of development determine the mode and intensity of their operation. In this sense, the industrial development of Latin America can be visualized over the long term as a way in which the region can share in the benefits of technical progress at the international level, and can join in the industrialization process of the whole world. Viewed from this standpoint its participation proves to be modest indeed; Latin American industry today accounts for only 3 per cent of world industrial output, although the population of the region exceeds 6 per cent of total world population.

The significance of this share should be related to its long-term trends and to the length of time it has taken to materialize. In fact, the real incorporation of each of the Latin American countries into the over-all industrialization process has taken place in different periods and at different rates. Some Latin American countries had already established important foreign trade flows in the second half of the nineteenth century, which facilitated their assimilation of technical progress and the opportunities of creating better living conditions that this progress afforded; whereas others did not enjoy the same opportunities until much later on. It is therefore not surprising that in each case, too, the three major international events of the last half-century — the two world wars and the depression of the thirties — produced different effects, encouraging or hampering internal development, according to the degree of dependence of the country concerned upon and the outside world, and the extent to which each had built up its own production basis.

The aim of the ensuing paragraphs is not to present a systematic analysis of the evolution of industry in each country or in specific groups over a set period, but merely to assemble a few data which will help to clarify the general characteristics of certain situations that may be regarded as illustrative of the process in Latin America. In preparing them, it has been borne in mind that several of the general factors which make industrialization a normal development requirement seem to have operated particularly powerfully in the case of the Latin American countries.

Foremost among these factors is the rate of population growth. At the beginning of the century, the population of Latin America represented barely 4.1 per cent of that of the world. Twenty-five years later, this proportion had risen to 5.2 per cent, and by 1950 it had reached 6.5 per cent. During the fifty years in question, while the population of the world as a whole increased by 61.1 per cent, that of Latin America more than doubled (showing an increment of 158.7 per cent). These trends have persisted and even sharpened in recent years; between 1950 and 1958, the annual rate of demographic growth in Latin America was 2.4 per cent, whereas it ranged from 1.6 to 1.9 per cent in Africa, Asia, North America and the Soviet Union, and was barely 0.7 per cent in Europe (excluding the USSR).[1]

In these circumstances, for *per capita* manufacturing output to expand at a specific rate, the over-all growth rate of industry would have had to be more rapid in Latin America than in other areas. Moreover, although the rate of increase of the labour force is not necessarily exactly the same as that of the population, given such demographic trends it must have been much higher in Latin America than elsewhere.

---

[1] *See* "The demographic situation in Latin America", *Economic Bulletin for Latin America*, Vol. VI, No. 2, October 1961, p. 22 (table 8).

To the rapid growth of the total population was added, in Latin America, a second demographic characteristic — the trends followed by the distribution of the population between urban and rural areas — which was to exert a powerful influence on the composition and diversification of demand for goods and services. For reasons linked to the patterns of economic growth in its early stages — when development was strongly outward-directed, there was little integration of the internal economies and a substantial immigration flow developed —, a vigorous urbanization process started in the Latin American countries at a very early date. Even in 1925, one-third of the population of Latin America could already be classified as urban, and at the present time the corresponding proportion is about 50 per cent.[2] If the concept of urban population is defined as the percentage of total population living in places with 20,000 inhabitants or more, it will be seen that the proportion registered in Chile in 1920 was slightly smaller than that recorded in the United States in 1910 (28 and 31 per cent respectively), and that by 1950 the two indexes were practically the same (a little over 40 percent). Ever since the twenties, Cuba has been showing urbanization indexes higher than Sweden's, while those of Argentina considerably exceed the corresponding figures for any European country, excluding the United Kingdom but including the Federal Republic of Germany.[3]

There is more than one indication that the speed with which the Latin American urbanization process has taken place has been much greater than might have been expected in view of the absolute levels and growth rates of per capita income. In other words, urbanization might be envisaged — in the specific context of the corresponding stages of Latin America's development — as a supplementary industrialization requirement, determining changes in the structure of demand that were characterised by the greater diversification linked to urban patterns of living, and that extended beyond those which might strictly be associated with higher income levels.

There is an additional factor which, although its effects on the growth of manufacturing activity have been contradictory, has helped, up to a point, to determine the characteristics of industrial development: namely, the influence that must have been exerted on the region's industrialization process by income distribution patterns, in the broadest sense of the words. As one sector of the population, in a few large urban centres, underwent rapid modernization, huge groups of rural population lagged farther and farther behind, while the distribution of urban income itself (by income steps or by socio-economic groups) showed a high degree of concentration. These general income distribution characteristics were bound to produce twofold and, as already pointed out, somewhat contradictory effects upon industrial development: on the one hand they affected the rate of capitalization and accelerated the diversification of demand in a relatively small sector of the population, with the resultant supply requirements in respect of a steadily widening range of manufactures; on the other hand, they limited the size of the aggregate market for manufactured goods, from which a considerable proportion of the Latin American population was largely cut off.

This factor — the coincidence of pressures for rapid diversification in response to the characteristics of one sector's demand with the concurrent limitation of the market

---

[2] For a precise definition of what is regarded as urban population, *see* "Changes in employment structure in Latin America, 1945–55", *Economic Bulletin for Latin America*, Vol. II, N° 1, February 1957, pp. 15 *et seq.*

[3] *See* "The demographic situation in Latin America", *loc. cit.*, pp. 33 and 34 (tables 16 and 17).

by the slow expansion of demand in other sectors with lower income levels — probably made its presence felt at a very early stage of Latin America's industrialization process, and, in any event, could not fail to leave its mark on the subsequent features of the region's industrial growth.

There was a possibility of partly meeting the over-diversification of demand by means of imports. But there again, the long-term evolution of Latin America's external sector differed in significant ways from that of other under-developed areas. In several countries of the region, exports, and consequently the capacity to import, reached their peak levels prior to the First World War, and later suffered considerable setbacks, so that *per capita* imports were higher in the years preceding the First World War than at the end of the twenties. (This was the case in Argentina, for example, and to a still more marked extent in Brazil, which had to cope with the 1910 coffee crisis.) The slackening in the international trade of some Latin American countries spread and was aggravated as a result of the depression of the thirties, which finally broke up the development pattern followed until then. Eloquent testimony to its decisive importance is borne by the persistent long-term decline registered from that time onwards in Latin America's share in world exports. Whereas in 1928 the foreign trade of Latin America had accounted for 9.1 per cent of total world exports, in 1938 it represented only 7.9 per cent, and by 1960 barely 6.8 per cent.[4]

Setting aside the wide variations in over-all growth rates from one country to another, such basic factors as the rapid tempo of urbanization, the patterns of income distribution and the premature weakening of the external sector have probably done more in Latin America than in other developing areas to intensify industrialization requirements. There were also particularly favourable factors that made it easier to meet these needs. Among the most important were, on the one hand, a somewhat higher average level of culture and, on the other, a strong flow of immigration, which attained significant proportions in several countries of the region. In so far as it implied contributions in the shape of technical and organizing skills, and in many cases capital resources as well, mass immigration acted as a stimulus, and notably facilitated the early stages of Latin America's industrialization process. In others it bolstered the agricultural export sectors and thus contributed indirectly to the development of industry by transferring to industry part of the surpluses of those sectors.

To sum up, many of the Latin American economies seem to have found themselves faced not only with the normal industrialization requirements entailed by an ordinary development process, but with an intensification of such needs attributable to particularly rapid rates of urbanization and over-all population growth, as well as to contractions occurring in the external sector at too early a stage in relation to over-all development requirements. These characteristics were not uniformly manifested in each and all of the countries of the region, but they were fairly widespread, and the extent to which they apply to specific individual situations will be discussed in due course.

The factors in question were to constitute a powerful stimulus to industrialization, implicit in them at the same time were certain hindrances to the process. Thus, for example, while rapid urbanization created new or broader markets for manufactured goods, it simultaneoulsy tended to absorb, in the expansion of typical urban services, a high proportion of resources that could have been mobilized for capital formation.

---

[4] *See The Economic Development of Latin America in the Post-War Period*, United Nations publication, Sales No.: 64.II.G.6, p. 124 (table 123).

The fact that the development process was not effectively integrated and that the rural sectors lagged so far behind — except, perhaps, in some cases of export agriculture such as São Paulo — resulted in a lack of complementarity in agricultural expansion, which was reflected in the limited size of the rural market for manufactured goods, in inadequate contributions to domestic capital formation — except in Argentina and Brazil during certain periods —, in heavy balance-of-payments pressures deriving from imports of primary commodities, in the limited growth of agricultural exports and in other similar handicaps. The counterpart of the rapid diversification of demand deriving from urbanization and income distribution was the cramped development of mass production of current consumer manufactures to supply the needs of broader population sectors. The speed of demographic growth, while it made for the enlargement of individual country markets that were often very small in terms of population numbers, meant that — in default of faster rates of increase of total income and in the face of social pressures or demands — a considerable proportion of available resources still had to be channelled towards satisfying the basic requirements of the population in the matter of health, education and other services. Lastly, the unfavourable behaviour of external sector during the past half-century, while it promoted and emphasized the need for industrialization, hampered the process by limiting the region's capacity to import the machinery and equipment and the raw materials and intermediate products required for industrial development itself.

Clearly, in face of such a complex of determining influences, an evaluation of Latin America's industrialization process in abstract or absolute terms will not suffice. It is not enough to note that industrial development did take place, and that nowadays the manufacturing sector accounts for an appreciable proportion of Latin America's total product; the rates and patterns of that development must also be compared with the evolution of requirements over the past, in order to assess how far it was capable of meeting them. Particular importance must be attached to such questions as whether it did in fact fulfil the role incumbent upon it in relation to the basic objective of opening up sufficient productive employment opportunities for the increment in the active population, and whether it was able to play its due part not only in breaking down the barriers to the growth of the whole economy set up by the unfavourable evolution of the external sector, but also in the replacement of this latter as the mainspring of over-all development.

Such a comparison will be attempted in the ensuing sections. It will facilitate appraisal of the industrial policy pursued in the past, will give a clearer idea of the root causes that determined the existing structural characteristics of Latin American industry, and will afford at least a glimpse or two of future prospects.

2. Main stages of the industrialization process in Latin America

The behaviour of the factors referred to above, and of others equally pertinent, was not always uniform, nor did they affect all the various Latin American countries at the same time and in the same degree. Consequently, industrial growth rates were also uneven, and the industrialization process did not take place simultaneously throughout the region. On the other hand, its general characteristics seem to mark out a succession of stages which all the Latin American economies traversed, although at different periods, and each in its own way.

(a) *The period before the depression*

It is often said that the world depression of the thirties initiated a phase of radical changes in the rate and patterns of development in Latin America, and that these changes particularly affected the region's industrialization process. Until the end of the twenties, the Latin American economies were characterized by their "outward-directed" development; since then the new world trade conditions caused a change towards "inward-directed" development. Broadly speaking this feature is associated with the expansion of the primary production sectors that was the dominant feature of the pre-depression period, and with the subsequent emphasis on import substitution, which in turn was to be reflected in the inception or invigoration of the industrialization process.

In so far as these generalizations are taken to mean that until the time of the depression external demand constituted the main and almost the only source of dynamic impetus to growth, whereas from the depression onwards the motive power was generated rather by factors linked to internal demand, they would seem to be fully applicable to Latin America as a whole. But once they begin to evoke an image of Latin American industry as almost non-existent up to the beginning of the depression, and developing rapidly only as from that date, it becomes essential to probe more deeply into individual situations, the study of which will reveal quite sharp distinctions between specific groups of Latin American countries.

Indubitably, in more than one instance a series of factors arose in the decades preceding 1930, which exerted a dynamic influence on the domestic manufacturing industry. This was partly true, even with respect to the increase in exports of primary products, since they required at least a measure of local primary processing, which led to the consolidation of sizeable manufacturing nuclei, such as packing-plant, sugar mills, ore-dressing plants, and so on. These activities entailed closer contact with technical advances, increasing familiarity with industrial organization and its development opportunities, and a better assessment of technical and professional ability. Moreover, the basic and complementary services required by export activities themselves (railways, repair and maintenance services, etc.) were not only instrumental in spreading at least part of the income generated in the sector, but at the same time promoted a large-scale urbanization process. This concentration in urban areas formed a market for a broader and more diversified flow of manufactured goods, favourable to the development of "light" consumer industries, an appreciation of which may be obtained from a few figures. For example, in Argentina, even before the First World War, more than half the population was classified as urban; in eight of the larger towns, the number of inhabitants exceeded 100,000, and in another thirty-nine it was over 20,000. By 1920 there were at least six towns in Brazil whose population amounted to more than 100,000 persons, and twenty-one with more than 20,000 inhabitants. In 1930, one-third of the population of Mexico was living in urban centres, among which the Federal District alone had an urban population of over one million. The population of Buenos Aires already numbered more than one and a half million in 1914; by 1920, that of Rio de Janeiro exceeded one million, while São Paulo and Santiago, Chile, each had more than 500,000 inhabitants; Mexico City had a population of over a million in 1930, and in 1931 more than 600,000 persons were living in Havana.

The increase in exports provided a capacity to import sufficient for the needs of the urban centres, whose size nevertheless offered a constant incentive to the local

manufacture of some products without a specific protectionist policy being required for industry. This incentive was even stronger during the external supply shortages which occurred during the First World War, a development which promoted local manufacture. In other words, the dynamism of the external sector was not inconsistent, in some countries, with a measure of import substitution which might be called "spontaneous" to distinguish it from the "forced" substitution which had to be undertaken later when foreign trade conditions worsened. "Spontaneous" substitution stemmed from initiatives based on sufficiently low costs whereas "forced" substitution took place mainly in the form of protectionist measures.

The extent to which industrialization could be stimulated by urbanization and by increased export earnings depended upon the absolute size of the markets concerned, a factor which even then was beginning to loom up as one of those exerting the most powerful influence on the industrialization process in the Latin American countries. These factors, plus the very important element of immigration, explain why by the end of the twenties several countries of the region already possessed an industrial base — which was, moreover, relatively diversified — apart from the manufacturing nuclei directly linked to export activities. As was natural, by far the most prominent were the industries producing foodstuffs, beverages, textiles and clothing, with others whose characteristics were similar but which were mainly in the form of artisan industries, manufacturing activity included the metallurgical and metal-transforming industries themselves, although the degree of integration and relative importance varied considerably from country to country.

The country where the combination of factors was most favourable was Argentina. Its income from exports was relatively high, and spread fairly widely over the country's population as a whole; relatively speaking also, a considerable degree of urban concentration had also been attained; and in addition a substantial immigration flow amounting to over 2 million persons in thirty years, brought with it a new potential in respect of private enterprise and technical skills. As a result of the flow of immigrants, in 1944 aliens represented 30 per cent of the population.

It is thus understandable that at the beginning of the century Argentina's manufacturing industry already accounted for an appreciable proportion of the total national product and that by the eve of the First World War this sector was also absorbing a relatively large proportion of the total economically active population.[5] The rapid development of infrastructure and the inflow of foreign capital were other favourable factors, whose operation was reinforced by the stimuli emanating from agricutural expansion itself, until by 1910 one-third of the country's internal requirements in respect of farm machinery could be supplied by domestic industry. Later, by 1930, a complete petroleum refinery, manufactured virtually entirely in the country, could be set up.

Although its share in the product was smaller than in Argentina, manufacturing industry in Brazil was also displaying some measure of development and diversification long before the depression. The concentration of export earnings in what has been termed the "Rio-São Paulo axis", where even at that time a sizeable urban market existed, provided a substantial groundwork for industrial activity, which was further

[5] A census taken as early as 1895 had recorded the existence of more than 22,000 manufacturing establishments, employing about 150,000 workers.

facilitated by immigration and transfer of financial resources from the export sector.[6]

Similar conditions likewise prevailed in Mexico, as regards market size and urban concentration, although average *per capita* income levels were much lower than in Argentina. Signs of a drive towards industrialization were in evidence long before the depression of the thirties, by which date the industrial base was significant. At the beginning of the century, the textile industry alone provided employment for some 30,000 persons, and possessed nearly 700,000 spindles and over 20,000 looms, most of this equipment being in line with the most advanced contemporary technology. Steel-making, in its turn, began in Mexico as early as the year 1903.

Among the countries whose markets are smaller in absolute terms, Chile and Uruguay are those whose industrial development efforts date farthest back. In the former country, the dynamic impetus of the external sector, although it had helped to promote a relatively high average income level, had more than once been halted by a contraction affecting the staple export product, until this was compensated by the expansion of a new line of production; and as a result, concern for the development of a domestic manufacturing industry was sharpened. Among its manifestations were the creation of the Society for the Development of Manufacturing Industry (*Sociedad de Fomento Fabril*) in 1883 and the incorporation of deliberately protectionist measures in a law passed in 1897, as well as the production of agricultural equipment, transport material and even some types of steam-driven machinery during the same period. In the case of Uruguay, although insufficient data are available, some indirect indications suggest that in the pre-depression period the relative size of industry rose to one of the highest figures recorded in Latin America, with the exception of Argentina. Uruguay's packing-plant industry dates from the early years of the century, and so does the fairly large-scale development of tanneries, wool textiles and other manufacturing activities. Furthermore, industrial development in these initial stages was encouraged to a greater extent in Uruguay than in other Latin American countries by direct and indirect promotion activities on the part of the Government.

The situation seems to have been different elsewhere, particularly in such countries as Colombia, Peru and Venezuela, which in view of the size of their populations might also have achieved a fairly high rate of industrial development. In fact, this did not prove true of Colombia until after the depression of the thirties. In Venezuela, the petroleum boom that started at the time of the First World War made the economy one of the most "open", with an external sector that was not only very broad in absolute terms but also rapid in its growth. In Peru, the earliest industrial efforts — such as the National Association of Industries (*Sociedad Nacional de Industrias*), established as early as 1896 — were feeble and sporadic, and lacked the support of a groundwork of urban concentration like that existing in other countries of the region.[7]

In Cuba, the relatively high level of *per capita* income, the degree of urban concentration, and the large manufacturing nuclei constituted by the sugar mills, were all factors that apparently stimulated a certain amount of industrial development from a very early date.

In most of the other Latin American countries, in contrast, two circumstances that were much less propitious to a steady industrialization process usually tended to

[6] The 1920 census registered over 13,000 industrial establishments, employing a total of more than 310,000 persons.

[7] Only in 1940 did the population of Lima reach a figure in excess of half a million inhabitants.

occur in conjunction: smaller market sizes, in absolute terms, and a continuing possibility of importing any type of goods.

Accordingly, when the depression came, and with it the need to alter their traditional growth patterns, the Latin American countries were in such different positions as regards the industrial base they had succeeded in establishing up to that time, that a generally applicable description can hardly be offered. In those where industrialization had made any significant headway, manufacturing activity was concentrated mainly on the production of a somewhat limited range of non-durable consumer goods for the supply of a few urban centres that had grown up under the stimulus of foreign trade. This spread of dynamic repercussions from the external sector to domestic industries tended to take place solely (or mainly) through demand for consumer goods, as well as through the primary processing of export commodities, while on the other hand the substantial demand for manufactures created by the installation and expansion of the basic utilities required for the expansion of the export trade itself failed to produce a similar reaction. Whereas in more advanced economies the development of transport infrastructure, for example, provided a tremendous incentive to the expansion of their own industries, in Latin America it was reflected almost entirely in voluminous imports, often financed by foreign loans which later on were to exert protracted pressure on the region's balance of payments. The mere extension of the railway networks must have been a powerful spur to the development of the iron and steel industry in the more highly developed countries, while for Latin America it simply meant that hundreds of thousands of tons of track and some indirect items deriving from the installation of repair workshops had to be imported.

(*b*) *From the depression of the thirties onwards*

Certain indicators of long-term trends in the volume of manufacturing output may first be considered (*see* figure I). Two main features clearly emerge: on the one hand, the relatively early date at which the process began, as shown by the magnitude of the relevant indexes in relation to the base year (1960); and on the other, the disparities in rates and levels of industrial development at different periods, in particular those marked out by the world wars and the depression of the early thirties. Thus, the growth of manufacturing activities in Argentina was very rapid from the beginning of the century to the outbreak of the First World War; the recession that took place during the war years affected only a few branches, while stimulating others, and moreover, was quickly left behind, and a new phase of speedy development was embarked upon, which culminated in 1929. From the depression until the early post-war years a further period of sustained growth was registered, although the growth rate was lower than in the previous stages. Marked variations occurred in the last fifteen years.

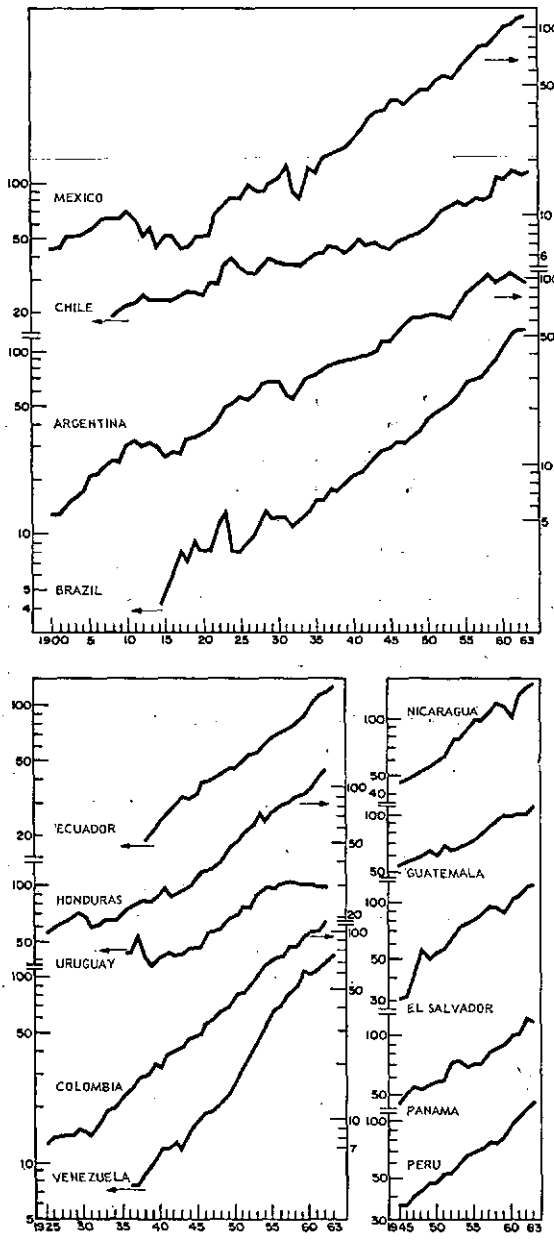
With respect to Chile, its industrial effort is as long-standing as Argentina's; indeed, the indexes registered during the First World War (in relation to the base year 1960) were actually higher than in the latter country. Subsequently, the trends followed were widely divergent in these two cases, to judge from the incomplete indicators available. Between 1918 and the pre-depression years, the rate of industrial growth was much lower in Chile than in Argentina, and the disparity became yet more marked in the next three quinquennia. The Chilean economy was prevented from taking due advantage of the new incentives implicit in industrialization by the severity of the depression's impact on aggregate demand and of its restrictive effects on imports of the

Figure I

LATIN AMERICA: INDICATORS OF LONG-TERM TRENDS IN THE VOLUME OF MANUFACTURING OUTPUT, 1900-1963

(1960 = 100)

Semi-logarithmic scale



capital goods and intermediate products essential for the expansion of manufacturing activities; and in its turn, this slow growth limited the possibilities of increasing industrial production in face of the fresh external supply difficulties that arose during the Second World War. Only from 1945 onwards did Chilean industry once again enter upon a new phase of relatively rapid development, particularly towards the mid-fifties.

In Mexico, too, the evolution of the manufacturing sector displays clearly distinctive features. The conditions that prevailed throughout the revolutionary period precluded any significant expansion of the industrial enterprises that had been launched at the beginning of the century. But as from the early twenties, a swift and steady growth rate was established which, apart from a few short-term fluctuations, has been maintained up to the present time. The relatively favourable development of the external sector enabled it to recover rapidly from the effects of the world depression, and in fact it was from 1933 onwards that the most rapid rate of development was registered, continuing right up to the Second World War.

In the period between the First World War and 1960 the rate of industrial growth in Brazil was much the same as in Mexico but the trends pursued were not always identical, the development of Brazilian industry having been slower during the twenties and faster from 1947 onwards. In Brazil too the rapid recovery of the external sector immediately after the depression of the thirties accompanied the expansion of manufacturing activity and the consolidation of an industrial base sufficient for the maintenance of a high rate of growth even in the restricted external supply conditions that prevailed during the Second World War.

Unfortunately, no quantitative data are available on the long-term evolution of industry in Uruguay, which is the other Latin American country where industrialization began at an early date. At least from 1936 onwards, the average rate of industrial development seems to have been lower than in Chile, although the stages distinguishable are not the same. It was slow until the end of the war, slightly outstripped the growth rate of Chilean industry between the end of the war and 1955, and has remained in absolute terms virtually stationary since.

Colombia seems to be one of the countries which found the decisive incentive to their industrialization process in the depression of the thirties. Previously its industrial development had been scanty but the expansion of new manufacturing activities was reflected in a very rapid rate of growth in the sector as a whole, which was maintained, with few fluctuations, at least until the mid-fifties, from which point onwards it declined appreciably, although still remaining fairly high.

The cases of Ecuador and Peru are probably similar to that of Colombia. In both, the industrialization process gathered momentum as from the time of the depression, particularly in Peru. The evolution of the external sector was favourable, since it did not drastically limit the capacity to import equipment and raw materials, but not to such a point as to discourage the expansion of internal import substitution activities. This was what happened in Venezuela and, together with the extremely wide income distribution gap, explains why the industrialization process began relatively late in that country, although the size of its population and its average level of income were such that its market for manufactured goods was much bigger than that of many other countries in the region. Venezuelan industry's systematic development effort dates only from the time of the Second World War although the growth rate achieved

since then has been not only steady, but also the highest in Latin America if a sufficiently long period is taken into account (*see* figure I).

With the exception of Cuba, whose relatively high levels of income and urban concentration had fostered a measure of industrial development since a much earlier date, the progress of industrialization in the remaining countries of the region has been much more recent, and narrower in its scope. During the last fifteen years, the volume of manufacturing output has remained virtually stationary in Bolivia and has increased relatively slightly in Paraguay, these being the two South American countries that are most alike in respect of the factors that militate against industrialization — numerically small populations and low income levels. In the Central American and Carribean countries (other than Cuba), manufacturing industry has also developed only on a small scale, but its rate of growth was reasonably satisfactory in the postwar period, and has been given fresh impetus under the Central American Economic Integration Programme. This schematic presentation of the long-term trends of Latin America's industrial production relates to the manufacturing sector in its broad sense. It therefore covers both the manufacturing industry proper and the wide complex of artisan industry. The latter's relative importance is fairly substantial: its share of industrial output may be estimated at 30 per cent in 1925 and 12 per cent in 1960, and even higher this year in a number of Latin American countries. Its vegetative growth had a significant effect in that the growth rates shown were certainly far below those of manufacturing activities proper. For the same reason, the industrial growth trends do not provide an adequate indication of the powerful effect of the Second World War and of more recent developments, which led to the initiation or consolidation of important dynamic sectors of industry which respond typically to levels of productivity and manpower absorption that characterize modern industry.

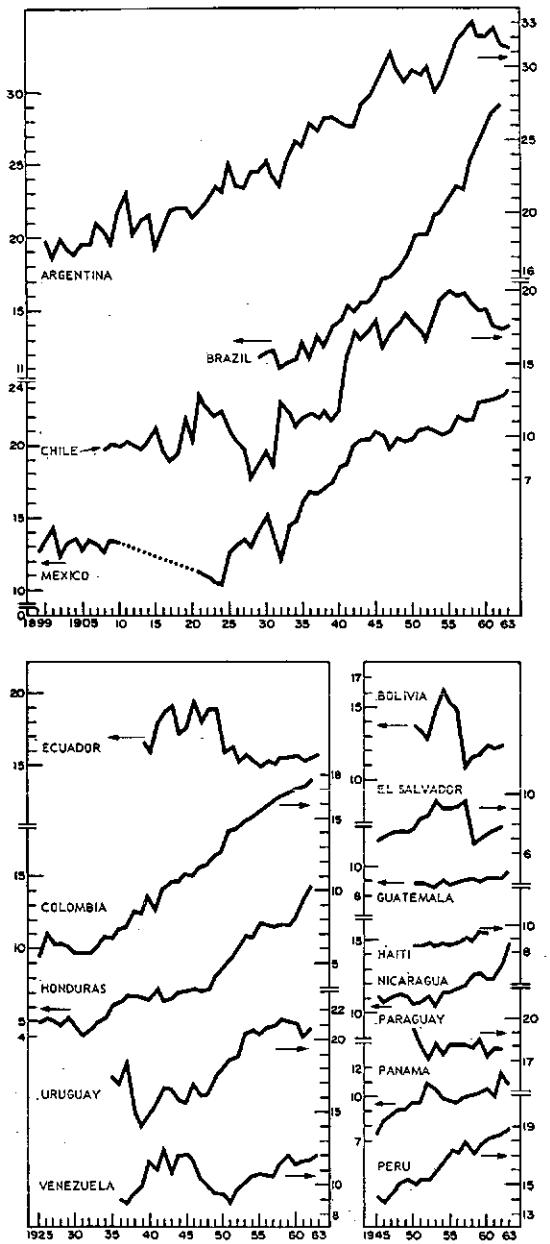
Admittedly, a single indicator of the kind under consideration will not suffice to characterize the industrialization process in the different countries of the region. In the first place, the various growth trends start from widely disparate absolute levels of industrial output; furthermore, they occur in conjunction with rates of over-all economic development that are often completely dissimilar, so that they do not necessarily reflect the degree of intensity of the industrialization process, if this is defined in terms of the steady growth of the manufacturing product's share in the total product; lastly, it is important to take into account not only the development of industry as a whole, but also the changes observable in its internal structure, *i.e.*, in its composition by branches of manufacturing activity.

The desirability of knowing the long-term trends relating to the relative size of the manufacturing industry in various countries of the region, as reflected in the share of the national product generated by the manufacturing sector — which may be considered, up to a point, representative of the degree of industrialization attained — lies in the fact that they permit a comparison to be made between the rate of industrial growth and that of over-all economic growth, and hence an evaluation of the size of the expansion of manufacturing not only in absolute terms, but also in the broader context of the over-all economy in which it occurred (*see* figure II). To put it in another way, the dynamic role industry may play depends not only on its growth rate but also on its relation to the growth of other sectors of the economy. Thus, the same rate of industrial growth may take a dynamic contribution in a country where over-all economic development has been slow, yet prove inadequate within an economy whose growth rate has been more rapid.

Figure II

LATIN AMERICA: SHARE OF MANUFACTURING SECTOR IN TOTAL PRODUCTION, 1899-1963

(Percentages)



Viewed from this angle there are a number of typical situations in Latin America. One may be considered to be broadly reflected in the trends demonstrated by Argentina and Chile, countries in which a moderate industrial growth rate is combined with a relatively sluggish over-all economic growth rate. This explains why in Argentina the share of the manufacturing product in the total product not only stands among the highest in the region but is also steadily increasing. Chile's position is somewhat similar over the long term, although at lower levels and with more irregular trends.

The case is different in Brazil and Mexico, whose more rapid industrial development was accompanied by an expansion of other sectors of the economy that was also relatively rapid, with the result that their industrial effort was not reflected in as marked an upward trend in the degree of industrialization, at any rate up to the early years of the post-war period. Since then, however, the situations of the two countries have sharply diverged. In Brazil, the manufacturing sector's share in the total product has grown fast, and is approaching the levels currently registered in Argentina; in Mexico, on the other hand, it has increased but slowly, at a much lower rate than in the period following the depression of the thirties, despite the fact that industrial expansion has been speedy in itself.

This is not the place to say whether these variations were favourable or adverse but merely to record the fact that the different industrial growth rates occurred under over-all economic development conditions which were also different. This may be useful, for example, with a view to a comparative evaluation of the effectiveness of specific industrial promotion policies.

Figure II also shows, although in relation to shorter periods for lack of data, the trends followed by the corresponding ratios in other countries of the region. In some, the particularly favourable evolution of the external sector, reflected in a vigorous expansion of primary export activities, greatly retarded progress in respect of the degree of industrialization (measured in terms of industry's contribution to the total product), although manufacturing industry made very substantial advances in absolute terms. This helps to account for the relative stagnation of the ratio in Venezuela, its decline in Ecuador, and, up to a point, its comparatively slow increase in Peru. It is partly for the same reason that, generally speaking, the Central American countries in the post-war period witnessed no major changes in the manufacturing sector's share in the total product, which remained at distinctly low levels.

In short, the foregoing comparisons suggest that for the purposes of evaluating the long-term rates of industrialization in the various Latin American countries, indicators of the volumes of manufacturing output will not suffice in themselves and must be considered in relation to the corresponding rates of development of the economy as a whole. Moreover, from another point of view, it is essential to bear in mind that the increase in the industrial sector's relative importance in the economy as a whole has resulted not so much from the expansion of a specific set of manufacturing activities as from the growing diversification of industrial production. To some extent, these are structural changes inherent in any industrialization process; but, as was implied in previous sections, in Latin America the tempo of the diversification process seems to have been set by circumstances more or less peculiar to the region, and primarily by the characteristics of the individual country markets, determined in their turn by either a numerically small population, a low average level of per capita income, a marked degree of concentration in income distribution, or the combined effect of two or more of these factors. Protectionist policy itself was another source of

incentives to diversification. If these considerations are taken in conjunction with other factors of a mainly technical nature — minimum economic scales of production, capital density, degree of technological complexity — it will be clear that the changes in the composition of manufacturing output constitute another of the indicators which help to shed light on the stages traversed by the various Latin American countries in the course of their industrialization process.

Unfortunately, the real degree of diversification is not adequately illustrated by the more or less general data available. At the level of major groupings by branches of industry, a notable feature in the Latin American countries at a more advanced stage of industrial development is the steady increase in the relative importance of the chemical and, above all, the metallurgical and metal-transforming industries, while in the other countries of the region the production of foodstuffs, beverages, textiles and clothing still predominates. Furthermore, study of the import substitution process and the characteristics of foreign trade in manufacturing goods suggests that within each of the branches of manufacturing activity that have been gradually expanding, the tendency has been to cover the widest possible range of products, in quest of a very high level of self-sufficiency. This has been the case, for example, not only in the traditional industries themselves, but in the iron and steel industry, the manufacture of electrical appliances for household use, and many other industrial activities, while recently the same process has been taking place in the development of motor-vehicle production. In short, specialization does not seem to have been a clearly-defined objective of industrialization policy in Latin America, with the result that industrial growth has been of a type primarily based on the progressive incorporation of new lines of production. This partly accounts for the weakness shown by the Latin American countries — even in comparison with those of other under-developed regions — as regards incorporating manufactured goods in their normal export flows, as well as for the minimal volume of their reciprocal trade in manufactures.

Thus it is with the foregoing reservation respecting the degree of "internal" diversification in each branch of industry that the varying structures of the manufacturing sector in the different countries of the region must be evaluated from the standpoint of its composition by branches of industry and without prejudice to the more detailed references in the following chapter. To this end, it is enlightening to study the comparisons presented in figure III, relating to the more general structural characteristics found in three Latin American countries at widely differing stages of industrial development, *i.e.*, Brazil, Colombia and El Salvador.

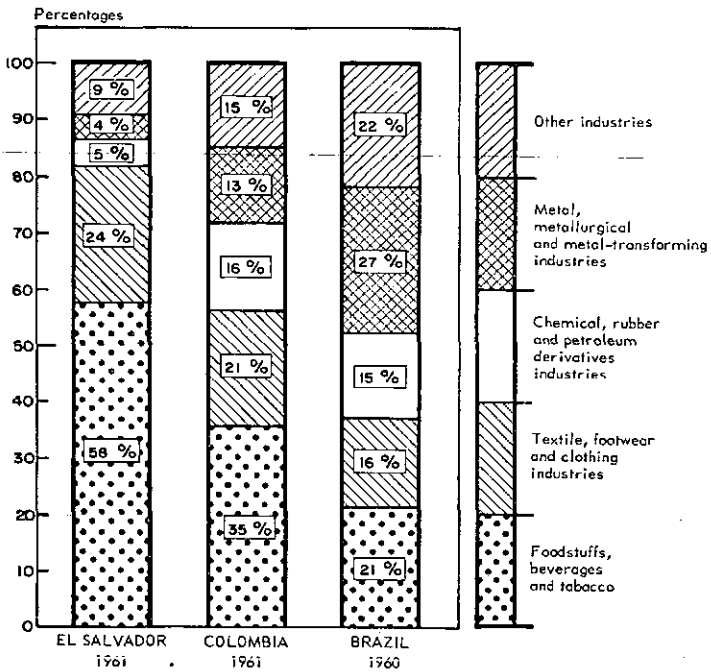
A comparison between these three examples, while representing recent situations, may be regarded as indicative of the long-term structural changes that have accompanied Latin America's industrialization process. In El Salvador, more than half (58 per cent) of the manufacturing product is concentrated in the food, beverages and tobacco industries, and almost another one-fourth (24 per cent) in textiles, footwear and clothing; in contrast, the many branches of manufacturing activity comprised by the chemical, rubber, petroleum derivatives, wood and furniture, paper and paper products, metallurgical and metal-transforming industries and the processing of non-metallic ores, etc., do not account in the aggregate for as much as one-fifth of the total industrial product.

On the other hand, in Colombia, another Latin American country which may be regarded as occupying an intermediate position within the framework of the region's industrial development at the present time, the relative importance of the food,

Figure III

BRAZIL, COLOMBIA AND EL SALVADOR: STRUCTURE OF THE MANUFACTURING SECTOR, 1960-1961

(Percentages of the aggregate value, by branch of industry)



beverages and tobacco industries is much less (35 per cent of the total manufacturing product), and the same is true — although on a far smaller scale — of the textile, footwear and clothing industries. Conversely, the proportions of the total manufacturing product contributed by chemicals, rubber and petroleum derivatives, and by the metallurgical, metal-transforming and machining industries, have more than trebled, rising from 5 to 16 and 4 to 13 per cent, respectively. The share of other industries — while constituting a category too broad and heterogenous for significant conclusions to be drawn — has also substantially increased.

An examination of the industrial structure of Brazil suggests that such changes persist and are intensified at more advanced stages of industrial development. Here again there is a decrease, similar in its degree of intensity, in the relative importance of the food, beverages, tobacco, textiles and clothing industries which in the aggregate represent only 37 per cent of the total manufacturing product. Most of this contraction seems to have been absorbed by a very marked expansion of the metallurgical and metal-transforming industries, whose share in the total amounts to 27 per cent; on the other hand, the proportion corresponding to chemicals, rubber and petroleum

derivatives has tended to remain constant, although no doubt highly significant changes have taken place in the internal composition of this group of industries.

It is true that the structures compared here cannot fail to reflect, in addition to the degree of industrialization of the countries concerned, certain special characteristics of their development or of their available natural resources. But the trends noted are sufficiently marked to be accepted as broadly indicative of the long-term changes that took place during Latin America's industrialization process, and of its various phases. It is also worth while to point out that since the loss of relative importance suffered by specific branches of industry is in no case attributable to decreases in absolute levels of production, but to growth rates lower than those of more dynamic industries, the over-all rate of development of the industrial sector as a whole must have been quite high for such marked structural changes to have taken place within a reasonable space of time.

From another point of view, it is natural that the advances made in the industrialization process, and the changes in the structure of manufacturing output which accompany it, should also be very clearly reflected in the characteristics of industrial employment. These repercussions include not only the changes occurring in the absolute level of employment in manufacturing in or its relation to the total active population or to total urban employment, but also those that take place in the distribution of employment by branches of manufacturing activity, and particularly in its composition in terms of the distinctions usually drawn between employment in cottage industries, in artisan industry and in factories proper.[8]

The contribution made by Latin American industry to the necessary absorption of manpower will be discussed in some detail at a later stage. All that is of immediate concern is to point out the long-term changes in the composition of manufacturing employment, in so far as they also help to define certain typical features of the evolution of the region's industrialization process.

It may be estimated that by 1929 the labour force absorbed by manufacturing activities in Latin America totalled about 4.5 million workers, of whom barely one-fourth could be regarded as employed in factories proper, while about 3.3 million were classifiable under the general head of employment in artisan industry.[9] Even at that date, marked differences were observable from one country to another. The proportion of factory employment was as high as 40 per cent in Argentina, and very close to that figure in Uruguay; about 30 per cent in Brazil, Chile, Cuba and Mexico; a little over 10 per cent in Colombia and Venezuela; and smaller in other countries.

The increase in the share of factory employment, which by 1940 represented over 40 per cent of total employment in manufacturing industry, seems to have been accompanied by a rapid drop in cottage industries. During that period, the process was particu ar y intensive in Brazil, Chile and Mexico, where factory employment succeeded in catching up with Argentina and Uruguay, so that in those five countries, as well as in Cuba, it came to account for about 50 per cent of total employment in industry. Proportions exceeding 20 per cent were also attained in Colombia, Venezuela, Costa Rica, El Salvador, Panama and the Dominican Republic, and in scarcely any of the countries of the region did the corresponding figure fall below 10 per cent.

---

[8] These categories are described in Chapter II with reference to industrial establishments.

[9] Including employment in cottage industries and small establishments not registered in industrial statistics proper.

The rate at which these changes in the structure of industrial employment took place slackened considerably during the forties, and throughout the post-war period as a whole, so that by 1950 factory employment still represented less than half the regional total, and in 1960 had only just reached 52 per cent. In the Latin American countries at more advanced stages of industrial development, the progress of industrialization since then has taken the form of the installation and expansion, on a priority basis, of manufacturing activities whose manpower absorption capacity is relatively small, while over against these the incidence of artisan employment is still substantial. Only in Argentina, Mexico and Uruguay did the proportion of factory employment proper come to exceed, in the last of the years mentioned, 60 per cent of total employment in industry, while it stood between 50 and 60 per cent in Brazil, Chile and Cuba. In contrast, the shift of relative emphasis from employment in artisan industry to factory employment has continued to take place fairly rapidly in the countries whose industrial development is of more recent date, particularly that of Venezuela. Thus, there is at present a wide variety of situations, which do not depend strictly upon the existing degree of industrialization but also upon historical factors and on the period during which the industrial development effort has been most strenuous.

(c) *Characterization of some phases of the process*

If indicators relating to the proportional importance of the manufacturing sector's share in the national product as a whole, to the composition of industry by branches of manufacture, to the characteristics of industrial employment, and also, up to a point, to trends in the external sector are studied in conjunction, they evoke the image of a series of stages which have been traversed by the various countries of the region, in different periods and at different rates, or upon which they are beginning to embark.

A preliminary stage, which might be described as the "pre-factory phase", is of little use today for reference purposes, since by this time practically all the Latin American countries have left it behind. It was the period when demand for manufactured goods — small in absolute volume, and under-diversified — was very largely satisfied by means of imports; local manufacturing activities were confined to cottage industries, thus determining the prevailing pattern of industrial employment. Nevertheless, even at that early date industrial establishments proper, engaged in the processing or simple transformation of primary export products, were consolidated in many countries of the region. Geared by their very nature to the world market, and often developed on the basis of direct foreign investment placed by those of the industrialized countries themselves that were interested in importing their products, they constituted islands, as it were, cut off from the rest of the internal economy as far as the distribution of their output and the supply of their inputs were concerned, with the result that they had few dynamic repercussions on other internal activities, except through very indirect channels (such as taxation, for example). The small nuclei of factory employment to which they gave rise, limited in size by the absorption of the most up-to-date contemporary technologies, although their dynamic effect was somewhat greater, also represented exceptions to the general rule in the national economies, and showed substantial differences in productivity.

The rise in income levels deriving from the expansion of exports, the rapid formation of large urban population nuclei, and in some instances the appearance of the first symptoms of devitalization in the external sector, paved the way for a new stage of the process, which chiefly took the form of development of the range of activi-

ties that are nowadays usually described as traditional industries. Basically, this meant that the primary food processing, tobacco and beverages industries were developed, together with the manufacture of textiles — particularly important from the standpoint of the absorption of technology and the concentration of big employment nuclei which really began to look like a typically industrial sector — and the production of cement and other simple building materials, chemicals (simple preparations, compounds and distillations), and containers for pharmaceutical products (still largely based on imported raw materials), etc.

This phase is characterized by a sharp reduction in employment in cottage industries and the formation of sizable nuclei of factory employment proper, while at the same time employment in artisan industries and in establishments representative of small-scale industry likewise increases. Furthermore, the fact that the activities developed were generally of a relatively labour-intensive type had a favourable effect on the industrial sector's capacity to play a significant part in the provision of employment for the increment in the active population.

Broadly speaking, this is the phase that countries like Argentina, Brazil, Chile and Mexico went through before the thirties. Others, of which Colombia is perhaps a representative example, were not definitively launched upon it until the depression of the thirties, while in Central America, as well as in Venezuela, the decisive effort really dates only from the time of the Second World War.

The possibilities for the long-term maintenance of an industrial development more or less confined to activities of the type under discussion are limited. In the first place, their products are as a rule consumer goods in whose case the elasticity of demand is low — although its size also depends upon the income level — so that demand for them tends to expand comparatively slowly, especially if the over-all development process does not involve significant changes in the direction of more progressive income distribution. Hence the rapid rates of growth recorded in various countries of the region could be kept up as long as the expansion of domestic production displaced a previous flow of imported supplies; but naturally the dynamic stimulus of import substitution tends to wear itself out, and in the more developed Latin American countries it has already done so in the group of industries under consideration. Moreover, substitution has its counterpart in increased import requirements in respect of the machinery and equipment and the raw materials and intermediate products essential for the operation of these industries themselves, so that unless exports expand sufficiently fast, its own dynamics necessitate the extension of the process to new manufacturing activities.

Thus begins what may be regarded as a third stage in the industrialization process, characterized as a rule by the development of basic industries and of those manufacturing simple equipment. It is the phase of the expansion of steel-making, simple iron and steel transforming industries, the chemical industry (mainly inorganic products), oil refining, assembly of vehicles, and so forth. At the same time requirements are stepped up in respect of the assimilation of technology and the utilization of capital per unit of output or of employment. Since in the meanwhile technical progress also spreads to the "traditional" industries, there is a tendency for factory employment proper to increase and employment in artisan industry to decrease, at least in relative terms. As a result, in view of the technical characteristics of the new industries in course of development, the aggregate manpower absorption capacity of the manufacturing sector as a whole is weakened.

Alongside the needs that conduce to the inception of the new phase, there are also factors which have a much more obstructive effect than in relation to the traditional industries. Foremost among these is market size since in many cases the new lines of development are conditional upon minimum economic scales of production, below which unduly heavy sacrifices are entailed in terms of idle capacity, inefficiency and high production costs. Their higher capital-intensity makes it harder to assemble the necessary financial resources, and their greater measure of complexity entails more rapid assimilation of technological progress, while at the same time it increases the shortage of skilled labour, in an environment in which unskilled labour is plentiful.

Foreign investment and technical assistance, direct State promotion of new industries and intensive training programmes are partly overcoming some of these obstacles. But, particularly for countries with relatively small populations and narrow domestic markets, or for those with lower income levels in which increase in capital formation are harder to achieve, the difficulties and disadvantages connected with economies of scale that are inherent in many industries of this type still subsist. Other obstacles stem from the absence of specific natural resources, especially ores and energy.

Perhaps the only Latin American country that has completed the phase under review is Brazil, where a broad market and plentiful natural resources (with the notable exception, so far, of petroleum) have coincided with a dynamic entrepreneurial class, systematic technical training efforts, and effective direct State promotion. A somewhat similar situation seems to prevail in Argentina and Mexico. In Mexico, moreover, especially favourable balance-of-payments trends have facilitated the maintenance of a comfortably adequate flow of imports of equipment and other goods essential for the expansion of the industrial base, while at the same time they have encouraged foreign capital to play a greater part in the country's industrial development. Chile, Colombia, Venezuela and Peru have made significant advances in this stage; but they have been encountering increasing difficulties as a result of the limitations imposed by the size of their respective national markets. For the same reason, the Central American countries have only just begun to give concrete form to their first major undertakings in these fields of manufacturing development, in so far as they have progressively improved their economic integration arrangements.

In recent years, Argentina and Brazil, and to some extent Mexico likewise, have had to push forward into a new phase of their industrialization process, mainly characterized by the promotion of new and more complex transforming industries, and the manufacture of equipment for them. Since the maintenance of the existing industrial base entails a great deal of renewal and expansion of equipment, as well as the use of intermediate products that require much more complex processing, further advances are called for in the development of the metal-transforming industries — including the production of motor vehicles and spare parts — and of important branches of the basic chemical industries. Moreover, in the countries in question, it is only in these fields that import substitution can continue in the future if it is to be a potentially dynamic factor in the industrialization process, if not an imperative need stemming from the inadequacy of the external sector's growth.

The progress that is still being made in this direction will probably once again bring about further changes in the characteristics of industrial employment, leading to a consolidation of factory employment proper and a decrease, in relative terms, in employment in artisan industry. In so far as the tempo of this process speeds up, the weaknesses of industry's manpower absorption capacity will be aggravated.

The foregoing problem is certainly not the only one liable to arise at this stage. Apart form the increasing capital density and more stringent technological demands of these new lines of industrial development, the countries mentioned are not exempt from the difficulties relating to economies of scale and the consequent need for specialization, even though their markets are the biggest in the region. Thus, in different phases and at different levels of industrialization, the limitations implicit in market size are a factor operating to a varying degree in practically all the Latin American countries today, with, perhaps, a very few temporary exceptions in cases where the development of industry has lagged behind.

These are, in very broad outline, the main phases characterizing the long-term evolution of industrial development in Latin America. Their analysis may be useful for the purpose of foreseeing some of the problems likely to arise in the subsequent phases of the process, and contributing to the formulation of a more appropriate industrialization policy.

It should not be assumed that history will automatically repeat itself, especially as regards those countries of the region which are nowadays passing through stages already traversed by other Latin American countries at more advanced levels of industrial development. Just as the latter have not followed the same development patterns as did the industrialized economies at an earlier date, the former will also have to adapt their subsequent evolution to new conditions and requirements. Venezuela is an interesting case in point, since there the traditional industries are making up leeway while at the same time new activities are being promoted — as, for instance under the Guianas project — which might well appear to belong to much more advanced stages of the industrialization process.

3. Import substitution

The rate and patterns of industrial development were largely determined by the behaviour of the external sector. Between 1929 and the last few years Latin America has been gradually transformed from a region exceptionally "open" to international trade to one in which the ratios between imports and the total domestic product are among the lowest in the world. Up to 1929, in the region as a whole, imports accounted for 20–25 per cent of the total product, whereas in 1963 the corresponding coefficient was barely 10 per cent or thereabouts.

Import substitution thus represented, at one and the same time, an imperative requisite for the over-all development of the Latin American economies and one of the mainsprings of their industrialization process. As in the case of other factors, the degree of influence it exerted of course varied greatly from one individual Latin American country to another; this can be seen from the import coefficient trends shown in figure IV, which also presents the long-term trends followed by the volume of manufacturing output.

In some countries, the symptoms of growing weakness, and above all of instability, in the external sector made their appearance long before the depression of the thirties. For instance, after the rubber boom in 1906–12, Brazil found itself compelled to deflect its export trade towards coffee and cotton; Chile was forced to offset the decline in nitrate by means of its copper exports; and Mexico had to substitute hemp for cotton. The progressive shift of the dynamic centre of world trade from the United Kingdom

Figure IV

LATIN AMERICA: TRENDS OF IMPORT COEFFICIENT AND MANUFACTURING OUTPUT, 1929-1963

Semi-logarithmic scale

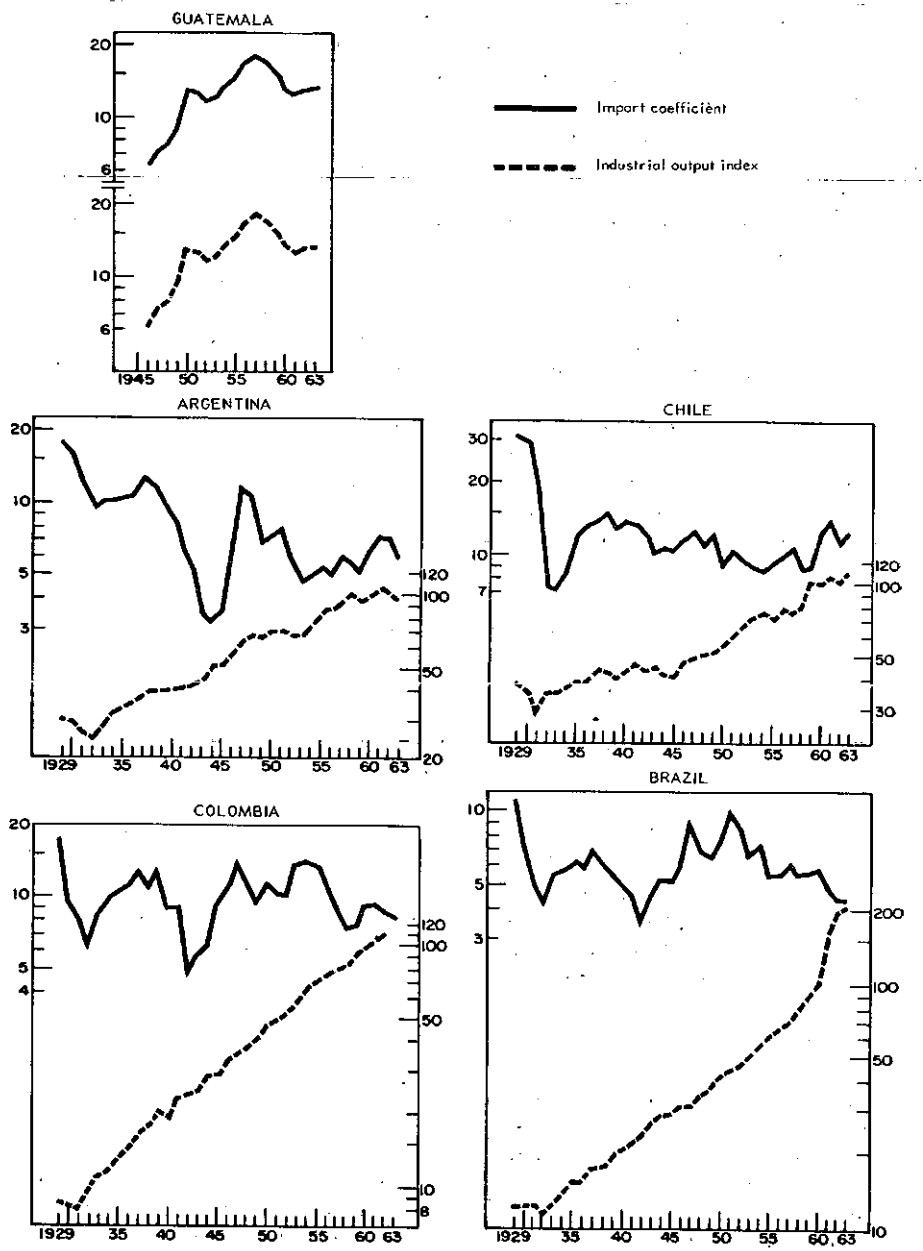


Figure IV *(continued)*

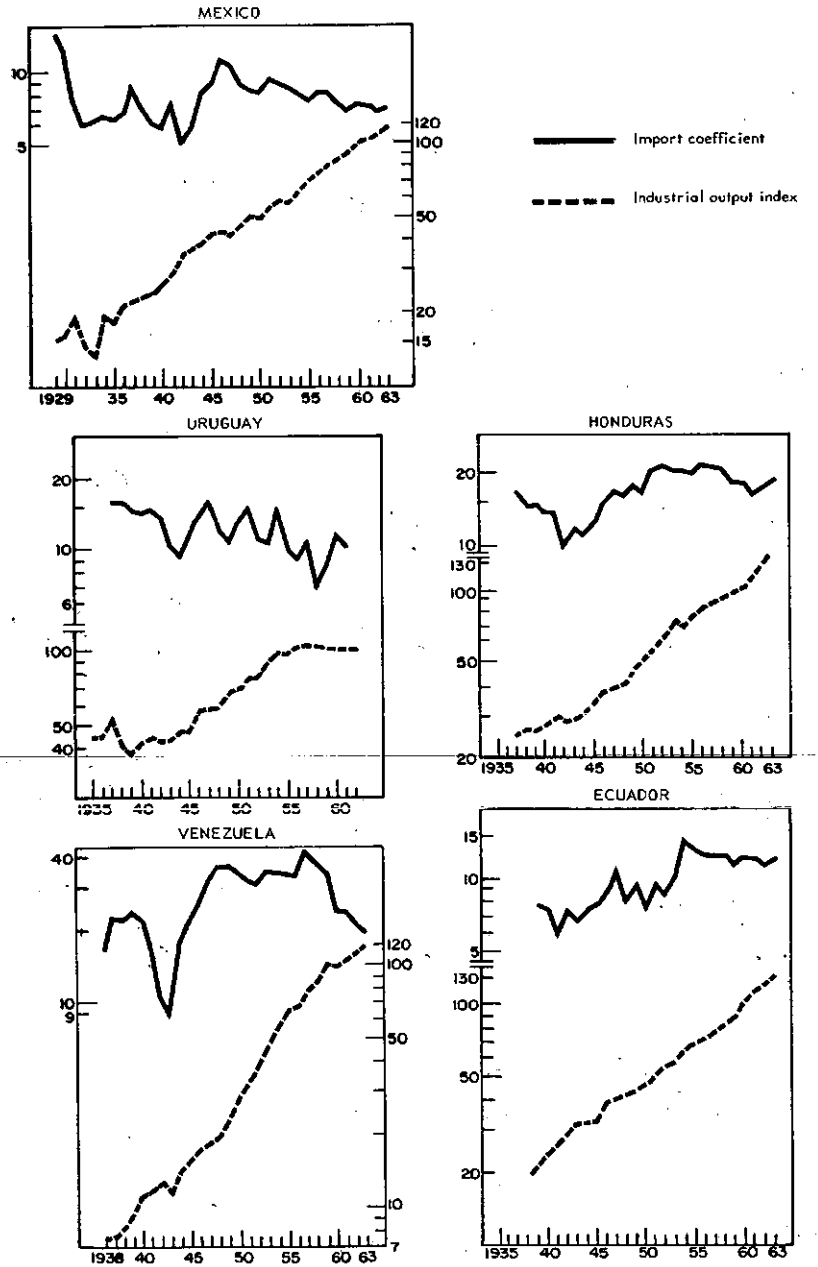
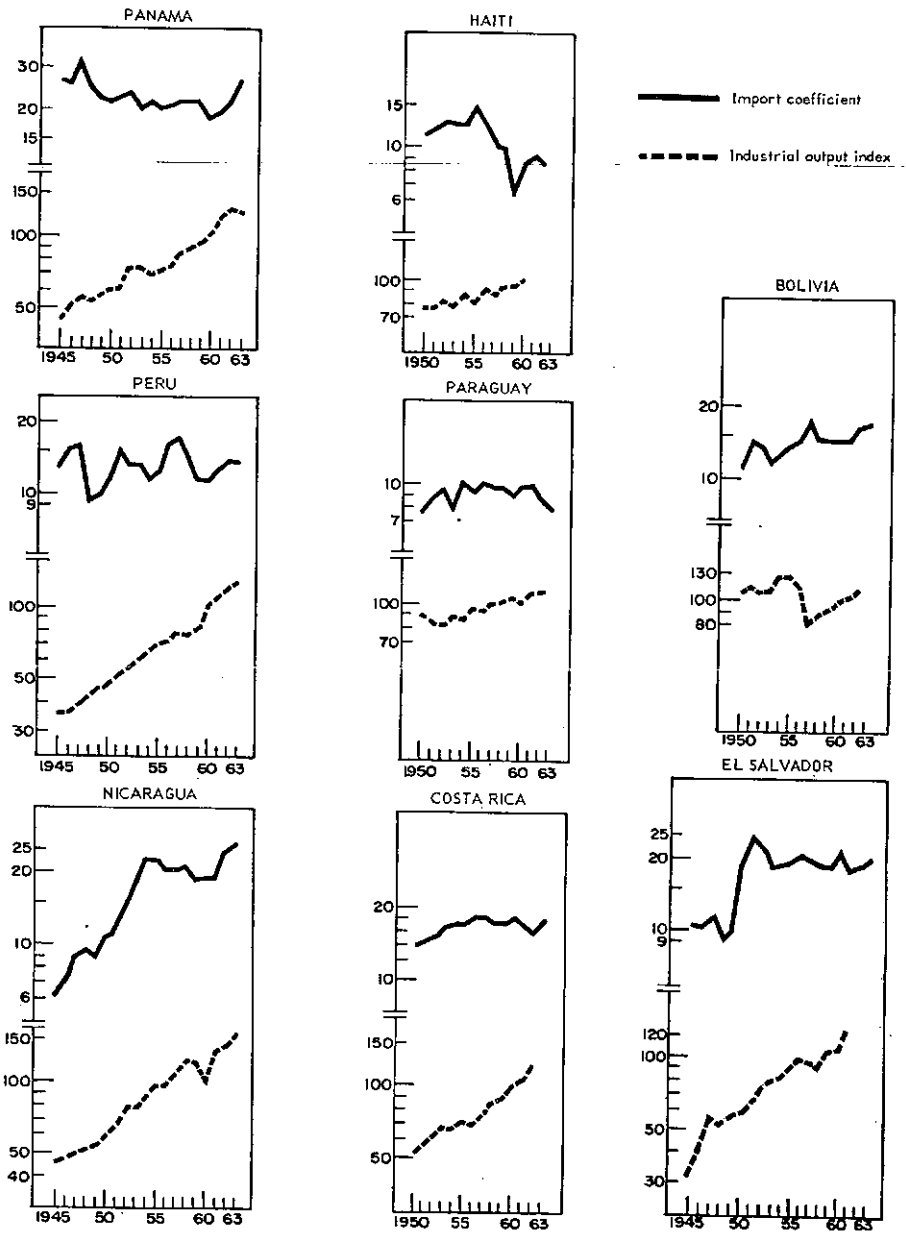


Figure IV *(continued)*



to the United States, and the events that took place during the depression itself — including the establishment of the restrictive Smoot-Hawley tariff in the United States in 1930 and of the British Commonwealth Preference System, the abandonment of the gold standard and the reformu ation of monetary policies — meant the breakdown of the whole of the classic pattern of world trade, with drastic consequences for many Latin American countries.

The effects produced in each individual case depended upon the levels of the import coefficients of the countries concerned, and upon how far they had developed an industrial base which might serve as a groundwork for more extensive efforts to replace imports. Among those whose degree of industrialization had been relatively high even before the depression, Chile found itself in a particularly disadvantageous position, since in 1929 its import coefficient was one of the highest in Latin America and at the same time underwent one of the most severe contractions. Nor was the subsequent evolution of this coefficient favourable, for after a rapid recovery during the thirties, it continued to decline until the mid-fifties, and only since then has shown some improvement.

Argentina's import coefficient, too, was fairly high before the depression, but not equal to Chile's; and furthermore, its subsequent evolution — to some extent influenced by the nature of the country's staple export products, together with the fact that these products were partly used to satisfy internal demand — was quite as unfavourable as in Chile's case, or more so, with the result that nowadays Argentina shows one of the lowest import coefficients in the region.

Mexico's situation prior to the depression resembled that of the foregoing countries, but the trends subsequently pursued were very different. From the beginning of the thirties to the time of the Second World War, the aggregate import coefficient, rather than recovering, showed a continuing tendency to decline; in contrast, it rose sharply in the early years of the post-war period, and despite subsequent decreases still stands at a level higher than those registered in Argentina and Brazil. Furthermore, it must be remembered that Mexico's position differed from that of Argentina and Chile inasmuch as this evolution of the coefficient was accompanied by a much more rapid growth of the total product, which involved substantial increases in the absolute volume of imports, facilitated by the increasing diversification of Mexico's exports and by the income accruing from tourism, which represented a considerable contribution to the country's total capacity to import.

Brazil has come to be the Latin American country with the lowest over-all import coefficient, since the figures registered of late have dropped below the levels noted in Argentina. But the relative importance of the role played by Brazil's external sector in the national economy as a whole was never as great as in the other countries mentioned; the import coefficient barely exceeded 10 per cent even in 1929, and was still lower in the peak years of the early fifties. As in the case of Mexico, this long-term decline in Brazil's over-all import coefficient does not imply that the absolute volume of imports followed a very unfavourable trend, since the rate of growth of the total product was relatively rapid.

These differences between individual cases stand out yet more clearly if the comparison is extended to other Latin American countries. Thus, for example, Colombia has become one of the Latin American countries with the lowest import coefficients as a result of the decline that has taken place since the mid-fifties. Venezuela maintained very high coefficients between 1948 and 1957, comparable to those

shown by other countries before the depression; since then, a sharp downward movement has been registered — partly attributable to the rapid growth of the total product — but the levels reached are still among the highest in the region. Despite marked fluctuations, Peru has succeeded in maintaining a relatively high coefficient, which at present is among the highest in South America. Among the Central American countries, Nicaragua has a particularly high coefficient, and so has Panama; Costa Rica, Honduras and El Salvador record medium coefficients, somewhat higher than that of the Dominican Republic; while that of Guatemala is relatively low, although still a good deal higher than Haiti's.[10]

The range of different situations is thus sufficiently wide to make it difficult to generalize with respect to Latin America as a whole. Nevertheless, the dominant feature is a substantial long-term decline in over-all import coefficients; and furthermore — a point of basic importance, particularly for the purposes of defining a future development strategy — the average coefficients registered today, and especially, therefore, the figures for some individual countries, have dropped to levels lower than those recorded in most of the other regions of the world.

Obviously, this dominant feature of Latin America's development during the past three decades necessarily exerted a powerful influence on the industrialization process, and the consequent import substitution requirements were bound to constitute one of the main dynamic factors motivating the expansion of domestic manufacturing production.

In five countries of the region — Argentina, Brazil, Chile, Colombia and Mexico — imports of manufactured goods amounted to about 3,300 million dollars in 1929,[11] while the total product was approximately 23,000 million and the product generated in the industrial sector represented some 3,500 million. In 1960, the figures for the last two items were 71,300 million and 18,700 million dollars, respectively. To have kept up the same average import coefficient in the latter year would have called for a total volume of imports of manufactures equivalent to approximately 10,100 million dollars, a fact which, if related to the external purchases of manufactures, actually effected (4,600 million), implies import substitution to a value of about 5,500 million dollars.[12] Meanwhile, between the same two dates the industrial product increased by 15,200 million dollars. From these illustrative calculations, therefore, it may be inferred that in the case of the five countries under consideration about 36 per cent of the expansion

[10] For a more detailed analysis of the evolution of imports and their relation to the total product since 1945, see *The Economic Development of Latin America in the Post-War Period*, *op. cit.*

[11] These and the following data are expressed in terms of dollars with constant 1960 purchasing power. It will also be noted that whereas in earlier paragraphs reference has been made to total imports, only manufactured products are taken into account here; however, in view of the broad definition of the industrial sector usually adopted, which includes even primary processing of foodstuffs and other commodities, imports of non-manufactured goods work out at a fairly low level.

[12] The concept of import substitution itself gives room for various interpretations. It can be taken to mean either the equivalent of a decrease in the absolute volume of imports; or the difference between the potential import demand which would have existed if the import coefficient had remained constant, and the imports actually effected; or a similar difference, but in respect of a potential demand estimated on the assumption of a measure of elasticity — generally exceeding unity — of import demand in relation to the total product. For the purposes of the present hypothetical calculations, the second of these definitions of the concept is adopted.

of the industrial product was directly related to the import substitution incentive. Were Brazil excluded, the relation would rise to over 43 per cent, and if the comparison were confined to Argentina, Chile and Colombia, the increase attributable to substitution would exceed 50 per cent. If this conclusion were corroborated by a more detailed analysis, it would be of supreme interest in connexion with the evaluation of Latin America's industrial development prospects, especially in relation to those countries which are finding it increasingly difficult to continue their substitution process, either because it has reached a very advanced stage as far as the less complex types of imported manufactures are concerned, or because the over-all import coefficient has fallen by now to relatively low levels, or because the narrowness of the domestic market constitutes an obstacle to the development of new lines of manufacturing production for import substitution purposes.

Decisive as the import substitution incentive has been, figure IV does not always show sufficiently clear correlations between the long-term evolution of the import coefficient and that of the volume of domestic manufacturing output.

The implication is that the external sector has exerted a twofold and contradictory influence on industrial development. This latter is encouraged by a contradiction in the external sector, inasmuch as import substitution requirements are intensified; but at the same time it is handicapped by the consequent restrictive effects on imports of the machinery, equipment and intermediate products essential for industrial expansion. A conclusion of this nature, which goes a long way towards accounting for the disparities in the response made by industry in the various countries to the import substitution incentive, was expressed in a recent analysis of Brazil's experience, in the following terms:[13] "In fact, although restrictions in the external sector may be responsible for generating strains and disequilibria in some sectors of the economy, they constitute the spur to achieving the structural changes required by an import substitution process. The whole problem . . . lies in the fact that the restrictions in absolute terms should not last too long, so that the economy can advance through successive stages of diversification. Thus the theory can be advanced that each period of increasing restrictions in the external sector should be followed by a period of relaxation to facilitate the transition to the next stage . . .

"In Brazil, the behaviour of external conditions was of a cyclical nature that, generally speaking, followed such a pattern, although the trend was naturally towards a sharp reduction in the import coefficient."

Hitherto, the import substitution process has been viewed mainly from the angle of the decrease in the over-all import coefficient. By definition, substitution does not necessarily entail a contraction in the absolute volume of imports, but simply means that they increase more slowly than the total product. With few exceptions, this has been the general characteristic of the process in Latin America. But it is not merely that the growth of aggregate imports has lagged behind; concurrently, there have been radical changes in the composition of imports.

The basic trends represented by these changes can be easily deduced from an examination of the general characteristics of Latin America's industrial development and the various stages it has covered, as described in earlier paragraphs. Furthermore, the subject of changes in the structure of imports and their repercussions on internal

[13] *See* "The growth and decline of import substitution in Brazil", *Economic Bulletin for Latin America*, Vol. IX, No. 1, March 1964, p. 51.

economies has been discussed in detail in other studies.[14] It will suffice here, therefore, to make certain brief supplementary comments which will shed some light on the nature and magnitude of the long-term changes that have taken place.

A useful comparison for this purpose is that presented in figure V, in which an attempt is made to illustrate certain typical relations between the composition of imports and the degree of industrialization, on the postulate that this latter can be identified with the share of manufacturing industry in the total product.[15]

Of course, there are many factors other than the degree of industrialization — including the volume and diversity of natural resources — which may exert an appeciable influence on the composition of imports. In these comparisons as a whole, however, clearly-defined trends are manifest. A first outstanding example is the rapid downward movement in the proportion of total imports represented by consumer goods although in the end it seems to have settled at about 10 per cent. Until a certain degree of industrialization is attained, this decline is almost entirely attributable to import substitution in respect of non-durable consumer goods, while imports of consumer durables tend to maintain and even increase their share in total external purchases. But even before the import substitution process reaches saturation point in respect of non-durable consumer goods, it extends to consumer durables as well, and once a slightly more advanced level of industrial development has been reached, these latter are the only dynamic element in import substitution as far as consumer goods are concerned, the share of non-durables in aggregate imports remaining practically constant.

The behaviour pattern of imports of raw materials and intermediate products — which for the purposes of the present comparisons include fuels and lubricants — is entirely different. Although very marked fluctuations are observable, the general trend is towards a substantial increase in their participation in total imports, of which they ultimately absorb about 50 per cent. However, these figures are strongly

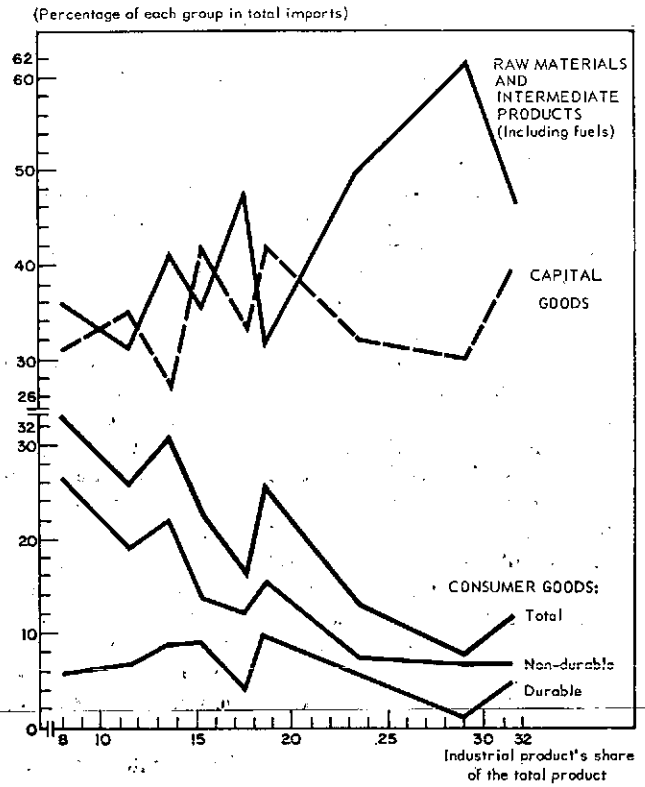
[14] *See*, for example, the ECLA study on the economic development of Latin America in the post-war period, referred to above, which presents an analysis of this kind relating to 1948–60, and in which consideration is given not only to the evolution of the over-all import coefficient, but also to the relations between imports of consumer goods and total domestic consumption, imports of capital goods and fixed investment, and imports of raw materials, fuels and intermediate products and the total gross domestic product. At the same time, the countries of the region are grouped in four categories, according to specific characteristics of their development in the post-war period. The import coefficient for consumer goods shows a celarly marked downward trend, and reaches the lowest levels, with an average of slightly more than 3 per cent in recent years, of which more than two-thirds corresponds to durable consumer goods (including some types of motor vehicles); moreover, while for some groups of countries it barely exceeds 2 per cent, in one category — comprising the Central American and Caribbean countries — it is even higher than 10 per cent. The relation between imports of capital goods and total fixed investment significantly decreased in certain groups of countries between 1948–49 and 1960, in particular because of the contraction in respect of building materials, but the average coefficient shown is still quite high, namely, a little over 25 per cent, the main components being imports of machinery and equipment. Lastly, in the region as a whole the coefficient of imports of raw materials, intermediate products and fuels, of which the last-named continue to represent a significant proportion, has followed a trend towards stabilization at levels fluctuating between 5 and 6 per cent of the gross domestic product.

[15] The countries were selected, partly with the aim of covering margins that would include the widest possible diversity of situations with respect to levels of industrial development, although also on account of the restrictions imposed by the lack of basic data. Accordingly, for specific countries data relating to two different years are utilized (Chile, 1929 and 1963; Colombia, 1948 and 1962).

Figure V

LATIN AMERICA: TYPICAL RELATIONSHIPS BETWEEN COMPOSITION OF IMPORTS AND PARTICIPATION OF THE MANUFACTURING INDUSTRY IN TOTAL PRODUCTION

(Percentages)



influenced by the special situation of Brazil, whose imports of fuels are particularly heavy (accounting for a little over 18 per cent of total imports in 1962).

Lastly, the share of capital goods in aggregate imports also follows a behaviour pattern of its own. It increases during the first stages of industrial development, emains at a fairly constant figure in a second stage (the proportion being distinctly high, in the neighbourhood of 40 per cent), and declines substantially during a third phase. As the replacement of capital goods by domestic production is largely linked to the expansion of the metal-transforming industries, which also produce the biggest range of durable consumer goods, it is not surprising that in this final stage the changes in the share of capital goods and in that of consumer durables keep markedly parallel.

The variations in the structure of imports during different periods and in countries at different stages of industrial development suggest a rational graduation of the import

substitution process. First come the simpler types of manufactured goods characterized by lower capital-intensity, smaller economic production scales and, in general, less exigent technological requirements; later, the process is extended to more complex lines of production, and headway is made in the manufacture of consumer durables, intermediate products and capital goods.

For a proper evaluation of the economic rationality of the process, however, a much more detailed analysis would be required than the consideration of such broad manufacturing categories permits. To begin with, while the behaviour of factors relating to scales of production, capital-intensity, requirements in respect of assimilation of technology, etc., can be roughly associated with the above-mentioned categories of manufactured goods, it is not absolutely consistent in each. In practice, import substitution in respect of a particular consumer good, especially if it is a consumer durable, may make severer demands with respect to investment and technical know-how than other alternative substitution possibilities in the field of capital goods or intermediate products. Again, the net effects of import substitution may be very slight, if it is confined to certain of the later stages of a manufacturing process of which a very high proportion is still based on imports of intermediate products and parts, as well as of the equipment needed to install and maintain the production capacity concerned. Such a situation has frequently arisen, for example, in the so-called packing and assembly industries. In these cases, apart from the fact that import substitution is more apparent than real, the external vulnerability of the economy concerned is aggravated rather than reduced, since even short-term fluctuations in the capacity to import not only affect the possibilities of importing specific final goods, but directly influence the tempo of internal activity. The point at issue is not the desirability of establishing industries initially based on a high proportion of specific raw materials and imported intermediate products, but the questionable advantages of allowing such a situation to persist, since its usual outcome is that resources are dissipated over a wide range of products rather than used for the consolidation of other new ventures. This generates a sort of chain reaction, whereby substitution in respect of a given item immediately entails a new import requirement, which has to go on being satisfied until fresh restrictions on the capacity to import impel domestic industry to develop the line of production concerned.

It is likely that the expansion of the share of raw materials and intermediate products in total imports has not always been the result of deliberate selection, based on priority criteria dictated by the interests of the economy as a whole, but has been determined by factors of another sort, largely deriving from the patterns of the protectionist policy applied. The policy in question has, as a rule, tended to provide indiscriminate protection for finished goods in the aggregate, and particularly consumer goods. Preferential incentives have thus been given to a rapid diversification of manufacturing activity, mainly confined, however, to goods in the consumer categories. This procedure at the same time, has weakened efforts to move towards a higher degree of specialization and the ensuing improvement of productivity and efficiency.[16]

The extremely wide range of products usually processed in one and the same establishment, with a great variety of designs and specifications, and often with quite short

[16] *See* Ruth Kelly, "Foreign trade of Argentina and Australia, 1930 to 1960: a comparative study". *Economic Bulletin for Latin America*, vol. X, No. 1. The author stresses the differences between the general import substitution strategies practised in Australia and those characteristic of Latin America. Data cited by R. S. Gilbert in "Structural trends in Australian imports",

production series, also bears eloquent testimony to this under-specialization. For the same reason, tariff duties designed to restrict consumption of specific imported luxury goods have in practice created powerful incentives to their domestic manufacture in conditions of dubious economic efficiency, with the result that neither are the social objectives implicit in the restriction of this type of consumption achieved, nor is the incidence of such imports on the balance of payments substantially lightened.

This is, of course, a fairly complex phenomenon, which is the main reason for one of the striking anomalies of industrialization in Latin America; on the one hand, certain institutional factors lead to a great lack of initiative in reinvesting industrial profits, which tend to be continually used in the same enterprise even where this means creating considerable surplus capacity that is not used; on the other hand, a number of factors encourage a rapid diversification in the industries producing consumer goods, at the expense of the consolidation and fruitful growth of lines already established. This aspect of the problem, that might be described as the choice between industrial development in breadth or in depth, has been dealt with in an earlier study in the following terms:[17]

> "In development in depth, most of the annual reinvestment by entrepreneurs is made in their own enterprises, in the form of progressive modernization and consequent reduction in costs. The proportion of products manufactured in the country does not increase rapidly form year to year, but the efficiency of the existing activities does.
>
> "In development in breadth, the most usual type in Latin American industry, profits are usually reinvested in new activities, the production of new items, which can replace those formerly imported, while the existing activities remain at a standstill as regards average productivity. Development in breadth appears to offer more advantages to the private entrepreneur, because in new lines of production, at least for the first few years, competition is very limited and the producer may have a virtual monopoly, whereas reinvestment in the same field continually increases competition, and also because it is easier to establish a wholly new production unit than to keep modernizing and improving existing plants, where routine is strongly entrenched. However, widespread development in breadth tends to increase and perpetuate situations of monopoly or restricted competition, and the stagnation of traditional industries. This is apparently one reason why such industries in Latin America are now faced with an urgent need to renew the obsolete equipment they have accumulated, and why their levels of organizational and operational efficiency are so low".

Two related questions are of particular importance for a general evaluation of the substitution process. The first concerns certain additional analytical comments on the behaviour of imports of intermediate goods, and the second is a more detailed consideration of recent trends in import substitution that reveal a considerable weakening in this process.

The Economic Record, April 1959, are quoted to indicate that in Australia the process has been better balanced, with a greater degree of synchronization of import substitution in respect of the various categories of goods. This is reflected, for example, in a more moderate long-term decline in the proportion of imports represented by consumer goods, which, excluding motor vehicles, accounted for 28 per cent in 1913, 24 per cent in 1928-30 and 18 per cent in 1954–58.

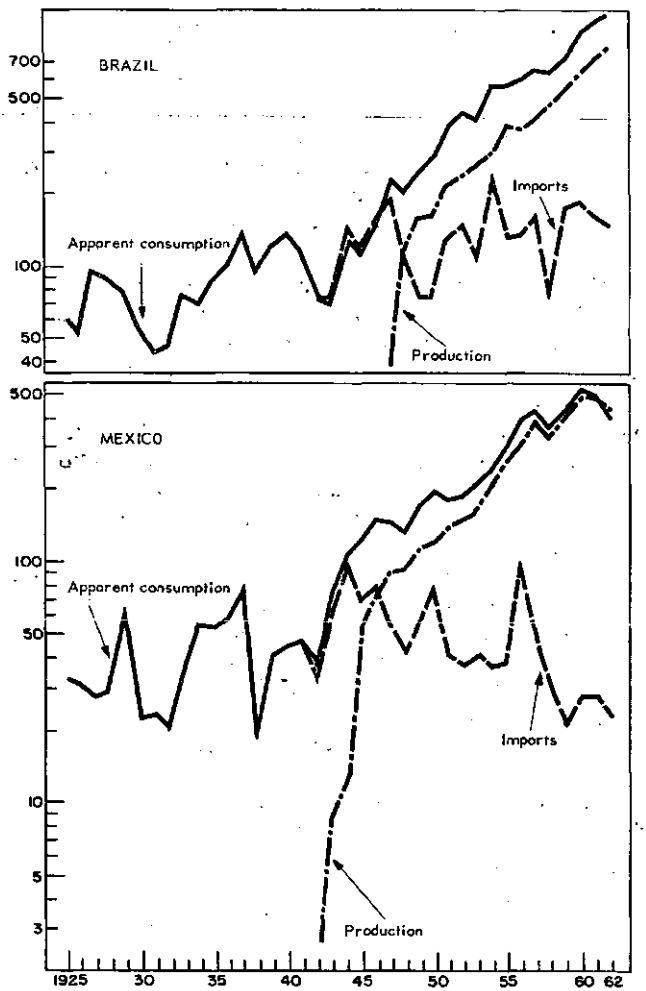
[17] *Problemas y perspectivas del desarrollo industrial latinoamericano* (E/CN.12/664, pp. 35–36).

Figure VI

BRAZIL AND MEXICO: APPARENT CONSUMPTION OF PLATE AND SHEET, 1925-1962

(Thousands of tons)

Semi-logarithmic scale



Broadly speaking the substitution of intermediate goods is strongly affected by considerations of market size and economies of scale. Furthermore, a direct evaluation of market size (reflected in estimates of apparent consumption which, in turn, is determined by the sum of the domestic output and imports of the product concerned) often leads to a considerable under-estimation of the real scale of the supply require-

ments of intermediate goods. This is always so in the case of products involving concealed imports, in the form of imported inputs or components of the end product, which are thus not taken into account in the apparent consumption of the intermediate product as such. This problem does not, of course, arise in relation to end goods and market evaluations for such goods are generally much more accurate, but the degree of under-estimation can be very substantial for intermediate goods, since the registered imports may represent only a fraction of the actual imports, which also include items imported in the form of intermediate goods incorporated in imported end goods.

As soon as substitution begins to take in end goods, the higher level of imports needed for the intermediate goods becomes clear. But this means not only an increase in the imports of intermediate goods, but a change in the form of the imports: instead of their being imported as inputs in an end good, they are imported directly, and the concealed import becomes a registered import. This is no doubt one reason why import substitution, which concentrates mainly on end goods, leads to a rising proportion of intermediate goods in the total import schedule.

This situation is well illustrated by the steel industry, which typically supplies intermediate goods for a wide range of uses. Market estimates, usually based on estimates of apparent consumption, are often shown within a short period to lag far behind the actual demand, since the development of domestic production of steel products in the strict sense has been accompanied by considerable efforts to replace imports of end goods with a high content of steel inputs.

A comparison of the series for imports, production and apparent consumption of plate and sheet in Brazil and Mexico, indicates that the expansion of domestic production goes far beyond the mere replacement of imports, and is accompanied by a striking increase in apparent consumption (*see* figure VI). This has led, in turn, to a belief that the steel industry has its own dynamic impulse, and that the mere fact of establishing and developing the industry is an essential factor in the broadening of the market. There is undoubtedly a considerable dynamic effect, in so far as import substitution is extended to additional types of end products, but the actual expansion of consumption of steel products in the strict sense is certainly much less than would appear to be indicated by the figures in question.

To illustrate these comments more exactly would mean entering into a very detailed analysis of the structure of imports. Despite the approximations involved, an illustration is provided by the estimate of imports into Brazil in 1947, when import substitution in respect of plate and sheet had just begun. Direct imports of these actual items alone indicated a Brazilian market for rolled products (including tinplate but not tubes) of about 190,000 tons a year, and in fact there were imports of 188,700 tons, plus the small initial output of the domestic industry. But detailed examination of each item of imports in this category shows that in the same year plate and sheet imported indirectly in the form of inputs or components of end goods represented a volume of the order of 192,000 tons.[18] In other words, real imports were double the

[18] This figure covers about 12,000 tons of containers imported as such, about 26,000 tons of metal containers filled with a wide range of imported goods (canned goods, chemical products, etc.), and over 150,000 tons of rolled and sheet steel in the form of components or inputs in final goods covering a range of about 200 tariff items, without including in this estimate imports of tubes, which amounted to over 50,000 tons. It should be noted that these are somewhat rough estimates, put forward only by way of illustration. They were calculated by apply-

imports registered for these products as such, and consequently apparent consumption calculated according to the usual method amounted to only about half the real consumption of plate and sheet.

These comments, which could probably be applied to many other categories of intermediate goods, especially in the chemical industry, throw some light on the interdependence of the import substitution of final and intermediate manufactured goods, and help to explain the increasing share of intermediate goods in the composition of Latin American exports. They also make possible a sounder approach to the problem of extending import substitution to intermediate goods, in the light of the greater importance in this field of market size and economies of scale.

These considerations become more significant when they are related to the second point referred to above: the weakening of the import substitution process in recent times. There is no doubt that the long-term trend towards a sharp reduction in the total import coefficient has been less widespread in recent times. Thus, for example, the decline from 9.6 to 8.1 per cent, between the second half of the fifties and 1963 was due mainly to the reductions in the coefficients for Brazil and Venezuela, and to a lesser extent also for Mexico. On the other hand, there were no significant changes in the coefficients for Argentina, Costa Rica, Ecuador, El Salvador, Peru and Uruguay, and in some countries there were substantial increases (Bolivia, Chile, Nicaragua and Panama). In the countries, other than Venezuela, that still have fairly high coefficients, namely, Guatemala, Honduras and Paraguay, the reduction in the coefficient was only moderate.

In many cases the return of the import coefficient to former levels, or at any rate the slackening off in its decline, had already begun before the second half of the fifties. Furthermore, the improvement cannot always be attributed to particularly favourable behaviour by the external sector, in view of the difference between import and export trends, and the increasing contribution of capital flows to the financing of current deficits on the balance of payments.

These changes in the general import coefficient were accompanied by a weakening in the rising trend of the share of manufacturing in the total product. Between the second half of the fifties and 1963 there was an appreciable increase in this share only in Brazil; it also increased, to a lesser extent, in Colombia, Honduras, Mexico, Nicaragua, Peru and Venezuela, whereas in most of the other Latin American countries it either declined or remained at more or less the same level.

These facts lead to the conclusion that with few exceptions import substitution has slackened considerably, and that the end of one stage has been reached, at least as regards the patterns typical until now. If this is the case, Latin American industrialization must seek new stimuli, since up to now import substitution has been one of the basic dynamic factors. Moreover, it is a striking fact that this situation has not arisen solely, or even mainly, in the Latin American countries where substitution has been

---

ing to the net weight of each import item an approximate coefficient for the content of rolled and sheet steel per unit of weight. These coefficients in turn, were estimated on a rather arbitrary basis, except for some of the most important cases, which were calculated on the basis of the study *Primera Matrice Siderurgica Italiana, Strumento di Pianificazione del Settore*, Società Finanziaria Siderurgica dall'Istituto di Ricerche Gestionali e di Mercato, Rome, 1962.

taken furthest and the import coefficients are the lowest in the region; it also exists in countries where substitution is at an intermediate stage, and even in those where import coefficients have remained relatively high. In the last group the limitations imposed by market size may be sufficiently stringent to constitute an obstacle even at a stage when the scale and structure of imports seems to leave open a vast range of substitution opportunities.

4. Employment targets and industry's contribution

Latin America's population has expanded rapidly, especially in urban areas. Since this expansion has been accompanied by a progressive decline in the contribution of agricultural employment to the total labour force, other economic sectors have a responsibility for providing productive employment to the growing population of working age. Thus employment requirements have been another reason why industrialization is an inescapable need from the standpoint of Latin America's development. Consequently a comparison of the facts of the employment problem with trends in manufacturing employment provides an objective basis for an evaluation of the vigour of Latin American industrialization, and how far the region's industrial development has met the requirements deriving from the special characteristics of the Latin American economies.

In making such a comparison, it should be borne in mind that the question of industry's capacity to absorb manpower is a controversial topic. On the one hand, it is argued that industrial development should aim at acquiring as many advanced techniques as possible in order to raise manpower output in manufacture to peak levels. Industry would thus be contributing very little to manpower absorption, and the slack would have to be taken up by other branches of the economy, since an industry with a high level of output and a high investment figure per person employed might provide enough of a surplus to constitute a powerful incentive to over-all economic development. The other argument is that the employment problem is sufficiently serious to require a solution to which every branch of the economy, including industry, must contribute by determining how far it is economically feasible for them to absorb manpower. The economic criteria on which resource allocation and technical decisions are based must take into account the relative supply of capital and manpower in the economy concerned.

This is not the place for a detailed study of the controversy, although some background data may be provided as an illustration of the specific trends being followed in Latin America. Moreover, a few structural characteristics of employment in the region will be compared with those prevailing in the industrialized economies. This implies taking as a frame of reference situations in which advantage has been taken of the opportunities afforded by modern technology.

A few figures suffice to illustrate the magnitude of the problem within the context of Latin American development. For example, it is estimated that by 1925 the economically active population of Latin America was about 32 million, while in 1960 it had reached about 68 million; in other words, after thirty-five years the region's labour force increased by about 36 million. In the United States an increase on a similar scale took place between 1900 and 1960, that is, it took sixty years.

In addition to this increase in its labour force, Latin America also experienced profound changes in the structure of employment, mainly due to a sharp decline in the share of agricultural employment. Between 1925 and 1960 the labour force engaged in agriculture increased from nearly 20 million to 32 million, which meant that its share of total employment fell from over 60 per cent to less than 48 per cent. Consequently, non-agricultural employment had to expand almost threefold, from 12.5 million in 1925 to nearly 36 million in 1960, whereas agricultural employment increased only by just over 50 per cent.

From the qualitative standpoint these are normal trends in a development process, in accordance with the past experience of the more advanced economies, where these changes in the structure of employment have gone even further. What is not normal is the speed with which these changes have had to take place in Latin America, particularly in view of the growth factors that have determined them. Thus, for example, a change of similar magnitude in the share of agricultural employment took place in Italy between 1881 and 1936 — that is, the process took more than half a century (the reduction was from 57 to 48 per cent).[19] In addition, in Italy, as in other industrialized economies, the reduction in agriculture's share of employment was an induced phenomenon resulting from the growing demand for labour in urban activities. Technical progress, associated mainly with the reduction in the volume of work required per unit of output, is also largely a response to an increasing shortage of labour, both in urban activities and in agriculture itself.

Conditions have been quite different in Latin America. In general, emigration from agriculture has not waited upon the consolidation of urban demand for labour, but has been determined by more autonomous factors, as shown by the high urbanization indexes in relation to the income levels concerned, and the proliferation of "marginal" population groups, without any steady employment, in the main urban centres of Latin America. Technical progress, moreover, has not been the fruit of local effort, but has been merely transplanted from the more advanced economies, where it developed out of local conditions, so that it bears the impress of those conditions.

The ratio between agricultural and non-agricultural employment is naturally affected by various important factors relating to the general level of development or industrialization, and differences in natural resources. For the purpose of analyzing manufacturing employment, therefore, it is preferable to leave aside the question of the general structure of employment, and confine attention to matters relating to urban activities. In this connexion it should be noted that past experience in the more advanced economies has pointed to two basic features: a relatively high percentage of industrial employment is urban employment, and a rather steady persistance of this percentage even over long periods. Thus, for example, it has been shown[20] that the percentage in the United Kingdom in 1951 (51.9 per cent) was practically the same as in 1901 (51.1 per cent); in Italy, after a slight decline during the twenties, the percentage remained little below that for the beginning of the century (59.5 per cent in 1901, 56.6 per cent in 1939 and 53.5 per cent in 1954); in Australia it remained almost the same between 1911 and 1947 (45.8 per cent and 45.5 per cent, respectively), and the same is true of Sweden (51.4 per cent in 1910 and 51.7 per cent in 1950); France (51.4 per cent

---

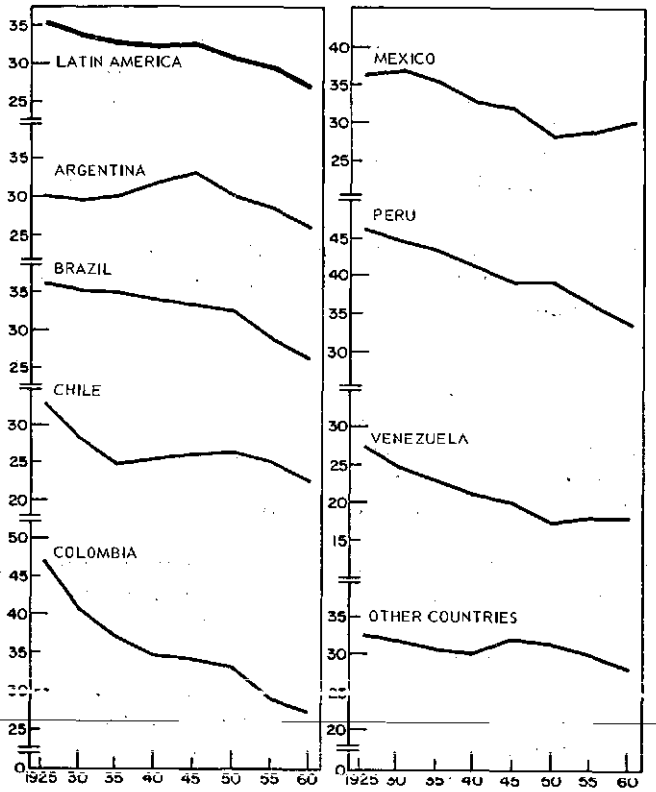
[19] *See* International Labour Office, *The World's Working Population* (Geneva, May 1956), Volume III, No. 5.

[20] *Ibid.*

Figure VII

LATIN AMERICA: SHARE OF INDUSTRIAL EMPLOYMENT IN ALL NON-AGRICULTURAL EMPLOYMENT, 1925-1960

(Percentages)



in 1881 and 51.3 per cent in 1954) and other countries. In the United States the percentage has been lower, but has also shown very little tendency to decline over the long term (47 per cent in 1870, 44 per cent in 1900, 45.4 per cent in 1920 and 42.3 per cent in 1950).

The situation has been quite different in Latin America, in relation both to the share of industrial employment in all urban employment, and to the long-term trend

[21] The percentages previously referred to and those given below for Latin America are not strictly comparable, since the first refer to total industrial employment, including mining, construction and the provision of such services as electric power, whereas the Latin American figures relate only to employment in manufacturing. The conclusions reached as regards the absolute percentages are based on estimates prepared from incomplete data which indicate that in the economies listed employment in manufacturing alone represented about 75 or 80 per cent of industrial employment in the broader sense.

of the ratio.[21] The highest percentages reached in Latin America have in fact been much lower than those in the other economies referred to were either in recent times or at much earlier stages of their economic development. Furthermore, over the long term the share of manufacturing employment in all non-agricultural employment of the region as a whole has followed a notably declining trend, which has been particularly marked throughout the post-war period.

These trends are clearly shown in figure VII, which indicates that the decline took place not only in Latin America as a whole, but also in each separate country. For the region as a whole the difference between 1925 and 1960 was significant; the percentage of industrial employment in non-agricultural employment fell from 35.4 per cent to only 27.1 per cent, which means that manufacturing was able to absorb only slightly over 5 million out of the 23 million persons added to the urban labour force during this period.

From a broader standpoint, a comparison of the contribution of various sectors to the growth of Latin America's active population between 1925 and 1960 is provided by the following estimates:

	Millions of persons
Increase in total employment	35.7
Increase in agricultural employment	12.2
Increase in non-agricultural employment	23.5
Increase in industrial employment	5.3
Increase in employment in other urban activities	18.2

In absolute terms the absorption of labour in manufacturing therefore represented only slightly over one-seventh of the increase in total employment (including a percentage of disguised unemployment), and between one-fourth and one-fifth of the increase in the active urban population.

If, as in other economies, Latin America's industry had maintained its share of urban employment over the long term, the total employed in industry in recent times would have been about 12.8 million, instead of the 10 million so employed. Furthermore, this would have represented only the maintaining of a percentage which was already comparatively low. If the percentage had been similar to those existing at the beginning of this century in France, the United Kingdom, Italy and Sweden, the total number employed in Latin American industry by 1960 would have been about 15 million — that is, 50 per cent more than were in fact so employed at that date.

These figures are already sufficiently significant to indicate that one of the outstanding features of industrialization in Latin America is a marked failure to contribute sufficient employment to permit the absorption of the rapidly growing labour force. This is a fact that has far-reaching consequences for the Latin American economies, where the employment problem has been an overriding concern.

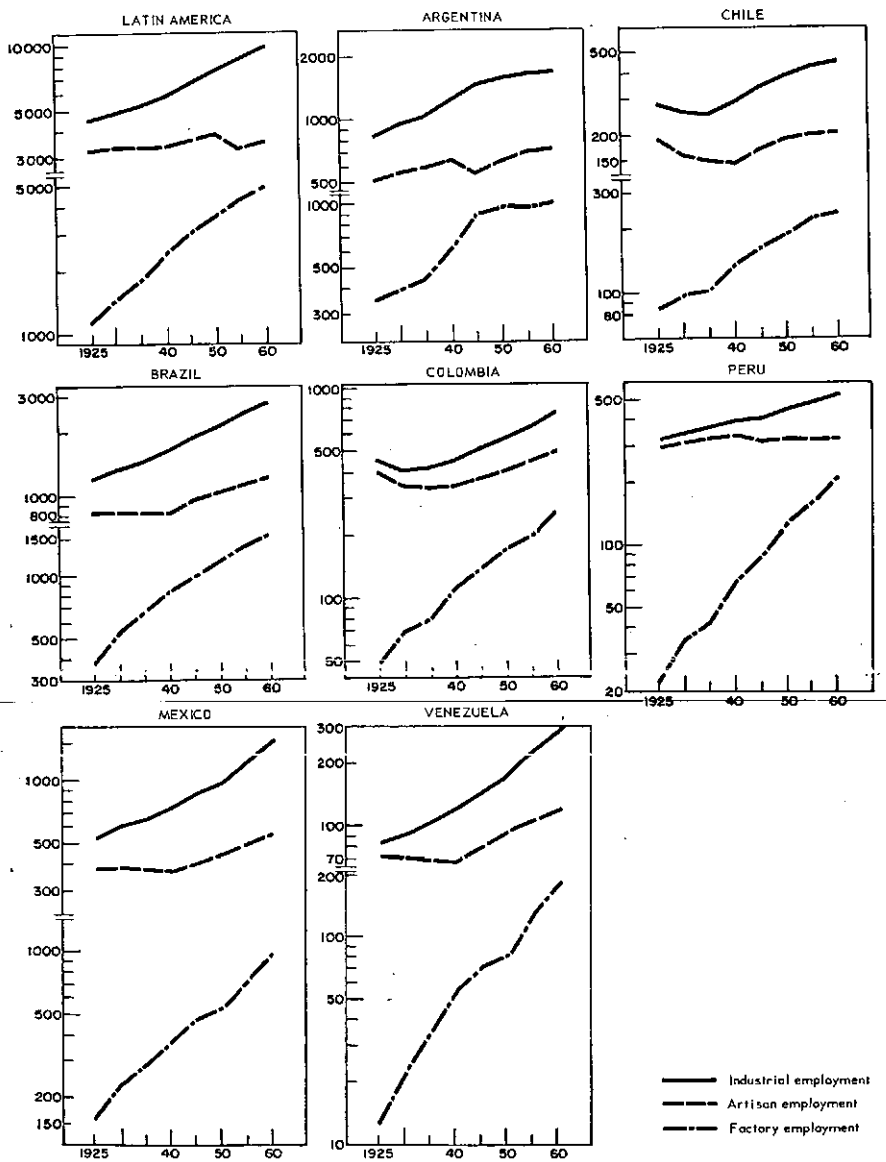
Another fact worth mentioning is the speed with which the share of industrial employment in total non-agricultural employment has fallen in certain countries. The most striking example is Colombia, where the percentage fell from nearly 48 in 1929 to about 28 in 1960; in Chile it fell from 33 to 23 per cent, and in Venezuela, where, moreover, the percentage is one of the lowest, the decline was also very marked, from 27.5 to 18.1 per cent in the same period (*see* figure VII).

Figure VIII

LATIN AMERICA: COMPOSITION AND TRENDS OF INDUSTRIAL EMPLOYMENT, 1925-1960

(Thousand of persons)

Semi-logarithmic scale



It is also noteworthy that neither the earlier figures nor those for recent years reveal any definite ratio between the coefficient for industrial employment (in relation to all urban employment) and the level of industrialization. Thus, for example, there is very little difference between the employment coefficients for Argentina and Colombia, although in Argentina the contribution of industrial output to the total domestic product is nearly twice what it is in Colombia. This makes it essential to enter into the internal structure of industrial employment, and in particular into its composition in terms of what might be called artisan employment[22] as against manufacturing employment strictly speaking in the sense of factory employment.

The estimates shown in figure VIII illustrate the composition and trends of industrial employment considered from this standpoint, for Latin America as a whole and for selected individual countries. The figure indicates that up to 1925 there was a great variety of situations reflecting a wide range of percentages for the contribution of factory employment to all industrial employment, from less than 7 per cent for Peru to over 40 per cent for Argentina. The percentages for Colombia (10.7 per cent) and Venezuela (14.3 per cent) were also very low, and those for Brazil, Chile and Mexico (about 30 per cent) relatively high.

These sharp differences were greatly modified during the course of the subsequent industrialization. For Latin America as a whole the share of factory employment in all manufacturing employment nearly doubled (from 25.7 to 52.3 per cent); in absolute terms this represented an increase of about 4 million in the number employed in factories (from 1.1 to 5.1 million), whereas the number in artisan employment increased by only 1.3 million (from 3.3 to 4.6 million). But in addition this trend was much more marked in those countries where the share of factory employment was particularly low at the beginning of the period, so that industrial employment in the various countries became much more homogenous in structure in recent years. In other words, most of the industrial growth of the past thirty-five years was through expansion of factory activities, and very little through expansion of artisan activities, and this trend seems to have been wholly unrelated to the level of industrial development in the various countries.

There is no doubt that this relative reduction in artisan employment as against factory employment is one of the factors most responsible for the failure of Latin American manufacturing as a whole to absorb much of the increase in the labour force. Its effect can be better appreciated if it is recalled that the productivity (in terms of the product generated per person employed) in these two categories of activity differs greatly, the ratio of artisan to factory productivity being estimated as about 1 to 7 or 1 to 8.[23] In other words, one person employed in the factory sector can usually

---

[22] In addition to what is strictly the artisan type of employment, this includes cottage industries, that is to say all non-factory employment.

[23] In Colombia, for example, the product per person employed in manufacturing as a whole amounted in 1950 to about 4,000 pesos (1958), which represented 9,500 pesos in the factory sector and only 1,400 in the artisan sector. In 1960 the corresponding figures (also in 1958 pesos) were 5,200 pesos, 12,400 pesos and 1,600 pesos, respectively. In Peru the industrial product per person employed in industry in 1955 was about 9,000 soles a year, based on figures of the order of 28,000 soles in the factory sector and only slightly over 4,300 soles in the artisan sector. *See* Part II, on industry, of the Colombian development plan *Plan General de Desarrollo Económico y Social*, and *The Industrial Development of Peru* (United Nations publication, Sales No.: 59.II.G.2).

generate the same product, and therefore replace, about eight persons employed in the artisan sector.

It is likely that estimates of this type, for recent periods and for countries that may not be sufficiently representative, do not apply to the region as a whole and to situations in the past. But even if more moderate estimates are accepted — for example ratios between artisan and factory productivity of 1 to 5 in the manufacturing sector — several hypothetical calculations are needed to illustrate the magnitude of the problem. Thus, for example, it should be noted that if these changes in the structure of industrial employment had not taken place, that is to say if there had not been a shift from artisan to factory industry, an equal growth in the manufacturing product between 1925 and 1960 would have required an additional labour force in the region of 5 million. Even so, the total number employed in manufacturing would have represented only 40 per cent of all urban employment.

Needless to say, these hypothetical figures in no way imply any judgement as to the desirability of maintaining the structure of industrial employment unchanged, since this would in fact mean that no real development was taking place as modern industry cannot adopt artisan methods. The sole aim of the calculation is to show how the manpower absorption problem in Latin American industrialization has been met by the manufacturing sector itself, through the relative replacement of artisan by factory employment, with much higher levels of productivity. It is also important to note this point because the artisan sector, as a source of additional manpower to be absorbed, is far from being exhausted. In fact its absolute volume today is nearly as large as the factory sector itself, and consequently the effects of the internal replacement will continue for a long time, restricting the industrial sector's capacity to absorb its proper share of the addition to the total active population.

From another standpoint, it can apparently be concluded that the speed of the absorption of artisan by factory employment is not closely related to the type of industry being developed, but relates rather to the rate of absorption of technology and of capital formation in the industrial sector. This explains the increasing homogeneity, among Latin American countries at very different levels of industrialization, of the coefficients for the share of factory employment in all manufacturing employment. Venezuela is perhaps one of the best examples, although somewhat extreme: in the absence of any long artisan tradition, and with stimuli to industrialization that did not become vigorous until recent times, it has rapidly built up an employment structure in manufacturing in which factory employment predominates. Of the increase of 211,000 in industrial employment between 1925 and 1960, only 46,000 could be classified in the artisan sector, as against 78 per cent in the factory sector. At the same time Venezuela has both one of the lowest percentages of manufacturing employment out of total urban employment (18.1 per cent in 1960, as against the Latin American average of 27 per cent), and one of the highest percentages of factory employment out of all industrial employment (60 per cent in 1960, as against the Latin American average of 52 per cent).

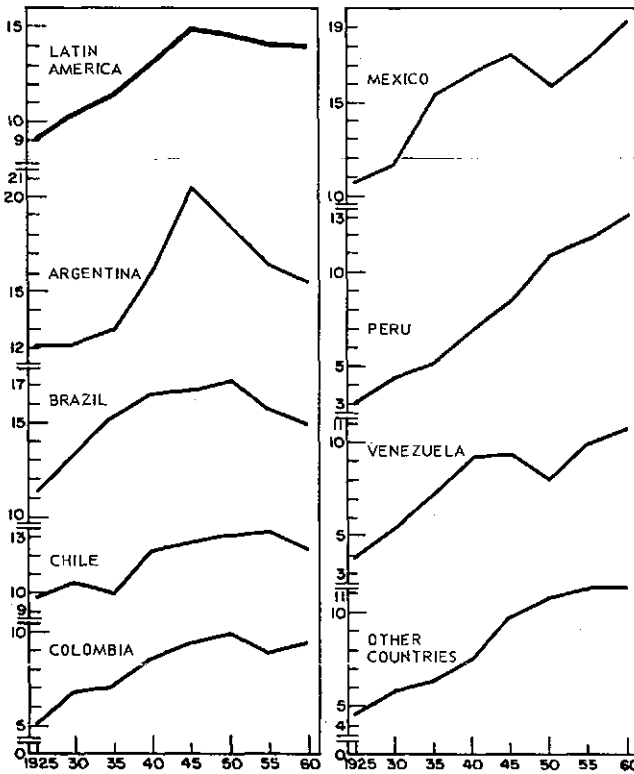
These changes in the internal structure of manufacturing employment to some extent obscure the trends in the share of factory employment in total non-agricultural employment, and consequently the behaviour of manpower absorption capacity in industry proper (*see* figure IX).

This figure shows a clearly rising trend over the long term in the coefficients concerned, both for Latin America as a whole and for each country individually. But

Figure IX

LATIN AMERICA: SHARE OF FACTORY EMPLOYMENT IN THE TOTAL ACTIVE URBAN POPULATION, 1925-1960

(Percentages)



at the same time it can be seen that there are considerable variations in this trend, and different lines of behaviour in the various countries, that can be associated with the different stages of industrial development passed through. For Latin America as a whole, the share of factory employment in all urban employment increased rapidly between 1925 and 1945, but since then it has remained the same, or even shown a tendency to decrease. Argentina, and to a lesser extent Brazil, had a sharper decline after 1945, whereas the coefficients for Chile and Colombia remained stationary; in Peru and Venezuela they continued to rise, although much less sharply than in previous decades, while in Mexico the coefficients followed an irregular course.

Thus it is not only the manufacturing sector as a whole that has failed to make a sufficient contribution in absorbing the increase in the active urban population; it is also the factory branch of manufacturing. However, the taking over of artisan employment alone, although it had a considerable effect, is not sufficient to explain the whole

of this failure. The comparisons in the last paragraph suggest that another widely recognized factor had an undeniable effect, namely, the changes in the structure of manufacturing production, where there was, with important exceptions, a considerable relative increase in capital-intensive industries, at the expense of the traditional industries that are characteristically labour-intensive. A detailed illustration of this point would call for the analysis of other relevant data, such as those given in chapter II relating to the differences in the product per worker in various branches of manufacturing. However, it is sufficient for the purpose of the argument here to refer to the data in figure IX, which indicate that despite the differences in the general industrial growth rate in the various countries, the higher the level of industrialization, the less the capacity to absorb additional manpower, even in the factory sector.

In this connexion, the expansion of what are termed the traditional industries is particularly important, since those are the industries with the greatest potential capacity to increase the manufacturing sector's manpower absorption. Unfortunately, it is the products of these industries that have a relatively low elasticity of demand, which makes it appear that a weakening in manpower absorption is an inherent characteristic of industrial development. However, occasion will arise in later sections of the present study to examine how, in the particular case of Latin America, the demand for traditional manufactures could be made much more dynamic in the context of a general policy of income redistribition to modify the strongly regressive nature of the present distribution pattern. In so far as this was achieved, industrial employment would be increased not only through a speeding up of the rate of development and the ensuing rise in production levels, but also through the higher labour inputs per unit of output characteristic of these branches of manufacturing.

In addition to these "factual" causes — replacement of artisan by factory employment, and changes in the industrial structure in favour of less labour-intensive activities — there were other factors that have been aggravating the problem of manpower absorption in Latin America's manufacturing industry. These are mainly technological and institutional factors, and the effects of the actual industrial policy followed in the past. Although detailed examination of these factors will be left to later chapters, it is necessary to state here at least a few of the conclusions concerned.

It is widely recognized that in the industrialized economies technical process has been moulded according to a basic pattern imposed by the constellation of available resources, notable mainly for an increasing supply of capital and a growing shortage of labour. The less developed economies, whose supply of productive machinery and equipment depends largely on imports from the industrial countries, are consequently faced with the need to assimilate techniques designed for conditions alien to them, and unsuited to their supply of basic resources, more especially to their large supply of labour and shortage of capital. The consequences of this situation have been discussed at length, from the twofold standpoint of the magnitude of the investment required for a given rate of industrial development based on relatively capital-intensive techniques, and the restrictions imposed on the manufacturing sector's capacity to absorb the increase in the active population. Considerable thought has also been given to defining the most suitable criteria for choosing between alternative techniques, with a view to adapting them to this combination of resources, while not losing sight of the possible drop in manpower productivity that might result in the long run from a decision to adopt techniques other than the most advanced. In addition, stress has been placed on the possibility of developing "intermediate technologies", suited to the basic features of

the developing economies, that would not represent a mere taking over of techniques already more or less obsolete in the industrialized countries.[24]

Although it may not be generally true, it is the fact that, at least in certain cases, a form of technique can be found where the economic advantage is clearly on the side of less capital intensity and greater manpower absorption. However, in the past other factors have complicated the situation in Latin America by encouraging a preference for less labour-intensive techniques. These factors relate mainly to the differences between the market prices of the factors of production, and what are termed shadow prices or opportunity costs. The industrial policy pursued has in fact helped to reduce the costs of capital through preferential treatment for imports of machinery and equipment, and other methods of stimulating capital formation in manufacturing, whereas such policies as the financing of social security systems have tended to bring about a relative increase in labour costs. The result has been that wherever the criteria governing the choice between different techniques are based on calculations of returns in relation to existing market conditions, there has been a bias towards greater capital intensity, despite the relative availability of factors, which, viewed in the light of social productivity instead of private profit, would lead to different decisions. In addition, the decisions taken are not exempt, in Latin American conditions, from the influence of other considerations of a non-economic nature, such as the resistance often observed to expanding employment lest it strengthen the bargaining power of trade unions, with the result that in some cases more advanced techniques are preferred, even though they are not economically justifiable, in order to restrict the total number of workers in a given enterprise.

In the light of these conditions it is not to be wondered at that over the long term the trends in industrial employment have been unsatisfactory, and that manufacturing industry's contribution in absorbing the increase in the active population has been declining sharply. This is undoubtedly one of the factors most responsible for the establishment of the employment structure now characteristic of many Latin American countries, with a proportion of service employment, often of minimal social productivity, quite out of line with the income levels and level of general development attained. The disguised unemployment to which this has given rise, not only in agriculture but also in urban activities, is hard to measure, but there are many indications that it is on a considerable scale, and represents another extensive potential source of labour that will subsequently further increase the growing labour force.

With this background of industrial employment, Latin America has departed considerably from the ideal concept of a gradual migration of labour from agriculture to the towns, where a considerable number are absorbed in the manufacturing sector at much higher productivity levels. Even apart from the migration from the country, the accumulated disguised unemployment in many urban activities, the modernization and rationalization of such services as marketing, and the persistance of a large volume of artisan employment, all now constitute potential sources of labour in the towns on a scale that appears vast in relation to the employment opportunities that manufacturing has succeeded in making available. Since to all this must be added

---

[24] For a detailed discussion of these points, see some of the documents submitted during the discussion on problems of industrial development at the Cambridge Summer Conference in 1964.

the factors of a progressive adoption of less labour-intensive techniques, and the changes that are taking place in the meantime in the composition of industrial production, it is easy to see that the prospect that the manufacturing sector can offer an effective contribution to the employment problem is even less promising than in the past.

However, these obstacles are not insuperable, provided (as will be explained in later sections) that employment targets are explicitly included in a planned policy of industrial development, to say nothing of the contribution that can be made by a progressive redistribution of income in Latin America. For the moment it is sufficient to present this general evaluation of how far Latin American industrialization has been able to meet this basic need arising from rapid population growth.

The ill-effects of the various factors listed naturally depend largely on the pace of the industrial development that is taking place. An industrialization process is conceivable that is sufficiently vigorous to ensure that even with rapid urban growth, progressive replacement of artisan by factory employment, appreciable changes in the structure of industrial production and rapid technological assimilation, the manufacturing sector can play a dynamic part in absorbing the active urban population. But this has not happened in Latin America, and is not likely to happen. Thus, for example, throughout the period between 1940 and 1960, in the group of nine Latin American countries for which the necessary data is available,[25] the *per capita* industrial product increased at an annual cumulative rate of 3.8 per cent, while the share of manufacturing employment in all urban employment declined from 32.5 to 26.8 per cent. All other relevant factors being the same, the maintenance of manufacturing employment at its 1940 percentage would have required an average annual industrial growth rate of about 4.8 per cent, that is, a rate 26 per cent higher than the rate actually achieved. The higher rate would have permitted the employment in manufacturing of about another two million persons. This hypothetical calculation, while illustrating the scale of the problem in the past, also gives an idea of future industrialization requirements, in conditions which from this standpoint may be even more unfavourable than in the past.

5. The role played by industry in general economic development

The industrialization requirements arising from the need for import substitution and manpower absorption, although fundamental, are not, of course the only such requirements that have emerged during the development of the Latin American economies. Thus, for example, in view of the limitations of the external sector, industry's responsibility could not be confined to replacing the flow of imported goods by a domestic supply; it also had to provide a dynamic impetus for the development of the national economy as a whole. In view of the persistence of highly regressive patterns of the income generated in certain traditional sectors, industry should have contributed to a more equitable distribution, and in view of the increasing difficulty in expanding Latin American exports of primary commodities, industry should have helped to diversify foreign trade through the introduction of manufactured goods into the normal export flows. Industrial development might also have been expected to constitute an essential factor for integrating the national economies and promoting an increasing balance in regional development, both at the national level and for the Latin American

[25] Argentina, Brazil, Chile, Colombia, Ecuador, Honduras, Mexico, Uruguay and Venezuela.

economies as a group, by encouraging a more efficient use of the natural resources of each region or modifying the effects of sharp differences in natural resources.

An analysis of the behaviour of industrial development in relation to factors of this kind provides grounds for an evaluation of the part played by industrialization in Latin America's general economic development. The next chapter refers in more detail to some of these factors — relative productivity, distribution of income in manufacturing compared with that in other sectors, foreign trade in manufactures, and location and degree of concentration of industrial development. For the moment, the general background data presented in preceding sections will no doubt provide sufficient grounds for a superficial evaluation of the dynamic force shown by Latin American industry during its evolution in the past.

This dynamic force cannot, of course, be judged in a vacuum, but must be evaluated in relation to the general features of Latin American economic development, including a very slow long-term growth in the agricultural sector, which weighs heavily in the total product, and a very slow rise in *per capita* income. In any case, the aim is not to enquire whether in other general circumstances a more vigorous industrial development would have been possible, but rather whether industry's contribution represents a slowing down of industrialization or a truly dynamic stimulus likely to affect the development of the other sectors.

Needless to say, the problem is so complex that no clear-cut answers can be looked for, merely certain more or less objective indications. In what follows, the first step is to examine certain general indicators, such as the evolution of the *per capita* industrial product, for both the total and the urban population, and the relations between the growth rate of the industrial product and those of the total product and the agricultural product; in addition, a comparison is made between the last two growth rates and those for other economies for similar periods. Next, certain hypothetical calculations are presented as to how the demand for manufactures would have developed on the basis of the parameters set out below. This is compared with the changes that took place in the internal supply and in imports. The result of this comparison provides an idea of the extent to which industrial growth may have gone beyond the mere substitution of imports and took the form of an effective expansion in the consumption of manufactures. The indications thus obtained as to the relative progress or lag in Latin American industrialization are then compared with coefficients for other countries, from various studies, relating industrial production to average *per capita* income levels and to the total population figure. Lastly, an evaluation is made of the differences in industrial progress in the various Latin American economies, on the basis of coefficients obtained solely from regional data, including additional factors that appear to be particularly important for Latin America, such as the level of urbanization and the relative importance of the external sector.

The first indicators referred to relate to the per capita industrial product, and show that an appreciable expansion might reasonably have been expected over the long term. Unfortunately, the data available do not permit the preparation of series for the region as a whole except for a relatively short period,[26] moreover, the sharp differences between countries mean that the regional totals are not highly significant. In Argentina, for example, where the base figure is relatively high and population increases — at

[26] For 1950–1960, for example, it can be estimated that the *per capita* industrial product for Latin America as a whole rose from about 80 to slightly under 110 dollars.

least at the beginning of the period — were affected not only by the vegetative growth but also by strong migratory flows, the process has been relatively slow, since the scanty data that can be got together lead to the conclusion that the per capita industrial product rose to twice its former level between the beginning of the century and the end of the thirties, and failed to increase by the same amount between 1925 and 1960. In Chile the growth rate, though higher, was still sluggish, the average cumulative annual rate between 1930 and 1963 being only 2.9 per cent.[27] On the other hand, the level rose over fourfold in Brazil and Colombia, and over threefold in Mexico.

However, a comparison between industrial growth and the urban population is much less favourable, considering the particularly rapid rate of urbanization referred to earlier. During the whole of the post-war period, and more particularly between 1945 and 1960, the *per capita* industrial product for the urban population remained stationary in Chile, increased very little in Ecuador, and rose by only about 25 per cent in Argentina and Mexico, whereas it rose by 50 per cent in Colombia and 90 per cent in Brazil. An estimate for Latin America as a whole, confined to the period 1950–60 (when the pace of industrialization declined in several large countries), gives an increase in the *per capita* industrial product for the urban population of only 19 per cent, which is an average annual rate of only about 1.5 per cent.

The choice of the urban rather than the total population for the purposes of the comparison may appear somewhat arbitrary, but is it justifiable from several standpoints. Firstly, the very low *per capita* income levels in the rural areas of Latin America (in conjunction, moreover, with particularly regressive distribution patterns) means that even though the rural population constitutes about half the region's total population, it represents in fact a very small market for the most widely consumed manufactured goods. The low levels of agricultural mechanization and the backward techniques used, which are reflected in a limited use of industrial inputs, also reduce the capacity of the rural sectors to absorb intermediate and capital goods. Furthermore, as will be shown below, thus far urbanization has been one of the factors that has been most effective in stimulating industrial development in the region.

Thus, although the coefficients in question are open to certain reservations, the evolution of the *per capita* industrial product for the urban population is not without significance. However, basically the problem cannot be considered divorced from the general rate of development for the Latin American economies. In this connexion the speed of industrialization, although insufficient from the standpoint of urban expansion, has exceeded the growth rate of the economy as a whole, which has led over the long term to an increase in the contribution of the industrial product to the total product, as previously noted. As regards more recent trends, table 1 gives the data available for 1950–62 in the form of the ratio between the two series, which can be interpreted as an indication of the elasticity of industrial development in relation to the total product during the post-war years.

It should be noted that this elasticity varies widely for the different countries of the region: in four of the eighteen countries covered, industrial growth is lower than that of the total product, while in five countries the elasticity is moderate. Furthermore, the average elasticity for the whole group, 1.38 is very much influenced by the industrial

[27] The *per capita* growth rate of industrial production was even slower.

expansion of Brazil. If this country is excluded the ratio drops to only 1.15. This figure should be compared with that obtained in a study dealing with the problem on the basis of a large number of observations for countries in different parts of the world[28] (although they refer to current periods, and not to past series); it is concluded in that study that the income elasticity of output for total manufacturing is about 1.37, which means, to quote that study, that "assuming that population is constant, the value added of total industry increases slightly over one-third more than proportionately with *per capita* income".

The reason why elasticity of Latin American industry is not greater can be partly explained by the fact that the growth of the regional product is strongly affected by the expansion of services, whose real contribution to the product is open to question.

These comparisons lead to the conclusion that, in spite of the general development that took place, industrialization, one of the factors in this process, has not been very dynamic in Latin America (with few exceptions, notably Brazil), at least during the post-war period.

A similar conclusion seems to derive from an analysis of the problem when viewed from a different approach, relating for example to the study of the long-term evolution of the total supply of manufactures. As previously noted in connexion with import

Table 1

LATIN AMERICA: RATIO BETWEEN INDUSTRIAL GROWTH AND TOTAL DOMESTIC PRODUCT DURING 1950–62[a]

(Ratio between the percentage increase in the industrial product and in the total product, 1950–62)

Argentina	1.24
Bolivia	0.26
Brazil	1.90
Chile	0.91
Colombia	1.56
Costa Rica	1.28
Ecuador	0.94
El Salvador	1.01
Guatemala	1.09
Haiti	1.52
Honduras	2.94
Mexico	1.28
Nicaragua	1.51
Panama	1.41
Paraguay	0.68
Peru	1.49
Uruguay	1.80
Venezuela	1.46

[a] Excluding Cuba and the Dominican Republic because of the lack of available data.

[28] *See A Study of Industrial Growth* (United Nations publication, Sales No.: 63.II.B.2), p. 7.

substitution, the drastic reduction of the import coefficient raises the question of how far Latin America's industrial growth has been able to go beyond the mere replacement of the flow of imported goods, and achieve a real expansion in the consumption of manufactures.

Once again, the scanty nature of the data available makes it necessary to resort to somewhat hypothetical calculations confined to a few countries of the region, although these countries are the most important from the standpoint of both size and level of industrialization. Subject to these reservations, and others of a statistical nature, a rough estimate is made of the supply of manufactures in 1929 in five Latin American countries, calculated as the sum of the gross value of industrial output and the c.i.f. value of imports, expressed in all cases in terms of 1960 dollars (*see* table 2).

It is assumed for the purpose of this illustration that the potential demand for imports for each country can be calculated by estimating the average elasticity — for example, 1.3 — of imports in relation to the gross product, and applying this elasticity to the growth of the domestic product during 1929–60.[29]

The difference between the potential demand and actual imports in 1960 represents what might be termed the increase required in manufacturing output merely to replace imports, and thus the comparison of this required increase with the actual increase during 1929–60 will provide a measure of how far industrialization represented import substitution and a dynamic element from the standpoint of expanding the total supply of manufactures (*see* table 3).

Table 2

ESTIMATES OF THE SUPPLY OF MANUFACTURES IN FIVE LATIN AMERICAN COUNTRIES, 1929

(Millions of 1960 dollars)

	Gross value of domestic output	*Imports of manufactures*	*Total supply of manufactures*
Argentina	4 589.5	1 326.9	5 916.4
Brazil	2 081.5	707.6	2 789.1
Chile	481.0	541.8	1 022.8
Colombia	282.6	267.2	549.8
Mexico	1 637.1	418.5	2 055.6
Total	*9 071.7*	*3 262.0*	*12 333.7*

[29] It can be seen that the criteria for formulating these hypothetical calculations differ from those presented in the preceding section on at least three points. Firstly, the potential demand for imports is estimated on the basis of an elasticity of demand for imports in terms of the product, instead of assuming that the coefficient remains the same as in 1929; secondly, the value of imports represents only the value of manufactures imported, and excludes imports of primary commodities, and thirdly, domestic output is valued in terms of gross values of production instead of as value added. Moreover, only a very general estimate is made and should not be applied to a specific country unless carefully examined in order to take into account factors such as differences in the structure of the economy or in the available supply of basic resources, which might produce different elasticities for each country.

This table shows that for the five countries as a group nearly 25 per cent of the expansion of domestic production represented import substitution. This general appraisal is, of course, the result of a wide variation between the five countries considered. Thus the expansion for substitution purposes represented nearly half of industrial production in Chile, and no less than 30 per cent in Argentina and Colombia, whereas the corresponding percentages were much lower in Brazil and Mexico (about 20 per cent). In turn, these differences are closely connected with the general trend of income and distribution growth, factors only partly attributable to the intensity and nature of industrial development. However, although these and other reservations caution against placing undue emphasis on specific situations, there is general confirmation of the basic role of import substitution in providing a dynamic impetus to Latin American industrialization, so that in some cases it equalled or surpassed the effect of the expansion of total domestic demand.

Table 3

ESTIMATES OF THE CONTRIBUTION OF DOMESTIC PRODUCTION AND IMPORTS TO THE INCREASE IN THE TOTAL SUPPLY OF MANUFACTURES IN FIVE LATIN AMERICAN COUNTRIES

(Increases 1929–1960 expressed in thousands of 1960 dollars)

	Imports			*Domestic production*	*Total supply*
	Potential demand	*Actual imports*	*Effects of substitution*		
Argentina	2 553	—294	2 847	9 509	9 215
Brazil	2 612	518	2 094	11 119	11 637
Chile	738	— 62	800	1 969	1 907
Colombia	883	230	653	2 371	2 601
Mexico	1 932	925	1 007	5 107	6 032
Total	*8 718*	*1 317*	*7 401*	*30 075*	*31 392*

Nevertheless, the absolute increase in the total supply of manufactures is appreciable, since its real value more than tripled between 1929 and 1960 for the five countries as a group, as a result of the doubling of the figures for Argentina and Chile, and much higher increases for Brazil, Colombia and Mexico.

These increases, however, are more modest in relation to the population growth during that period, and especially in relation to that of the urban population (*see* table 4).

The position of individual countries will, once again, have to be determined in the light of such factors as the difference in the absolute level of each country during the period taken as the basis of comparison. In short, despite the rise in the average income levels, and the relatively high elasticity of demand generally associated with the consumption of manufactures, the data considered above do not indicate large increases in the supply of manufactures, which in itself may be regarded as an additional

indication of a certain weakness in Latin America's industrialization process, considered as a whole, although differences between countries are considerable.

Current data, which can be extended to cover more countries in the region and are less subject to the statistical reservations that apply to figures for past periods, tend to confirm this conclusion. The relations in recent years between the industrial product and the level of income appear to be less close than in other areas, and the income elasticity of industrial development is lower. This is true even if full account is taken of the effects of the absolute size of the population, which in many countries of the region may be regarded as an obstacle to a higher level of industrialization.

Table 4

ESTIMATES OF THE LONG-TERM EVOLUTION OF THE TOTAL SUPPLY OF MANUFACTURES IN FIVE LATIN AMERICAN COUNTRIES, 1929 AND 1960

(Totals in millions of 1960 dollars; per capita *figures in 1960 dollars)*

	Total supply		Per capita *supply*		Per capita *supply for urban population*	
	1929	*1960*	*1929*	*1960*	*1929*	*1960*
Argentina	5 916	15 131	510	722	963	1 068
Brazil	2 789	14 426	85	205	303	536
Chile	1 023	2 930	238	384	481	603
Colombia	550	3 151	77	204	296	442
Mexico	2 056	8 088	126	225	376	410
Total or averages .	*12 334*	*43 726*	*171*	*291*	*498*	*600*

It may be useful here to refer in more detail to the study on industrial growth referred to earlier, which, on the basis of data for fifty-three countries, including fourteen Latin American countries, established a high degree of correlation between industrial output and *per capita* income and population size.[30] With few exceptions the use of the same parameters (elasticity of industrial output in relation to income and population) will give, for the basic Latin American figures for 1960, "calculated" values for industrial output that are consistently higher than the real figures. The differences, although exaggerated by definitions of the variables that are not strictly homogeneous,[31] are considerable. Thus, for example, in Argentina and Brazil the actual output was only 70 per cent of what was calculated as the normal, and in other Latin American countries the percentages were even lower: between 60 and 66 percent in Chile, Ecuador, Peru and Uruguay, and less than 60 per cent in Colombia and Mexico.

[30] *A Study of Industrial Growth, op. cit.* The ratios concerned are expressed by the equation $\log V_o = -1.637 + 1.369 \log y + 1.124 \log P$, in which V_o is industrial output, in terms of value added, in millions of dollars at 1953 prices, y is *per capita* income, also in 1953 dollars, and P is the population in millions. The variables and constants are expressed as common logarithms.

[31] In line with the data available, the ratio in question was calculated for the Latin American countries on the basis of the figures for the gross *per capita* product in 1960 dollars, instead of *per capita* income in 1953 dollars.

A similar ratio calculated solely on the basis of Latin American data for 1960 gives significantly different results. In particular there are striking differences between the coefficients that reflect the relative influence of income level and population size: the first is about 1.28, compared with 1.37 for the ratio calculated for other countries, and the second is 1.17 compared with 1.12. That is, the absolute size of the population is a relatively more important factor in Latin America, whereas *per capita* income is relatively less important. The reduction in the importance of the latter becomes even more marked if, in addition to the above variables, others are taken into account, that reflect the influence of the level of urbanization (expressed in terms of the percentage of urban in relation to total population) and the relative importance of the external sector (reflected in the import coefficients concerned).

In sum, the following ratios are arrived at, of which the first represents the ratio of countries outside Latin America, taken from the study referred to, and the others those calculated for the Latin American countries only:

$$\log V_o = -1.637 + 1.369 \log y + 1.124 \log P_t$$
$$\log V_o = -1.709 + 1.283 \log y + 1.173 \log P_t$$
$$\log V_o = -1.742 + 1.084 \log y + 1.174 \log P_t + 0.336 \log P_u$$
$$\log V_o = -1.460 + 1.016 \log y + 1.100 \log P_t + 0.501 \log P_u - 0.297 \log C$$

where V_o is the industrial output (in millions of dollars), y the *per capita* product (in dollars per year), P_t the total population in millions, P_u the level of urbanization (percentage of total population represented by the urban population) and C the import coefficient.

The steady decline in the elasticity of the industrial output in relation to the total *per capita* product or income is striking, when observations are confined to Latin America and the additional factors of level of urbanization and import coefficient are considered. With the ratios that now exist for Latin America as a whole, and in the absence of any fresh stimulus from urbanization and import substitution, industrial development will tend to do very little more than keep pace with the population growth, and consequently subsequent increases in the level of industrialization will be very slight.

It should be noted that these ratios, by reason of the very way they have been defined, show a very close link, with extremely high correlation coefficients between the variables concerned, especially total population and income level. However, for a more exact appraisal of the factors that have most influenced the region's industrial development, it is better to relate the variables concerned to the level of industrialization (as reflected for example, in the percentage of manufacturing output in total output) instead of the absolute level of industrial output. As the statistical annex explains in detail, the result of this is that there is no very close association with any of the four variables considered singly, but there is with all taken together, and the *per capita* income level even appears to be less relevant than the other variables.[32]

[32] The coefficients for the simple correlation between the level of industrialization, in the one hand, and *per capita* income, total population, percentage of urban population and import coefficients, on the other, are 0.57, 0.67, 0.55 and 0.57, respectively. The multiple correlation coefficient for the four separate variables taken as a whole is 0.85. Moreover, the individual correlation coefficients throw into even greater relief the relative importance of the variables other than the average *per capita* income.

Apart from their value in providing a general picture, such as that sketched out above, of how far Latin American industrialization is a dynamic process, the ratios referred to are useful for the purpose of evaluating the relative position of the various Latin American countries from the standpoint of industrial development. If account is taken, for example, of the various levels of *per capita* product, total population, percentage or urban population and import coefficients for 1960, figures can be obtained on the basis of the broader ratio relating to the absolute levels of industrial output, that indicate the "normal" or "theoretical" value of that output. The calculation is, of course, one relating to levels compared with that for Latin America as a whole in a strictly comparative sense, which is nevertheless useful for the purpose of comparing the theoretical levels with those actually attained by the countries included in the calculation. The results of this comparison, details of which will be found in the statistical annex, can be summarized as follows, with reference to the degree of deviation between the actual and theoretical values:

(*a*) countries whose industrial output is over 20 per cent higher than the theoretical values (Honduras, Paraguay);

(*b*) countries whose industrial output is between 10 and 20 per cent higher than the theoretical values (Argentina, Brazil, Costa Rica, Ecuador, Peru);

(*c*) countries whose industrial ouput does not differ by more than 10 per cent from the theoretical values (Bolivia, Chile, Haiti, Mexico, Nicaragua, Uruguay);

(*d*) countries whose industrial output is between 10 and 20 per cent lower than the theoretical values (Panama);

(*e*) countries whose industrial output is over 20 per cent lower than the theoretical values (Colombia, El Salvador, Guatemala, Venezuela).

The static nature of this appraisal, in that it relates solely to the situation in 1960 and not to the trends occurring over given periods, is the reason for findings that might be considered to contradict previous analyses. Thus, for example, Argentina appears in the same category as Brazil, although the latter's industrial growth in recent decades has been much more vigorous. However, the placing of Argentina reflects the results of an industrial process of long duration that, although it has weakened recently, still puts Argentina well ahead in this field. The opposite is true for Mexico, whose more rapid industrial growth rate has not apparently resulted in its being able to rise above the levels that might be considered "normal" in relation to its population, income level, degree of urbanization and import coefficients. Similarly, a study of the trends of these variables shows why those countries where the level of industrialization is still low are to be found in practically every category, including the two extremes.

In the light of these and other factors it is difficult to accept the validity of any generalization put forward as to the industrial development of Latin America as a whole. Nevertheless, at the risk of over-simplification, on the basis of the series of considerations presented in the course of the present chapter it can be concluded in general that the contribution of manufacturing has been important in a number of ways, but that at the same time industrialization has not succeeded in attaining either the vigour or the patterns called for by the existing situation in the region. Thus, for example, it can be stated that industrialization was an effective means of overcoming the limitations on general development resulting from the unfavourable behaviour of the external sector, through successful efforts at import substitution, but less effective

in replacing the external sector as the stimulant to a self-sustaining growth; that *per capita* manufacturing, though it increased significantly, did so at rates that were very modest in relation to the increase in urban population, especially in relation to the evolution of the total *per capita* supply of manufactures; that although there was a steady increase in the absolute number employed in manufacturing, the percentage of the total active population absorbed by industry was rather modest in comparison with countries in other regions, while its contribution to total urban employment declined; that the diversification that had accompanied general industrial growth had had contradictory effects, because an excessively wide range of finished goods was produced, while there was a lag in the consolidation of activities aimed at the production of intermediate goods, with a resulting increase in the vulnerability of the Latin American economies to fluctuations in the capacity to import; and that industrial development did not appear to have contributed much to improving income distribution, or economic integration, either within the various countries or at the regional level.

Within this general picture there was a wide range of individual situations, ranging from countries where manufacturing came to represent a considerable proportion of the total domestic product, to others where its contribution remained very low; and from countries that had achieved a considerable degree of self-sufficiency for most manufactures of durable and non-durable consumer goods, and a substantial range of capital goods and important intermediate goods, with a view to entering on more complicated production lines, to other countries where there was not as yet sufficient consolidation of the so-called traditional industries.

Furthermore, this wide range of situations appears only partly related to the respective *per capita* income levels; on the other hand the absolute population size, the level of urbanization and the degree to wich import substitution needs were pressing, were all important additional factors. However, some of these factors have recently shown clear signs of weakening, a phenomenon largely attributable to the levels already reached. Thus, for example, in some of the countries of the region the present import coefficients are among the lowest in the world, and consequently substitution can hardly continue to be a major dynamic factor for further industrialization. Similarly, the concentration of population in a few urban centres has also become in relative terms a characteristic of Latin America, even more so than in the industrialized areas of the world, and this has led to increasing concern with the formulation of policies aimed at a more balanced regional development.

These and other factors lead to the belief that Latin American industrialization is faced, or will be shortly, with a basic need for reorientation and reliance on stimuli other than those that have played the main part in its past development. Moreover, it is important to point out that despite the various very different levels and stages of industrial development that exist in the countries of the region, the need for reorientation seems to be arising at the same moment in most of them. The countries with the largest domestic market are generally those that have gone furthest with import substitution and where industrialization has reached the most advanced stage, and thus to make any further progress in existing conditions poses new problems, and could mean increasing sacrifices in terms of productivity and efficiency. In the countries with intermediate levels of population and income, where the same limitations arise at less advanced stages of the process, the possibilities of import substitution have largely been exploited, and at the same time there is a substantial degree of industrial diversification. The countries where the external sector is still relatively important, and where

consequently there would seem to be a broad field open for substitution activities, are in fact those in which the size of the domestic market imposes the most severe limitations, even at the earliest stages of development through which they are now passing.

There are, of course, exceptions. It can happen that in one country a relatively large population and high income level exist in conjunction with import substitution possibilities that are still extensive, while in others there may be a conjunction of adverse factors. Any such comparative evaluation as that presented above necessarily reveals that some countries are more favourably situated than others, with respect to development, but the important point to note is that in present conditions the favourable or unfavourable nature of these different situations does not appear to be necessarily associated with the size of the country or the stage of industrialization it has reached. As has been seen in the differentiation of categories based on the ratios between the actual and "theoretical" values of the industrial product, they are shown as equal in the various groups of countries at different levels of industrialization, which supports the conclusion that the problems involved are fairly widespread throughout the region.

If this is so, it would mean that earlier industrialization needs will be either replaced or aggravated by others. For example, if commodity exports continued to expand slowly there would be, in addition to the earlier need for import substitution, a need to introduce manufactures into the traditional flows of Latin American exports, either to other Latin American countries or to areas outside the region. In addition, providing employment will continue to call for some contribution on the part of industry, in view of the unemployment that already exists in the large towns, and at the same time one of the most difficult to meet, because of the new stages of industrial development that must be embarked on, and the absorption of more modern technologies that will be involved. Even if there is a reasonable measure of success in promoting manufacturing exports, the external sector's failure as a stimulus to the rest of the economy means that the manufacturing industry will have to take over more of that function, and must not be content merely to respond passively to the stimulus of demand in existing conditions. This has important implications as regards patterns of industrial development, especially in relation to the industry's capacity to transfer to the economy as a whole part of the benefits of its technical progress (*inter alia*, through its relative prices).

The outcome will not, of course, be determined wholly by what can be done within the manufacturing industry. The restricted markets, for example, are largely due to the lack of rural development and to the institutional factors that are responsible, and in more general terms to the pattern of income distribution. A progressive redistribution of income would not only have a considerable effect on the total demand for manufactured goods, but would also stimulate the demand for mass consumption manufactures by giving a more dynamic character, at least temporarily, to the industries now termed the slow-growth industries, which are also the industries that can most easily absorb manpower. Similarly, the development of industrial activities with a view to exports will raise standards of efficiency not only in the industrial sector, but also in the sectors that will have to supply the raw materials and ancillary services needed.

Nevertheless, despite recognition of the industry's dependence on conditions in the general economy within which it is developing, it must be concluded that it is, by its very nature, called on to provide the main impetus to the structural changes needed, a responsibility which it has not properly fulfilled in the past.

Chapter II

PRESENT CHARACTERISTICS OF LATIN AMERICAN INDUSTRY

THE INTENSITY AND NATURE of the past process of industrialization, as reviewed above, have stamped on Latin American industry many of its present distinguishing features and caused the radical disparities noted between the various countries of the region. To specify those characteristics and to systematize the principal basic data supporting them are imperative steps towards clarifying the major problems and substantiating a few recommendations at least concerning the basic principles that should be emphasized or embodied in the industrial policy hitherto pursued.

That, then, is the aim of the present chapter, although the considerations dwelt on will necessarily be limited, by the quantity of information and basic background data available, to certain of the most important facets. The first step will be to classify what may be defined as the "industrial establishment", in terms of the following: numbers and size; the importance and distinctive features of artisan industry and manufacturing industry proper, and — within the latter category — of what is generally termed small, medium and large-scale industry; the structure of the industrial establishment according to the level and composition of manufacturing production; its legal status; industry's powers of organization and administration; and so on.

This will be followed by a study of the essential facts relating to industrial capital. In particular, an attempt will be made to summarize the available background data on the total capital accumulated by industry and the relationship between capital and the manufacturing product; the composition of industrial capital by types of assets; the level of capital formation according to size of establishment and types of activity; and, especially, the degree of efficiency with which the available capital is being used; in other words, the utilization of installed capacity and the factors influencing it.

The third section will deal with industrial employment, including the most significant classifications and endeavouring to define their characteristics: employment in the artisan and factory sectors, its distribution by branches of industry and employment categories, etc. Essential background data will be gathered on the skill and level of training of the industrial labour force and on the special manpower training programmes being carried out in the region, as well as on the wages and general working conditions of the economically active population employed in the manufacturing sector, including aspects dealing with its trade union organization and negotiating capacity.

Once the main factors of production utilized by industry have been thus analysed, it will be time to review the results of industrial activity in recent years, on the basis of

essential data relating to the level and structure of manufacturing production, as shown by the latest industrial censuses or surveys undertaken in the various Latin American countries.

This over-all analysis will be supplemented by some brief studies on specific branches of the manufacturing sector which are of particular importance in the existing context of Latin American industry. Since the aim is merely to illustrate, from the standpoint of certain specific sectors, the nature and wide range of problems which may be implied in the over-all analyses, such studies will be confined to a few industries that are representative of diverse situations, *e.g.*, textiles, pulp and paper, chemicals, steelmaking and metal transforming.

Based on the background data for domestic production and foreign trade in respect of industrial products, an effort will be made to present as complete a picture as possible of the supplies of manufactures, in over-all terms and by types of products, according to both origin (by branches of industry) and use (intermediate products, consumer goods and capital goods). This will help to ascertain the present position with respect to the level and structure of consumption of manufactured products and the proportion absorbed by domestic production and imports in meeting the supply needs in different categories of industrial products.

Lastly, attention will be paid to one of the major problems confronting Latin American industry, namely, its high cost and price levels. In addition to evaluating the relative prices of manufactured goods on the regional markets in quantitative terms, an effort will be made to discover how far those prices are determined by equally high production costs, and to examine some of the factors which might be considered responsible.

To sum up, the aim is to supplement the analysis of past events presented in the previous chapter by an essentially descriptive and systematized analysis of data concerning the present status of industry, with a view to achieving a more comprehensive interpretation of the region's industrial development process which, together with the analysis of industrial policy dealt with in the following chapter, will make it possible to forecast some of the problems and requirements that might arise in subsequent stages of Latin America's industrialization.

1. The industrial establishment

According to the latest industrial censuses or surveys available for eighteen of the twenty Latin American countries, the region's industry at present comprises just over 400,000 units classified as "industrial establishments". The characteristics of those units, in turn, may be considered one of the most illustrative signs of the present status of industry in Latin America. Nevertheless, over and above the reservations formulated below in respect of their number, an attempt to establish the charateristics of the industrial establishment as defined in its broadest sense is hardly warranted, inasmuch as it would simultaneously cover both traditional and newly established activities, units with outmoded production methods and others where up-to-date techniques had been introduced, in proportions varying in line with the noticeable disparities between the various countries of the region. Rather than an over-all typology, therefore, what is required is an effort to establish distinguishing features which will take into account at least some of the main differentiating factors within that wide range of situations.

The difficulty of doing so on the basis of census data or information provided by the available surveys is obvious, even in regard to the total number of establishments and their distribution by countries (*see* table 5). Some countries record only establishments employing five or more workers; others insist on the additional requirement that only establishments whose annual production value exceeds a certain level should be considered; others, again, include a specified number of establishments employing less than five persons, but in one case the limit extends to ten workers; often the information covers an unspecified number of establishments employing from one to four workers, and in one instance "industrial units" which employ fewer than five persons but may consist of more than one establishment are recorded. Moreover, wherever the data cover all types of establishments, it may easily be assumed that the list includes a very low proportion of the total number of small establishments.

Within this complex of heterogeneous information, it would be useful first to draw a distinction between two levels in industry, based on radical disparities in their methods of organization, size, productivity and other characteristics. These levels are the "factory industry", which is usually defined as including establishments that employ at least five workers, and the "artisan industry", which is the term used to describe units employing fewer than five persons.[1] The previous chapter makes it clear that, broadly speaking, artisan industry has gradually shrunk in relative importance as the process of modernization has forged ahead in the region. Yet it is still very important in absolute terms, and certainly far more so than might be inferred from the figures in table 5, in those countries which include it only in part. Other estimates obtained from different sources (mainly population censuses) conclude that artisan employment still covers about 4.6 million persons, that is, only slightly below what is classified as employment in manufacturing proper (some 5.1 million persons). Furthermore, similar estimates indicate that the disparities in productivity — in terms of value added per worker — between the artisan industry level and the factory industry level averaged a ratio of 1 to 8, which implies that the distinction does not depend solely on size, but also on wide differences in quality.

To go into the nature of these qualitative differences would mean delving into a problem about which very little is known, although it affects a considerable proportion of Latin America's population, and no doubt presents, in its turn, widely differing circumstances. The image of an artisan industry representing a certain cultural tradition and involving elements of artistic creativeness, which is of lasting value and consequently deserving of systematic measures to stimulate and protect it, may be valid for only a small fraction of the total, established in the Andean countries (Bolivia, Ecuador, Peru and part of Colombia), Central America and certain parts of Brazil and Mexico. On the other hand, within the sector weighing most heavily in terms of employment and not included in that category, a distinction should be drawn between activities which are, in essence, "industrial services", such as maintenance work (primarily of motor vehicles) and repair workshops (including shoe-mending), and manufacturing activities proper. Within the latter category yet a further classification can be made. The first sub-group can be regarded as pre-manufacturing production,

[1] Thus "artisan industry" is a fairly broad and ambiguous term, since the artisan sector proper includes the traditional cottage industry. Some countries prefer to call it "unregistered industry", *i.e.*, that which owing to its size is not covered by regular industrial statistics; while, admittedly, it may include a certain number of industrial establishments which for one reason or another escape constant statistical coverage.

Table 5

NUMBER OF INDUSTRIAL ESTABLISHMENTS RECORDED IN THE LATEST INDUSTRIAL CENSUSES OR SURVEYS OF EIGHTEEN LATIN AMERICAN COUNTRIES

Country	*Source of information*	*Number of establishments*	*Category*
Argentina	1954 Industrial Census	148 371	Including 72 780 establishments employing no labour and 64 978 with up to 10 workers each
Bolivia	1957 Industrial Statistics	1 284	Including an unspecific number of establishments employing under 5 workers
Brazil	1960 Industrial Census	108 163	Including 66 301 establishments employing from 1 to 4 workers
Chile	1957 Manufacturing Census	5 854	Covers only establishments employing 5 workers or over
Colombia	1960 Industrial Survey	10 446	Including 3 280 establishments employing from 1 to 4 workers
Costa Rica[a]	1962 Industrial Survey	780	Covers only establishments employing 5 workers or over
Dominican Republic	1960 Industrial Statistics	2 349	Including an unspecified number of establishments employing under 5 workers
Ecuador	1961 Industrial Survey	522	Covers only establishments employing over 5 workers, and having an annual production value of more than 180 000 sucres
El Salvador[a]	1962 Industrial Survey	1 658	Covers only establishments employing 5 workers or over
Guatemala[a]	1962 Industrial Survey	2 078	Covers only establishments employing 5 workers or over
Honduras[a]	1962 Industrial Survey	510	Covers only establishments employing 5 workers or over
Mexico	1960 Industrial Census	100 335	Including an unspecific number of establishments employing under 5 workers
Nicaragua[a]	1962 Industrial Survey	567	Covers only establishments employing 5 workers or over
Panama	1958 Industrial Survey	2 033	Including 1 550 establishments employing under 5 workers
Paraguay	1958 Industrial Census	2 732	Including 1 596 establishments employing from 1 to 4 workers
Peru	1960 Industrial Statistics	4 174	Including 919 establishments employing under 5 workers
Uruguay	1959 Industrial Statistics	27 548	Including an unspecific number of establishments employing under 5 workers
Venezuela	1961 Industrial Survey	7 531	Covers only what are classified as "industrial units" (which can consist of more than one establishment) employing over 5 workers

[a] The data for Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua have been taken from the Central American Industrial Survey carried out by the Joint Central American Programming Mission.

in some cases supplementary to agricultural work, and on others consisting of the rough processing of manufactures susceptible of being industrialized; though some part of this group may develop to the level of full-scale manufacturing, such activities are generally condemned to disappear as industrialization advances. The second sub-group is what might be termed competitive artisan industry, which co-exists with manufacturing activities whenever the latter operate on the basis of relatively high costs and prices; and the third, is a type of supplementary artisan industry, which assimilates the benefits of modernization and is closely linked to factory level industry through the supply of parts or inputs whose production is not affected by economies of scale.

A distinction of this kind, even if it cannot be substantiated or defined on the basis of quantitative data, is undoubtedly useful in providing a clearer insight into the industrialization process and into the formulation of more effective industrial development policies, and thus constitutes an improvement on the broad generalizations all too frequently made on this subject. In any case, it might be as well to add a few partial figures illustrating the forma of artisan industry likely to predominate in Latin American countries or regions at varying stages of industrial development.

The ratio of factory productivity to artisan productivity — which, as previously stated, would appear to average 8 to 1 in terms of value added per worker — seems on the whole to be very much underestimated in industrial statistics, which probably cover only what is usually called the "improved artisan level", easily covered by censuses; but even so, the differences between specific situations may be regarded as significant. Thus, for example, employment in manufacturing proper in the five Central American countries is estimated at about 150,000 persons, while artisan employment is over 210,000; without regard to the employment ratio between the two levels — in which the artisan figures are undoubtedly underestimated — it is interesting to note that the ratio between them, in terms of value added per worker, would thus be 4 to 1, while in Colombia it would be 3 to 1 and in Brazil only 2 to 1. Although such results are inevitably affected by the extent of the statistical coverage for the artisan sector,[2] they probably also reflect certain qualitative differences in their internal structure, as determined by a growing share absorbed by the competitive artisan industry first, and by the supplementary artisan industry at a later stage of industrialization.[3]

In any case, it would be wrong to assume that there has been an abrupt change in the characteristics of the artisan and factory sectors, defined as they are on the basis of an arbitrary standard of five workers per establishment. This prompts the need also to try to analyse certain distinctions within the factory industry itself. To that effect, an estimate of the number of manufacturing establishments existing in Latin America should be taken as the point of departure (*see* table 6).

Unfortunately, only in the case of certain countries are the data available sufficiently detailed to permit some grouping of those 150,000 manufacturing units so that a study can be made of the internal structure of this sector. Of the 42,500 manufacturing establishments in Brazil, for example, some 20,600 employ between 5 and 9 workers, and more than 10,000, from 10 to 19 workers, while only 170 apparently have more than 1,000 workers per establishment. If, for purposes of comparison, they

[2] The industrial statistics used for Colombia cover only some 10,000 persons at the artisan level, compared with nearly 250,000 in the factory sector; while the figures for Brazil (taken from the 1960 census) are 150,000 and 1.6 million, respectively.

[3] For the same reason, the industrialized economies, particularly in Europe, also record a significant proportion of employment in establishments with fewer than five workers.

ESTIMATED NUMBER OF MANUFACTURING ESTABLISHMENTS IN EIGHTEEN LATIN AMERICAN COUNTRIES ACCORDING TO THE LATEST INDUSTRIAL CENSUSES OR SURVEYS

Country	*Number of establishments*	*Source of information and nature of estimate*
Argentina	31 600	1952 Industrial Census, excluding establishments employing no labour and two-thirds of those with under 10 workers
Bolivia	1 000	Estimate based on 1957 Industrial Statistics, excluding an unspecified number of establishments employing under 5 workers
Brazil	44 038	1960 Industrial Census: establishments employing 5 workers or over
Chile	5 854	1957 Manufacturing Census
Colombia	7 166	1960 Industrial Survey, excluding establishments employing under 5 workers, according to the same Survey
Costa Rica	780	1962 Industrial Survey
Dominican Republic	1 160	1960 Industrial Statistics, excluding a rough estimate of the number of establishments probably employing 5 or 6 workers
Ecuador	1 000	1961 Industrial Survey, to which figure is added a rough estimate of the number of establishments probably employing 5 or 6 workers
El Salvador	1 658	1962 Industrial Survey
Guatemala	2 078	1962 Industrial Survey
Honduras	510	1962 Industrial Survey
Mexico	32 535	1960 Industrial Census, excluding an estimated number of establishments employing under 5 workers
Nicaragua	567	1962 Industrial Survey
Panama	483	1958 Industrial Survey, excluding establishments which, according to the same source, employ under 5 workers
Paraguay	1 136	1958 Industrial Census, excluding establishments which, according to the same source, employ under 5 workers
Peru	3 255	1960 Industrial Statistics, excluding the 919 establishments which, according to the survey, employ under 5 workers
Uruguay	5 000	1959 Industrial Statistics, excluding a rough estimate of the number of establishments probably employing under 5 workers
Venezuela	7 531	1961 Industrial Survey
Total	*147 351*	

are grouped in what are usually defined as small industry (employing from 5 to 20 workers per establishment), medium industry (20–100 workers per establishment) and large-scale industry (over 100 workers per establishment), their distribution would be as follows.[4]

	Number of establishments	*Number of workers employed*
Small industry	30 771	268 733
Medium industry	9 010	370 254
Large-scale industry	2 775	1 005 109

Accordingly, in terms of employment, large-scale industry in Brazil apparently represents a little over 60 per cent of the factory sector as a whole, and small industry only about 16 per cent. But most significant of all is the nature of certain relationships which might well imply substantive qualitive disparities between those groupings. In this respect, if consideration is given to two basic indicators — value added and available installed capacity (in terms of HP) per worker — the somewhat surprising conclusion would be reached that there is a great similarity between small and medium industry; by contrast, the differences between these two and large-scale industry is apparently far more pronounced. While the value added per worker employed in medium industry is less than 15 per cent higher than the figure for small industry, it is 30 per cent lower than the average for establishments employing over 100 persons. The same similarity between the first two groups and an even wider disparity with regard to the third group are noted in the distribution of installed capacity: the number of HP per worker is 2.2, 2.4 and 3.3 in small, medium and large-scale industry, respectively.

The information on Chile, although not up to date (it is taken from the 1957 industrial census), indicates an even smaller difference between the first two factory sector groups — which represent 15 and 27 per cent respectively in terms of employment — and a notable gap between them and large-scale industry. While the value added per person employed in medium industry is less than 25 per cent higher than the figure for small industry, it is over 50 per cent lower than that for large-scale industry. The difference in installed capacity per worker is also far smaller between the first two groups than between medium industry and the group of establishments employing over 100 persons.

Table 7 summarizes this information, together with other comparable data relating to the group of five Central American countries, and Colombia and Venezuela. It will be noted that the situation observed in Brazil and Chile is repeated in the last two countries, although the difference between small and medium industry is greater. In Central America, for its part, the disparity in terms of value added per worker (there are no figures available for installed capacity) is quite clear if small industry is

[4] This grouping, which will be referred to again repeatedly, is admittedly arbitrary and of questionable validity. In particular, 100 workers per establishment may be considered a very low figure for large-scale industry. The only reasons for adopting it are the possibility of a homogeneous grouping of the different census tabulations available and the fact that this has been the criterion used in certain national studies serving as a basis for other considerations which are presented later. In general, it should be noted, too, that employment on its own is not an appropriate criterion for classifications of this nature, which ought to take into account other important characteristics as well.

compared with medium industry, but there is little difference between the latter and large-scale industry.

The general uniformity in the relationships between the value added and available installed capacity per worker in the three factory sector groups and the widening of the disparity referred to industrial development advances, suggest the existence of certain fundamental elements in the pattern of Latin America's industrialization process. To identify them is no easy matter, however, and may require specific and far more detailed research. Merely by way of a hypothesis, it might be concluded that, in general, it is a process of technicological absorption circumscribed essentially to the new major projects, which presents clearly distinct features at the level of large-scale industry,[5] but in which medium industry participates to a far smaller extent, since its techniques, organization and productivity are still largely traditional, barely differentiating it from small industry. Moreover, the medium-sized industrial establishment, instead of being a homogeneous production unit, often represents the grouping together of a wide range of production lines, each of which retains its virtually artisan characteristics.

Table 7

SOME STRUCTURAL CHARACTERISTICS OF THE FACTORY SECTOR OF MANUFACTURING INDUSTRY IN SELECTED LATIN AMERICAN COUNTRIES, BY SIZE OF ESTABLISHMENT

	Brazil (1950 census)	*Central America (1962 survey)*	*Chile (1957 census)*	*Colombia (1960 survey)*	*Venezuela (1961 survey)*
Structure of factory sector (percentages of total employment)					
Small industry	16.4	25.5	15.4	18.7	36.6
Medium industry	22.5	37.4	27.4	27.2	26.1
Large-scale industry	61.1	37.1	57.2	54.1	37.3
Value added per worker ratios[a]					
Small industry	100.0	100.0	100.0	100.0	100.0
Medium industry	114.9	207.5	124.5	169.7	146.2
Large-scale industry	145.5	259.7	189.7	289.7	294.9
Installed capacity per worker ratios[b]					
Small industry	100.0	—	100.0	100.0	100.0
Medium industry	109.1	—	141.2	153.8	212.5
Large-scale industry	150.0	—	229.4	315.4	818.8

[a] In the currency of the separate countries.
[b] HP per worker.

[5] The exception represented by Central America, where a comparatively small number of establishments is affected, is probably explained by the inclusion in large-scale industry of traditional activities recording a low proportion of value added in the production process, as happens, for example, in the sugar plants and other similar activities producing primary commodities. In this respect, it might be as well to emphasize the reservations set out in footnote 4 to this chapter.

Furthermore, these are matters upon which any generalizing in respect of the manufacturing sector as a whole is open to question, and which would therefore call for studies at the level of specific branches of industry, particularly if it is borne in mind that the relative importance of each branch in the whole structure of industry differs widely between one country and another.

For the same reason the serious disparities in the level of industrialization attained by the various Latin American countries are not reflected in equally sharp differences between the average employment figures for each manufacturing establishment. Some countries which have made more headway towards industrial development are among those registering the highest figures (an average of a little over 37 workers per establishment in Argentina and Brazil); but they share that position with other more backward countries in this respect (nearly 40 workers per manufacturing establishment in Peru and over 35 in Nicaragua). Conversely, relatively low ratios are recorded simultaneously in countries with a higher or lower level of industrial development (for example, Mexico and Paraguay present the same average of less than 25 workers per establishment). This is so wherever certain traditional branches of manufacturing production tend to be organized in large units, whereas other typically up-to-date dynamic sectors do not necessarily involve a high employment density per establishment. This consideration is strenghtened by the absence of a sufficiently close relationship between the average size of the establishments for each branch of industry and the pertinent figures for installed capacity per worker. In Brazil, for example, employment figures per establishment are considerably higher than the average in such sectors as rubber and pulp and paper — which also register a relatively high level of installed capacity per worker — as well as textiles and, in particular, tobacco, where the installed capacity ratio is well under the average. On the other hand, the chemical industries — whose heterogeneity tends to detract from the significance of the average figures, which in this case also include those for petroleum products — present the same average of level employment per establishment as the factory sector as a whole, but the relationships in respect of installed capacity per worker are notably higher.

Only for Colombia are data available on those relationships that may be classified at once by branch of industry and by size of establishment, which again seems an essential requirement if the question is to be analysed more accurately. The want of similar information for other Latin American countries, for its part, makes it difficult to extend the comparisons to economies outside the region, which would facilitate a broader evaluation of the typical features of Latin America's manufacturing establishments reviewed in this study.

Furthermore, in addition to the disparities between the characteristics of actual production in manufacturing establishments, there are others which also constitute important factors illustrating the existing picture of Latin American industry, as, for instance, in its legal status, a point which is dealt with briefly below.

The background data assembled in table 8 for four Latin American countries — Argentina, Brazil, Chile and Colombia — are sufficiently illustrative, though not strictly comparable, since the figures for the first two include a sizeable proportion of artisan establishments, while in Chile they refer exclusively to factory establishments, and in Colombia to a limited number of units employing fewer than 5 workers per establishment. Even so, it is clear that the individually-owned enterprise easily predominates as a form of legal status, if consideration is given to the proportion it absorbs of the total number of registered establishments; while, on the other

Table 8

FORM OF LEGAL ORGANIZATION OF INDUSTRIAL ESTABLISHMENTS IN SELECTED LATIN AMERICAN COUNTRIES

	Private enterprises			*Public enterprises*
	Individual enterprises	*Stock companies*	*Other concerns*	
Argentina (1954 census)[a]				
Number of establishments . . .	85 997	3 273	60 926	1 478
Percentage of total number of establishments	56.6	2.2	40.1	1.0
Percentage of total employment	14.8	35.3	36.3	13.5
Percentage of total production value	10.9	42.2	36.4	10.3
Brazil (1960 census)				
Number of establishments . . .	66 657	7 459	35 074	1 149
Percentage of total number of establishments	60.4	6.8	31.8	1.0
Percentage of total employment	14.3	57.8	26.9	1.0
Percentage of total value added	7.5	68.5	23.5	0.5
Chile (1957 census)				
Number of establishments . . .	3 190	459	2 205	[b]
Percentage of total number of establishments	54.5	7.8	37.7	[b]
Percentage of total employment	23.2	45.2	31.6	[b]
Percentage of value added . . .	14.1	63.2	22.7	[b]
Colombia (1962 industrial statistics)				
Number of establishments . . .	7 377	464	3 241	[b]
Percentage of total number of establishments	66.7	4.2	29.1	[b]
Percentage of total employment	21.7	35.7	42.6	[b]
Percentage of total value added	8.4	53.2	38.4	[b]

[a] Including extractive industries.
[b] Not classified separately.

hand, its share is somewhat insignificant in terms of employment and, still more so, of value added. The stock company form of organization, for its part, although it would seem to comprise a fairly limited number of establishments, accounts in every case for the largest proportion of the total value added. Moreover, for the reason given above, with the exception of Chile the proportion of stock companies with respect to the total number of manufacturing establishments proper is apparently much larger than would appear from the table, *i.e.*, over 10 per cent in Argentina (with the additional reservation that the pertinent information is by no means up to date), about 18 per cent in Brazil and nearly 7 per cent in Colombia. Among other forms of associations, which in general represent approximately one-third of the total in terms of establishments and employment, and a little less in terms of value added, limited liability companies easily predominate.

The general similarity between the proportions indicated might lead one to associate these forms of legal status with the levels of small, medium, and large-scale industry reviewed above, and thus to complete an image of the first system as a typically individual enterprise, of the second as largely family-type associations, and of the third as the major impersonal enterprise, to whose financing a large number of persons contribute and whose management is characterized by a wide delegation of powers. However, such a picture would hardly correspond even partially to the facts, for several reasons. In the first place, the limited requirements imposed on the stock company make this form of legal status accessible to many medium-sized enterprises, besides the fact that at some time or another their change-over to this legal system has been deliberately encouraged by means of taxation. Meanwhile, the very lack of any major requirements enables them to continue operating, to all intents and purposes, as individual or family enterprise, without absorbing — except purely as a matter of form — the procedures for delegating authority, and others considered typical of the stock company. Even if nearly all the major establishments, in their turn, are stock companies, often neither their size nor their legal status prevents them from constituting *de facto* family enterprises. Thus, there are many major enterprises in which a high proportion of the shares is concentrated in the hands of a small group of persons; the shares themselves are not sold on the stock market, nor are they open to public subscription; and major policy and management decisions are adopted on the same lines as in a limited liability company.[6]

Under the circumstances, the most advanced forms of legal status are not necessarily compatible with the modernization of production organization and business administration methods. In turn, the persistence of personal authority, together with the elements of tradition and paternalism it involves, sometimes result in perhaps excessive emphasis being laid on the theme of the "entrepreneur" as a fundamental factor of Latin America's industrial development.

The technological disparities noted between different industrial levels suggest a superimposing process rather than the progressive promotion of enterprises to a higher level. This phenomenon deriving among other things from the difficulty of securing funds, tends to be associated, in turn, with inadequate "entrepreneurial capacity". The same factor is usually regarded as partly responsible for other adverse characteristics of Latin American industry, which will be studied in the following sections of this study, including its lack of "agressiveness" in cornering new markets or expanding lines that supplement other manufacturing activities, its adherence to protectionist mechanisms and the scant progress it has made towards improving productivity and efficiency.

Admittedly, entrepreneurial capacity is an important factor of industrialization, but at the same time it would be going too far to consider that entrepreneurial action alone is responsible for the dynamics of the process. Among other things, it is doubtful whether the question can be expressed in terms of the quality and quantity of entrepreneurial resources, which would be tantamount to defining in the abstract certain ideal prerogatives of the entrepreneurial role, whereas the latter cannot be

[6] Some characteristics of the capital markets in Latin America will be described in detail in the review of industrial policy and, specifically, of financing problems in chapter III, which will permit a clearer evaluation of the nature of a substantial proportion of the industrial stock companies in Latin America.

separated, in the last analysis, from the specific conditions under which development takes place in each particular case. Economic growth itself is, in fact, accompanied by a growing mobilization of management capacity which seemed not to exist previously, and, therefore, can logically be assumed to exist in latent form. What is more, diverse fragmentary research has recognized the existence of particularly valuable "entrepreneurial talent" even at the level of the small enterprise.

If that is so, it is important to take cognizance of those characteristics of the Latin American environment on which the materializing of existing entrepreneurial capacity depends, in addition to the basic characterististics relating to the limitation of access to technical resources and capital.

The most important feature of all is the uncertainty deriving not only from political factors or general economic conditions, but also from the lack of precision, internal consistency and steadfastness in industrial policy. An inevitable consequence of the climate of uncertainty and insecurity, in those countries in which it exists, is that entrepreneurs tend to evaluate their opportunities and to adopt decisions on the basis of immediate considerations, limiting their predictions to very restricted periods. Thus decisions apply only to the short term, which in itself necessarily implies the lack of "aggressiveness" noted in entrepreneurial action.

The long-term predictions and far-reaching decisions concerning new industrial developments are reserved, by force of circumstances, for government institutions, which serves to reinforce their role as promotors of industry, either by providing the proper incentives or, in some cases, by creating the enterprises directly. Indeed, the initiation of a large number of heavy industries in Latin America is linked to public enterprise, whether they retain the status of State enterprises or are transferred wholly or in part to the private sector.

Accordingly, the short-term criteria underlying private decisions, because of the climate of uncertainty among other reasons, as against the possibilities open to public agencies of predicting over the long term, usually result in the following distribution of enterpreneurial resources: those having a high level of technical training but lacking in practical experience are concentrated in State institutions, where their main function is programming, while those with more pragmatic training are to be found in the direct operation of private enterprises. The usual distinction between the public and private sector which is typical of the operation of mixed economies does not therefore ultimately limit the availability of entrepreneurial resources, which are actually found both inside and outside the enterprise as such and often move from one sector to the other.

This differentiation between entrepreneurial resources according to their skill leads to the conclusion that, from the standpoint of the private sector, the overcoming of such uncertainty would not suffice to back longer-term decisions; that would also require adequate financial and organizational capacity to absorb the technical personnel trained for that type of work, and such capacity is often beyond the possibilities of the small and medium-sized enterprises.

These and other factors help to explain the difficulties hampering the small and medium concerns in their evolution towards industrial projects of broader scope, while the super-imposition of levels with varying structural characteristics referred to above is maintained. Under these conditions large-scale industry, except where conditions are particularly favourable, can only flourish usually as a result of deliberate

State action to promote it, of direct foreign investment, or of the association of the Latin American private entrepreneur with foreign capital or technical assistance.

There will be occasion later to revert to this subject, particularly when dealing with industrial policy and the forms of relationship existing between the private sector and industrial planning mechanisms. For the time being, the intention is merely to establish these general considerations to the extent that they help to explain the typical features of industrial establishments at different levels of industry.

2. Industrial capital

The shortage of capital is often regarded as one of the main obstacles to a more rapid expansion of Latin American industry, and the particularly heavy incidence of capital charges as one of the principal reasons for the high costs of production in many branches of the region's manufacturing activity. Capital is thus a key factor, and a searching study of its intensity, composition and utilization should form a structural part of any analysis of the present industrial situation.

Unfortunately the possibilities of an analysis of this kind are limited by the fragmentary and heterogeneous nature of the information available. Capital measurement is, in fact, a singularly weak point in Latin American statistics, which are of very little use for comparative purposes because of the plethora of definitions and methods of valuation employed. For instance, the figures for net worth, as they appear in the industrial census that also cover this aspect, usually represent assets purchased at a number of different price levels and subsequently revalued, sometimes in line with criteria that are based on tax provisions rather than on actual conditions. Deductions for depreciation of assets are also made in conformity with the same type of criteria. Other independent estimates of net worth in terms of capital depreciation and replacement costs tend to be too general and are therefore apt to have a fairly wide margin of error. Then, again, the fact that there is no uniformity in industrial structure or in the various types of manufacturing establishment makes for wide disparities in intensity and methods of capital utilization between the different industrial branches and even individual strata in the same branch. In short, there are a number of reservations to be borne in mind for a strict analysis of the facts considered in the following pages; they will not, however, affect the general tenor of the more important conclusions to be drawn from them.

As the development of the manufacturing sector is often associated with its need for a substantial capital investment, the first aspect to be examined is the over-all volume of capital accumulated in the sector and its relation to the value of the output resulting therefrom.

Figures relating to the Argentine economy in 1955[7] indicate that the total amount of fixed capital invested in manufacturing industry was about 28,000 million pesos (at 1950 prices), *i.e.* 12 per cent of the country's entire capital. A comparison of this sum with the industrial product for the same year gives a product-capital ratio of about 0.6, which is twice as large as the coefficient for the whole economy. Similar estimates

[7] *El desarrollo económico de la Argentina*, United Nations publication, Sales No.: 59.II.G.3, Vol. I, annex II.

for Colombian industry[8] place the ratio at 0.35 to 0.44 and for Ecuador at about 0.54.[9] Limited to factory industry, it was 0.63 for Venezuela in 1961,[10] while for Peru it was practically the same as the coefficient for the over-all economy, namely, around 0.4 in 1955.[11] These are all indirect estimates of capital in terms of the value of depreciation and of replacement cost. However, calculations based on census data relating to net worth generally arrive at much higher ratios (*e.g.* higher than unity for Chile, according to the 1957 industrial census, and for Peru, as shown by the industrial statistics for 1960). This indicates the extent to which the book value of industrial capital is underestimated.

The fairly satisfactory ratios quoted for a sector that is generally characterized by intensive use of capital are largely explained by the inclusion of the broad category of artisan activities, which normally use little capital and thus have a much higher ratio than factory industry.[12] Hence, the constant replacement of artisan industry by factory production, which has been mentioned in the previous chapter, implies a decline in the product-capital ratio for the manufacturing sector as a whole. This, in its turn, means that a larger amount of capital has to be invested to keep up a given rate of industrial growth.[13]

Apart from this general distinction, there are also notable variations in capital absorption per unit of output among branches of industry, and in size of establishment among individual strata in a single branch. Differences in capital absorption are well known, mainly consisting in higher product-capital ratios in the slow-growing branches — except textiles — than in the dynamic branches, particularly those manufacturing intermediate goods. As regards variations in size of enterprise, some indirect information can be obtained from the figures for installed capacity per worker in establishments belonging to the different strata described in the preceding section. The findings of an industrial survey in Venezuela also throw light on this point.[14] It appears from these that the figure of 0.63 for factory sector as a whole is an average of ratios that reach 1.58 for small industry, range from 0.62 to 1.5 in two strata of medium-scale industry and are only 0.48 for large-scale industry (petroleum refining being excluded in every case).

This information is intended simply to indicate some orders of magnitude of industrial capital and their relations to the industrial product. Because of the variety of concepts employed and the fact that the figures quoted are not definitive, it would be unjustifiable to draw other conclusions which, if used for estimating the additional

---

[8] *The economic development of Colombia*, United Nations publication, Sales No.: 57.II.G.3, chapter III, and *General economic and social development plan*, Part II.

[9] Estimates of the National Economic Planning and Co-ordination Board.

[10] CORDIPLAN, *Industrial survey*, 1961.

[11] *The industrial development of Peru*, United Nations publication, Sales No.: 59.II.G.2, chapter IV.

[12] For instance, the estimate of 0.54 for the manufacturing sector as a whole in Ecuador is divided into 0.32 for the factory sector and 6.03 for artisan activities.

[13] These are long-term trends, and do not exclude the possibility of a different pattern of behaviour at certain times, mainly as a result of more intensive use of production capacity. One instance was the Second World War, when imports of equipment were restricted and domestic manufacturing industry had to be expanded as much as possible. Moreover, the relative substitution of factory production for artisan activities has been influenced by changes in the internal structure of the factory sector.

[14] CORDIPLAN, *Industrial survey*, 1961.

investment needed to achieve certain rates of industrial growth in future, might lead to considerable underestimation. On the other hand, it would be useful to pursue the analysis in order to shed light on some aspects of the composition of industrial capital in Latin America.

The most outstanding and also fairly widespread feature is the rather low ratio of fixed capital to the total tangible assets of industrial enterprises in Latin America. For instance, Chile's industrial census of 1957 shows that industrial capital amounted to about 450 million escudos in all, with some 165 million in the form of stocks of raw materials, finished goods and work under way. The resulting coefficient of 64 per cent for the ratio of fixed assets to total capital corresponds fairly closely to that of other Latin American countries,[15] and contrasts with the ratios of 74 per cent for Canada (1955), 83 for the Netherlands (1952), 84 for Norway (1953) and 78 for the United States.

The same problem emerges even more clearly from the results of surveys on the sources and uses of funds in selected groups of existing industrial enterprises which therefore exclude investment in new undertakings. An evaluation of the balance-sheets of a sample of industrial firms in Argentina indicates that the amount of funds earmarked for maintaining and adding to inventories was the same as for fixed assets in 1952–55 and equal to two-thirds of the latter in 1960–61.[16] This last proportion tallies with the figure obtained from a similar analysis of Brazilian enterprises in 1959–62. In Chile, over the much longer period between 1949 and 1961, the funds allotted to inventories were one and a half times as much as those destined for fixed capital. In Colombia and Venezuela, the corresponding ratios were lower, but still quite considerable, being 36 per cent in 1958–62 and 45 per cent in 1961 respectively. In the United States, the ratio in 1960 was only 27 per cent.

The fact that inventories account for a large proportion of the total tangible capital held by Latin American industry obviously has an important bearing on the financing of industrial development, since funds are thus appropriated that could be better employed in improving or adding to the fixed assets on which, in the last analysis, the scale and efficiency of production depend. There seem to be a variety of reasons for the unfavourable nature of the ratios, apart from shortcomings in the inventory policies followed by the enterprises themselves. As regards stocks of raw materials, which, in Chile at least, form more than half the total, the question is complicated, first, by the fact that industry uses a large proportion of imported raw materials and therefore has to stock enough for several months of work as a safeguard against possible shipping delays or changes in over-all import policy. Secondly, manufacturers are compelled to buy, within a given period of time, a large enough supply of certain domestic raw materials (mainly seasonal agricultural products) to cover their entire annual requirements, owing to the complete lack of a national distribution system to defray the cost of keeping inventories replenished, or to the shortcomings of such machinery where it exists. Then, too, the deficiencies of the marketing system mean that industrial firms have to hold large inventories of finished goods, without being able to shift more than a part of the financial burden involved to the trade sector.

---

[15] The 1960 industrial census in Mexico shows a still lower ratio, with fixed assets constituting only about 53 per cent of the capital.

[16] The source and scope of this and other information are explained in chapter III of this study in relation to the financing of industrial development.

The impact of these factors is made even greater by the other working capital requirements of Latin American industrial undertakings in present circumstances. These requirements are mainly due to the credit granted by manufacturers for the placement of their products, which, as will be demonstrated later, often far exceed the short-term loans received by industry from lending agencies. The same surveys on sources and uses of funds in respect of industrial enterprises indicate that, in some Latin American countries, during the periods referred to, more funds were allotted to working capital than to fixed assets, the proportion of the total amount of capital being 30 per cent in Argentina (in both periods), 44 per cent in Brazil, 28 per cent in Chile, 25 per cent in Colombia and 19 per cent in Venezuela against only 14 per cent in United States enterprises. Similar conclusions are suggested by other estimates, although the concepts involved are slightly different. For instance, it is calculated that in the United States, in 1953, 0.32 units of circulating capital were needed per unit of gross output, while in Mexico in 1962 the equivalent figure was 0.47.

In short, working capital requirements — including inventories, credit, demand deposits and other values — absorbed a proportion of the total funds ranging from 55 per cent in Colombia and Venezuela to about 70 per cent in Argentina, Brazil and Chile, against only 32 per cent in France (1953) and 37 per cent in the United States (1960).

The unsatisfactory structure of industrial capital in Latin America, which is distorted by the unduly heavy emphasis placed on working capital in comparison with the balance maintained in other countries, is revealed as even more unfavourable if the composition of fixed capital is analysed by types of assets, with machinery and equipment on the one hand, and buildings and general installations on the other. To judge by the information available, machinery and equipment represent barely 60 per cent of total fixed assets in the Latin American countries, as against 70 per cent in the Federal Republic of Germany (1955). In Venezuela, at least, there seem to be no marked differences in this respect between the various industrial categories: for small industry the coefficient is 57.4; in two strata of medium-scale industry it is 60.8 and 33.4 respectively and in large-scale industry 57.9 per cent.

In short, the picture presented by this combination of factors as regards the composition of industrial capital in Latin America and the financial resources needed for the development of the manufacturing sector is singularly unfavourable.

The fact that the price of capital goods tends to be higher than in other economies, and the frequent need of investment in sectors that are not part of the productive process itself (energy, water supplies, social services), means that more capital is required per unit of output. This is not always revealed by comparative analyses because of the structural differences in the various branches of industry or the arbitrary inclusion of certain artisan activities. Then, too, a relatively high proportion of buildings and other works to machinery and for equipment production proper intensifies demand for fixed capital investment. In addition, a vast amount of working capital is needed to keep up a proportionately large stock of raw materials and end goods, and a fairly sizeable volume of credit has to be granted by the industrial firms themselves to facilitate the sale of their products.

Industrial financing policy and the possibilities it offers of dealing with this body of adverse factors will be the theme of the following chapter. The point focussed on at this juncture is the vital need for the fullest and most efficient use to be made of the

production capacity available, precisely because of the harmful influence of those factors and the shortage of capital characteristics of less advanced countries.

Here, too, the information and opinions that can be pieced together add up to a bleak picture. In fact, they indicate that one of the salient features of Latin American industry at the present time is its failure to make proper use of the production capacity available.

This contention is applicable to most of the Latin American countries, although in varying degrees depending on the nature of the manufacturing activities existing there. In Argentina, for instance, a survey of the industrial outlook[17] in 1961, 1963 and 1964 showed that the coefficient of utilization of capacity — expressed in terms of actual production as a percentage of the maximum attainable — varied from 40 to as much as 82 per cent during the intermediate or most unfavourable period. The lowest coefficients recorded in 1963 were for metal-working, motor vehicles, machinery and electrical apparatus (between 40 and 45 per cent), and the three-yearly averages were also less than 60 per cent in the food, beverages, wood and paper and paperboard industries. The highest coefficients were for tobacco, leather and petroleum products, under-utilization being about 25 per cent (although inclined to vary greatly) in such branches as textiles and made-up goods, printing, chemicals, rubber and non-metallic ores.[18]

In Colombia, rather old estimates (for 1953) show that utilization was low in the food industries, 30 to 40 per cent in tobacco manufacturing, and incomplete in the chemical industries which have a single working shift. The cotton textile industry, with three shifts, used its capacity intensively, and in the silk mills utilization was virtually 100 per cent. For woollen goods, however, it was only 30 to 60 per cent. The metal-transforming industries generally operate on the basis of one eight-hour shift, and the rubber industries on two shifts, while the paper mills work round the clock, but for three days a week only.

The estimates relating to Chile are for 1957, and are expressed in terms of actual production as a percentage of the maximum gross production attainable. This is understood to mean the production level attainable by large-scale industry if full use is made of installed capacity with three shifts of eight hours each,[19] by medium-scale industry with two shifts and by small-scale industry with one shift, due allowance being made for the special methods of work adopted in certain industrial branches. On the basis of this concept, utilization was estimated to be 55.3 per cent in the major industries, 33.1 per cent in the medium-scale branches and 50.3 in small industry, against the entrepreneurs' own figures of 69.3, 53.9 and 51.4 per cent respectively.

---

[17] *See Encuesta sobre expectativas económicas de producción e inversión de las empresas industriales.* Preliminary findings of a study undertaken by the National Development Council, National Budget Section, in November 1964.

[18] In order not to interpret these figures wrongly, particularly in comparing them with the figures for other countries that will be quoted later, it should be borne in mind that the concepts on which they are based are often very varied and subjective criteria are followed rather than precise statistical measurements. For instance, it has to be decided what number of working hours per year should be taken as the standard figure and how to make an over-all assessment of an establishment in which the different sections or departments do not have the same maximum production capacity.

[19] The broad definition of large-scale industry, which begins at a rather low level of employment per establishment, may lead to an overestimation of its production potential on the basis of three shifts.

The metal-transforming, chemical, wood, clothing, footwear and tobacco industries have particularly low utilization coefficients, whereas those for the basic metal trades, petroleum and coal products, pulp and paper and beverages are much higher than the average.

Estimates for industry in Ecuador, in 1959 and 1961, show that idle capacity in factory sector amounted to about 40 per cent and, although varying from one branch to another, was fairly high in all cases, except for that of petroleum products in 1961.

The estimates for Venezuelan industry in 1961 are equally significant. They show that a large number of production lines used less than 50 per cent of their installed capacity, while others utilized proportions ranging from 50 to 75 per cent.

Many reasons can be found to explain the paradox of an industrial sector which, on the one hand, does not have a particularly rapid rate of growth, suffers from general shortage of capital and has great difficulty in financing its operations and, on the other, has an appreciable amount of installed capacity that is not used to the full. Some of these are undoubtedly related to the market, which is too small to justify an expansion in the volume of production despite the presence of all the necessary factors of production. The market is, however, too general an explanation, since it involves in its turn a whole host of different situations.

In some cases, the activities concerned may, although concentrated in a small number of enterprises or even constituting a monopoly, be compelled for technical reasons to use minimum economic scales that go well beyond the limits of the present market. Hence, as demand expands, a certain amount of surplus capacity is bound to result unless more old-fashioned technologies are reintroduced. This seems to be the state of affairs in some newly developed branches of the dynamic industries. Conversely, in the case of some activities that also count as dynamic industries and are subject to the same technical limitations, a large number of plants has been deliberately established even though their aggregate capacity may exceed the immediate absorption capacity of the market. In such cases the margin of under-utilized capacity is to some extent the price paid for maintaining a certain amount of competition among domestic suppliers. However, surplus capacity is also apparently to be found in traditional industries, where the number of undertakings is greater and the technological restrictions of minimum production scales count for far less.

In cases such as this, the underlying reasons have less to do with the market — although its enlargement would naturally help to solve the problem — than with shortcomings in production planning, or failure to use the resources accruing from the reinvestment of profits which tend to be ploughed back into the same activity instead of being diverted to others that are still short of production capacity. The problem is thus bound up with the inefficiency of capital markets and with the generally unselective nature of the machinery and incentives used to promote industrial investment which, moreover, seldom include specific provisions for rewarding the more intensive use of available capacity. The very fact that many enterprises are family concerns whose members are reluctant to hand over responsibility to salaried employees, combined with the shortage of technical personnel capable of assuming such responsibility, limits the number of hours that can be worked per day, and means that a good many establishments prefer to increase their equipment rather than add to the number of shifts. The same result is obtained by certain labour regulations that raise the cost of the wages payable to workers on the extra shifts.

There are, in short, a whole host of factors which range from the structural to those connected with types of industrial policy. Their effects, however, are equally prejudicial, as regards both the financing of industrial development as a whole and the incidence of capital charges on operational costs, and intensify another adverse feature in the Latin American manufacturing sector, namely, the high costs of production, which will be dealt with at length in later sections.

3. Industrial employment

The analysis of the history of Latin American industrial development and of the characteristics of the present-day industrial establishment have brought to light some of the fundamental aspects of labour absorption capacity in the manufacturing sector and the pattern of industrial employment. It has been demonstrated that in a context of rapid demographic growth and even swifter urbanization set against relatively slow growth for the over-all product, the continuous increase in the labour force has given rise to a serious employment problem, which manufacturing industry is ill-equipped to solve. Although, over the long term, industry is employing a larger proportion of the active population, this is not true of total urban employment, the result being an increasing margin of labour that is either underemployed or else employed in services with an extremely low productivity level. Moreover, industry's capacity for labour absorption is not merely low in relative terms, but has tended, for structural, technical and institutional reasons, to decline in proportion to the march of industrialization. The very diversification of manufacturing production in response to the changes in demand and the possibilities of import substitutions has led to more rapid development of the production lines that tend to be less labour intensive in comparison with the traditional branches, whose naturally slow tempo of growth has been made even more sluggish by persistently regressive features in income distribution. Then, too, technological assimilation has tended to be passive, and to consist in the incorporation of techniques designed for economies with an entirely different set of productive resources and, above all, a more or less marked shortage of labour. The preference for capital-intensive techniques has been strengthened by another series of factors that form part of the Latin American development process: namely, sharp distortions in the prices of the factors of production in relation to the levels that may be considered as representative of their "social cost" (for one reason because of the import policy adopted and preferential treatment generally accorded to machinery and equipment); heavy increases in labour costs as a result of the levels and modes of financing social security expenditure; in some cases, a preference based on political and social considerations for techniques that limit the absolute volume of employment in individual enterprises, and thus make it difficult for trade unions to be placed on a strong footing or even to be set up at all; and the incentive to adopt more automatic production processes that stems from the shortage of trained personnel to handle equipment that is less costly but whose performance depends to a greater extent on the skill of the workers. Lastly, the gradual modernization of the industrial sector as a whole has led — in relative terms at least — to the steady replacement of artisan activities by factory industry with a very much higher level of productivity and hence a much lower labour input per unit of product.

As the process of substitution is still far from coming to an end, artisan activities can continue to be one of the main sources of labour for the future expansion of

factory employment, in addition to the relatively rapid increase in the active population.

At the present time, Latin American manufacturing industry employs about 10 million persons, representing 5 per cent of the total population and 14 per cent of the active population. The distribution of this labour force by countries and by factory or artisan employment is set forth in table 9. The figures relate to 1960 and are subject to the reservations already expressed with respect to definition and coverage.

Table 9

LATIN AMERICA: ESTIMATED STRUCTURE OF EMPLOYMENT IN MANUFACTURING, 1960

Country	*Total employment in manufacturing (thousands of persons)*	*Factory sector*	*Artisan sector*
		Percentage	
Argentina	1 720	58	42
Bolivia	185	12	88
Brazil	2 850	56	44
Chile	447	54	46
Colombia	748	34	66
Costa Rica	43	44	56
Cuba	400	59	41
Dominican Republic	90	50	50
Ecuador	251	20	80
El Salvador	98	44	56
Guatemala	105	36	64
Haiti	101	18	82
Honduras	44	30	70
Mexico	1 556	64	36
Nicaragua	51	24	76
Panama	26	58	42
Paraguay	82	22	78
Peru	536	38	62
Uruguay	210	71	29
Venezuela	295	60	40
Total	*9 838*	*52*	*48*

Table 9 indicates that nearly half the total number of persons employed in manufacturing industry are in the artisan sector. The proportion naturally varies a great deal among the different countries, depending mainly on their respective degree of industrialization but also quite considerably on the extent to which artisan tradition has been preserved in their economic and social organization.[20] The very significance of artisan employment and its relations to factory employment usually vary as well, as has been indicated in the discussion of the characteristics of Latin American industrial establishments. At that time, a study was made of some data on labour productivity

[20] This is true of Bolivia, Ecuador and Paraguay, and to a lesser extent of Colombia and Peru, but not of Uruguay and Venezuela. For the same reason, the ratio of employment in manufacturing (which is heavily influenced by artisan employment) to the total active population is seldom a sound indication of the progress made by industrial development.

in terms of the value added per employed person in the artisan and factory sectors and in different strata of factory industry, and on installed capacity per worker, which is fairly indicative of the extent to which the production process has been mechanized. These ratios will be supplemented by similar coefficients when the present composition of manufacturing production is examined. The incidence of productivity levels and nominal wages on the cost of goods manufactured can thereafter be gauged in a proper perspective, in relation to the price and cost of industrial products in Latin America.

The principal data on employment distribution by branches of industry show clearly that a large porportion of the labour force is absorbed by the traditional industries, particularly those making foodstuffs, clothing and textiles. As many points will be dealt with in other sections, it has been thought best to confine the discussion at this juncture to two factors that have a particularly important bearing on employment in the manufacturing sector: the training given to industrial labour and the share of industrial income that accrues to the wage-earners in the sector.

Training for the industrial labour force has been increasingly emphasized as a vital problem, in the light of both present conditions and future prospects of industrialization in Latin America. For instance, lack of proper training is thought to be partly responsible for the relatively low level of industrial productivity in the region and for the preference that is sometimes given to more automatic production techniques in which skilled labour counts for much less, although they may be more capital-intensive and thus offer fewer employment opportunities. Similarly, lack of training is regarded as a barrier to more rapid growth and to changes in the structure of industrial production involving the assimilation of techniques that call for a more highly skilled labour force.

The very structure of the subject makes it difficult to analyse in the light of the kind of statistical data normally collected on existing industry. General information of this kind would be too limited for exploring the relationship between the labour force's degree of training and level of productivity in particular branches or sectors; comparisons of this kind can only be useful to the extent that it is possible for allowance to be made for such factors as capital investment per employed person, and the efficiency with which production is generally organized and administered. However, stress has been laid on their importance in some studies that have made projections of skilled labour requirements in specific lines of industrial development and their relation to current training facilities, although they have tended to confine themselves to the technical and professional categories.

For instance, a survey of establishments with more than 50 workers and a total employment of nearly 200,000 persons carried out in Colombia in 1963 indicates that unskilled workers constitute more than 46 per cent of the entire number employed, skilled workers 33 per cent and office staff nearly 15 per cent, with 2.1 per cent for management, 1.4 per cent for professional personnel and 1.1 per cent for professional staff at the intermediate level and technical staff. For economic activities in the aggregate, slightly over 6 per cent of the high level personnel, which comprise the last three categories mentioned, were foreigners. Employers' estimates of their additional requirements as regards professional and technicians in 1963–70 exceed present levels by nearly 70 per cent.[21]

[21] Instituto Colombiano de Especialización Técnica en el Exterior (ICETEX), *Recursos y requerimientos de personal de alto nivel*, 1963.

A previous estimate relating to Peruvian industry in 1955[22] shows that less than 22 per cent of the total number of persons employed were skilled workers, the proportion varying considerably according to the particular branch of industry, from less than 10 per cent for food and manufactured goods to nearly 50 per cent for machinery and electrical equipment and printing and about 70 per cent for made-up goods and rubber. The professional and technical staff represented 2.5 per cent of the total, again with appreciable differences from one branch to another — the maximum being 8.1 per cent for machinery and electrical equipment. If these figures are compared with possible requirements in accordance with certain hypotheses on the development of the manufacturing sector in the following decade, the proportions of skilled workers and technical staff will rise to 31.8 and 3.2 per cent respectively. In absolute terms this means that more than 50,000 workers and nearly 5,000 professional and technical staff have to be trained.

A similar estimate for Argentine industry in 1956[23] indicates that of a total of 750,000 industrial workers, 28 per cent consisted of skilled hands. This proportion was much the same for the slow-growing as for the dynamic industries, but varied widely from one branch to another. In the case of engineers and technical staff, on the other hand, the respective proportions of the total were 4.2 per cent in the dynamic industries as a whole and 2.1 per cent in the slow-growing industries. A hypothesis concerning educational and training requirements in relation to certain rates of industrial growth estimates that by 1967 the proportions will be 32 and 37 per cent for skilled workers in the slow-growing and dynamic industries respectively, and 2.3 and 5.8 per cent for technicians and engineers in the same industrial groups. In other words, in the space of ten years, 270,000 workers must be trained together with 25,000 technical experts and 8,000 engineers.

Information such as this, however general and fragmentary, does at least serve to indicate the magnitude of the problem. Its complexity has also been brought out by the efforts that are being made in the region to satisfy these requirements and by the difficulty of deciding which are the best lines of action to take.

In fact, the mass of data that has been collected[24] seems to show that there is no general solution to the problem of how to train labour to work efficiently in industry. Time and place are factors of decisive importance, while the continuous assimilation

---

[22] *The industrial development of Peru, op. cit.*

[23] *El desarrollo económico de la Argentina, op. cit.*

[24] An extensive bibliography exists on this subject. With respect to the situation in Latin America there are the papers presented at the first seminar on the planning of vocational training (Rio de Janeiro, October 1964), in particular: Leonardo A. Cozza, *La formación en centros y escuelas* (Brazil, Chile and Ecuador), Cinterfor/64; Servicio de Cooperación Técnica Filial Corfo, *Informe sobre la planificación de la formación profesional en Chile* (Santiago, Chile, August 1964); Report of the Instituto Nacional de Cooperación Educativa (INCE), Venezuela, September 1964; Report of the Universidad del Trabajo of Uruguay, August 1964; Seani, Departamento Nacional Divisão de Ensino e Orientação Escolar, *Escolas, cursos, matriculas* (Argentina, Chile and Uruguay), Buenos Aires, August 1964; H. I. Jasminoy, *Informe preliminar sobre la formación de la empresa en Brasil*, 1964; G. Preciado Calvo, *La formación de la empresa* (Colombia, Peru and Venezuela) 1964; R. Martínez Tono and A. Wilches Martínez, *La planificación de la formación profesional en el "Sena" de Colombia* (Bogotá, 1964). See also M. Goldway, *Planning as vocational education in Chile* (UNESCO, Tab/182/64) and *Informe sobre la creación del Instituto Nacional de Adiestramiento — INA* (Ministry of Labour and Social Welfare, Costa Rica, 1964). There are also a number of other works which have been used purely as reference material for lack of time.

of new techniques makes it particularly difficult to reach fairly clear-cut conclusions on the kind of training that is essentially required.

Modern techniques do not inevitably create a demand for homogeneous productive skills, and the superimposition of skills that correspond to a number of different technological stages within a single enterprise and production process is more frequent than is supposed. The fact that some of the old-fashioned industrial jobs continue to exist side by side with the new posts created in response to the demands of modern equipment, counsel prudence in the search of a suitable solution. The variable nature of the tasks that have to be performed is another notable feature of contemporary industry, and means that the ability to adjust quickly and efficiently to changing production conditions is a manpower attribute greatly sought after in manufacturing. But over and above all this, although connected with the power to adapt, what the world of industry demands of its workers is the ability to come to terms with the social values and norms implicit in the rational organization of the work and an improvement in productivity; that is, the need for what is sometimes termed a sense of responsibility, devotion to duty and a certain amount of initiative transform the problem from one of training pure and simple to one of education and willingness to accept the obligations imposed by effective "industrial discipline".

The problem thus exceeds the bounds of training for a particular purpose. The information and practical experience accumulated in this field, and, in particular, in some of the Latin American countries, indicate that flexibility will be a key element in the respective solutions adopted at a given moment as a counterbalance to the changeability that is an inherent feature of industrial development and exists side by side with the variety of technical and professional qualifications that is demanded at each stage. The choice of an unduly rigid institutional formula is thus easily apt to lead to incompatibilities between production capacity and the skills required by industry in terms of both quantity and quality.

A second point, which leads on from the conditions described above, concerns the advantages of maintaining the closest and most direct co-ordination possible between manufacturing activities and training programmes so that optimum use can be made of the resources available and the programes can be adapted to the constant changes that take place in manpower requirements during the course of development.

It is also clear that technical training programmes cannot replace the fundamental education provided by a general school curriculum. The development of certain modes of thought and mental attitudes, adaptibility, and quick reactions are qualities that are best nurtured by those educational establishments whose purpose is to give the whole population a broad education. In many of the new industrial branches the staff are required to possess these basic qualifications, which make them technically equipped to carry out duties that are as highly specific as they are changeable.

High-level manpower training often involves the reorganization of technical courses of studies at the advanced level so as to slant them towards productive work. In this respect, it is vital to strike a balance between purely academic goals and the more specific needs of manufacturing industry. The solution often chosen has been to establish separate institutions for training the higher industrial cadres but, despite its success, the co-ordination of these institutions with the central educational system still presents some problems.

The difficulties are to be found less in the more formal aspects than in student recruitment. The traditional careers that are furthest removed from productive activities tend to have more prestige and to exert a greater attraction for the better-qualified candidates, technical training thus being left as an inferior alternative for students at lower levels. Rather than the addition of specialized programmes, the basic requirement therefore seems to be the inclusion of science and technology as key elements in general school curricula, so that a form of education geared to productive activities can gradually be brought into being and made accessible to the population as a whole.

These observations are merely intended to illustrate the nature of the problems confronted in training manpower and technical staff for industry, which in itself warrants a special study. Consequently a similar analysis should now be made of the other important aspect mentioned, namely, the share of the income generated by the manufacturing sector that falls to the wage-earners; in other words, the distribution of industrial income and hence the part played by industry in moulding the general features of income distribution in the Latin American economies.

Some points of interest emerge from the analysis of census data on the wage rates paid by industry and the number of persons employed. For instance, table 10 shows that wages per person varied considerably from one branch of industry to another, the ratio between the extremes being 1 to 2 in Brazil, 1 to 3 in Chile, Mexico and Venezuela, and 1 to 5 in Colombia. The lowest levels are usually found in the footwear and made-up goods and the wood and furniture industries, while the highest are for petroleum and coal products and transport equipment in the case of Brazil and for rubber in that of Peru. The classification is made by very broad branches of industry, and thus the differences will become much more pronounced if a further division takes place by more specific industrial sectors, or if a distinction is made between different strata on the basis of size or degree of modernization.

On the last point, the only information available relates to Colombia and Venezuela. If artisan activities are discounted, the average wage per person employed in small-scale industry in Colombia is two-thirds of the rate paid in medium industry and less than half the average in large-scale industry. Although these disparities are partly attributable to structural differences between the strata, they are fairly well-marked even within a single branch of industry. The same is true of Venezuela, although to a lesser extent, the average wage paid per person employed in large-scale industry as a whole being over 80 per cent more than the average in small industry.

This wide margin of variation is coupled with another equally significant factor, *i.e.* the very low ratio usually found between the amount of wages paid and the value added by industry. The averages are almost the same (between 26 and 27 per cent) in Brazil, Chile and Colombia and slightly higher (31 per cent) in Venezuela (*see* table 11). The differences between branches of industry are also appreciable, while maintaining an inverse proportion to the variations in wages per person, the lowest wages in absolute terms tending to coincide with a higher relative share of wages in value added, and vice versa. The same conclusion can be drawn in relation to the classification of the strata by size of establishment in the two countries on which information is available. In Colombia, the ratio of wages to value added is 33 per cent in small industry, 30 per cent in the intermediate sector and 24 per cent in large-scale industry, while in Venezuela it is 42, 32 and 25 per cent respectively.

These data give rise to two main conclusions. First, the share of wages and salaries in value added by industry is very low on comparison with their share in

Table 10

SELECTED LATIN AMERICAN COUNTRIES: DIFFERENCE IN AVERAGE WAGES PER EMPLOYED PERSON BY BRANCHES OF INDUSTRY

(Index for industrial industry average)

Branch of industry	*Brazil (1960)*	*Chile (1957)*	*Colombia (1960)*	*Mexico (1960)*	*Peru (1960)*	*Venezuela (1961)*
Food, beverages and tobacco	82.3	101.8	98.2	84.9	85.5	91.9
Textiles	84.8	84.4	107.0	99.0	123.3	93.0
Footwear and made-up goods	89.6	74.9	62.0	55.4	71.7	75.6
Wood and furniture	77.5	70.2	73.0	74.2	74.4	84.8
Paper	108.4	122.3	109.1	142.6	103.2	116.5
Printing	117.7	149.2	108.1	119.7	128.4	114.9
Leather	83.9	103.8	88.9	83.4	83.0	76.3
Rubber	140.5	114.6	129.1	141.9	184.1	127.5
Chemicals	138.4	130.5	132.9	150.8	110.5	136.0
Petroleum products	[a]	168.4	320.5	161.3	85.4	212.6
Non-metallic ores	76.0	106.9	88.2	102.6	120.9	102.0
Basic metals	123.2	161.5	125.3	150.9	120.9	129.7
Metal-transforming	141.2	99.5	105.1	95.6	92.7	94.7
Miscellaneous	108.3	79.7	95.7	89.6	88.6	69.4

Source: Basic data from censuses or official industrial surveys.

[a] Included in chemical industries.

other economies, which means that industry is also helping to some extent to preserve the generally regressive nature of income distribution in Latin America. Secondly, the wide disparities between *per capita* remuneration in different industrial strata and branches seem to be connected to a certain extent with the respective levels of productivity, with the result that the lowest wage levels account for a relatively larger share of the value added in the sector concerned.

Viewed from another standpoint, the figures indicate that, in the economic and social conditions prevailing in many Latin American countries, the possibility of maintaining a wide range of wage rates has become an expedient for counterbalancing many of the disparities in productivity and efficiency between different types of enterprises. By dint of paying lower wages, the less productive enterprises are able to keep their footing in the market, from which they would certainly be dislodged if other forces powerful enough to support a more uniform wage system were to prevail. In other words, the need to maintain specific salary and wage rates is not a factor which in itself makes for modernization and greater efficiency in the more backward enterprises. Meanwhile, the enterprises enjoying a higher productivity level are able to retain a larger proportion of the value added, of which a small portion is spent on raising the wage of their workers in absolute terms. This, then, is a situation which embodies more than one adverse factor, as regards both the forces that make for increased industrial productivity and the income received by the wage-earners.

Table 11

SELECTED LATIN AMERICAN COUNTRIES: RATIO OF WAGES TO VALUE ADDED BY INDUSTRY [a]

(Percentages)

Branch of industry	*Brazil (1960)*	*Chile (1957)*	*Colombia (1960)*	*Venezuela (1961)*
Food, beverages and tobacco	0.19	0.19	0.17	0.21
Textiles	0.35	0.31	0.31	0.43
Footwear and made-up goods	0.37	0.33	0.37	0.41
Wood and furniture	0.32	0.30	0.46	0.57
Paper	0.22	0.28	0.24	0.34
Printing	0.36	0.41	0.42	0.48
Leather	0.29	0.34	0.28	0.36
Rubber	0.19	0.23	0.31	0.31
Chemicals	0.20	0.26	0.22	0.28
Petroleum products	[b]	0.08	0.19	0.23
Non-metallic ores	0.28	0.33	0.35	0.36
Basic metals	0.27	0.22	0.12	0.62
Metal-transforming	0.28	0.36	0.41	0.43
Miscellaneous	0.32	0.29	0.30	0.40
Total	*0.26*	*0.27*	*0.26*	*0.31*

Source: Basic data from censuses or official industrial surveys.

[a] Mexico and Peru have not been included in this table for want of comparable data.

[b] Included in the chemical industries.

The general characteristics of low proportions of wages and salaries in the total amount of value added by industry and relatively marked differences in average wage levels per person in different branches or strata of the manufacturing sector can be traced to a number of factors, among them the ineffectiveness of the legislation on minimum wage rates, which either offers loopholes or else keeps the statutory payments low in absolute terms.

The general employment situation, to which repeated references have been made, is undoubtedly a basic factor. Because of this situation, urban centres already contain an extremely large reserve of labour either unemployed or engaged in unproductive activities for whom openings in industry mean a substantial improvement, at least as regards the prospect of steady and permanent work.

Given these structural conditions, it is almost inevitable that trade unions should be weak, their weakness being the second reason for the levels and variability of industrial wages. Some of the general features of the trade union movement in Latin America will be outlined here since they help to explain its debility.

To begin with, the legal framework within which the trade unions operate often has a restrictive effect on their activities by limiting their functions, excluding, for instance, many of those proper to mutual benefit societies, keeping strict control over

the ends for which they may meet and handle funds, and prohibiting, among other things, the establishment of federations.

Government legislation on trade unions during the thirties favoured the replacement of the former groups of labour élite by institutions capable of absorbing much bigger numbers of workers, but endeavoured at the same time to temper their political and ideological position by increasing the bureaucratic functions in the new systems of labour relations. As a result of the emphasis placed on bureaucratic functions, the trade union movement became widespread not only — or even mainly — by dint of the workers' own efforts but also because of deliberate action by the State. In fact, in most of the Latin American countries, the growth of the trade union movement has been tied to certain government policies, trade union locals and national unions being promoted "from the top" with the dual purpose of securing more control over their activities and assuring their backing for certain power groups. Consequently, the trade union structure that has emerged must have government support in order to obtain satisfaction in labour disputes and the influence of the Government is often a key factor in settling such disputes and obtaining benefits and concessions for the workers.

Other factors prejudicial to the strengthening of the trade unions have played their part in the outcome. For instance, the rural origin of large groups of the labour force, in a process in which urbanization has generally preceded the development of industry, has reduced the strength and significance of workers' organizations. Instead of trying to improve their working conditions as such, they have concentrated on obtaining a firmer footing in urban life, thereby embarking on a struggle for services and better living conditions that can hardly be regarded as part of the work of a union. More generally, as a result of the new forms of mass consumption that have sprung up, the economic participation of the working sectors in urban life — however high they may aim — is only indirectly connected with the trade union movement. Instead, other types of organization such as new community committees and neighbours' associations are founded and expanded, thus giving rise to a "workers' movement" of an entirely different kind from the unions proper.

The structure of the industrial enterprise does nothing to disturb this pattern. The great number of small, scattered establishments virtually precludes a satisfactory level of organization and trade union membership therefore tends to be very low in relation to the labour force as a whole. With productivity varying widely among the different industrial strata, workers in the least efficient have little prospect of improvement and promotion and tend to become resigned to their fate, while the better openings offered by the more efficient industrial enterprises undermine the solidarity of the trade union movement as a whole.

Apart from the general weakness of this movement and the fact that a large proportion of the labour force is unorganized, another factor making for disparities in wage rates is the type of trade union organization that predominates in Latin America. The distinction drawn between the legal status of a "professional" and an "industrial" trade union inevitably leads to a state of affairs that does little to bring about a more uniform wage system. But the root of the problem continues to be the organizational barriers to joint action on the part of the broad production sectors that comprises the main body of workers, coupled with the piecemeal nature of trade union organization which makes for the emergence of small groups of workers each pursuing interests that are seldom compatible and often conflicting.

An important exception to the ratios described is the case of Argentina. The last published census (1954) showed a coefficient of 35 per cent for the ratio of wages to value added by industry, which is much higher than in other Latin American countries.[25] This increase in the share of wages coincides with a trade union organization which, although displaying some of the basic features described above, seems to be more developed and to have broader scope for action. Membership is high and there is a particularly strong national union comprising the bulk of the labour organizations. The ample funds at the union's disposal give it a wider and more effective radius of action, and enable it to engage technical experts to assist it in studying the main problems of its member locals.

Lastly, it must be pointed out that no definite improvement can be discerned either in the share accruing to wages in the industrial product or in the sharp disparities between the average wages paid in the different strata of the manufacturing sector.[26]

Labour legislation — except for the basic minimum wage provision which is limited in application — seems to have done little to modify these conditions. Moreover, the fact that certain countries are primarily concerned with controlling inflation has led to the institution of a general system of wage and salary adjustments related to some extent to the rise in the cost of living. The wage problem has thus become a question of preserving a given level of purchasing power rather than of ensuring that the workers benefit from increased productivity, or that wages account for a larger share of the total industrial product. In some cases, the extension of social security and the provision of other services such as housing, day nurseries, etc., has had a compensatory effect and, in practice, represents indirect additional income.

The problem of income distribution should not, of course, be approached from the standpoint of industry alone but should be regarded as a part of economic and social development policy in general. At the same time, however, it should be borne in mind that manufacturing industry is better equipped than other sectors to contribute to a more progressive pattern of income distribution in Latin America. Then, too, the problem is of particular interest to industry over the long term, since it involves the size of markets for manufactured goods, whose present limitations are largely a result of the prevailing income structure, as will be explained in detail in a subsequent section dealing with the volume and characteristics of the supply of manufactured goods.

4. Level and composition of manufacturing production

As explained above, manufacturing has come to absorb a significant proportion of the capital accumulated by the Latin American economies, and to employ as much as 14 per cent of the region's total active population. With this fund to draw upon, it has

[25] On the basis of the national accounts recently published by the National Development Council, a similar ratio can be calculated for 1961 between wages and salaries paid in the manufacturing sector and the gross domestic manufacturing product at market prices. According to the same source, the ratio between the two in 1964 should be 40 per cent.

[26] It is difficult to make an exact comparative analysis of censuses taken at different dates because of the medley of census tabulations. In Brazil, the share of wages in industrial value added should have declined from 23 to 19 per cent between 1950 and 1960 according to the relevant censuses. In other countries, the trend follows the pattern displayed by general national accounts statistics, such as those of Argentina.

been able to generate over 23 per cent of Latin America's gross product, which is a clear indication of the sector's ability to achieve a higher productivity of the factors of production than the other sectors of the economy.

In absolute terms it can be estimated that the gross value of manufacturing production in Latin America now amounts to close to 50,000 million dollars a year, and that the value added is in the region of 20,000 million dollars a year. These figures show clearly that despite the region's considerable progress in industrialization, Latin American industry is very small in world terms, since it represents only 3 per cent of the world industrial product (including mining), although it absorbs nearly 6 per cent of the world labour force employed in manufacturing, and over 5 per cent of the world gross product. Another indication of its relatively low level is that the manufacturing industry in Latin America as a whole is only 20 per cent larger than the industry in Canada, where manufacturing was begun not much sooner than in the Latin American countries that are most developed in this respect.

Argentina, Brazil and Mexico (Group I), which have the highest levels of industrialization and the largest populations, account for nearly three-quarters of the total value of the region's manufacturing production, and over 80 per cent of the industrial product (that is, the value added in this sector). A second group of countries, at an intermediate level as regards population and level of industrialization, consists of Chile, Colombia, Peru, Uruguay and Venezuela (Group 2), and contributes about 17 per cent of the region's industrial product and one-fifth of the gross value of production.[27] The remaining proportions are provided by the other countries in the region (Group 3), with the exception of Bolivia, Cuba, Haiti and Paraguay, which are not included in these comparisons because of the lack of comparable data for 1960.

The same grouping of countries, in relation to the absolute size of domestic markets and levels of industrial development, can be used to study in greater detail the present structure of manufacturing in Latin America, omitting any sweeping generalizations which, as previously indicated, are unjustifiable in the light of the wide range of circumstances that must be recognized as prevailing in the present general picture of Latin American industry.

One comment of this nature relates to the structure of industry (*see* table 12). This table shows that for Latin America as a whole the food, beverage and tobacco industries represent nearly 30 per cent of the total value of manufacturing production, and if textiles, footwear and clothing are added the group represents 45 per cent of the total value. The chemical and petroleum-product industries accounted for slightly over 14 per cent, and the metallurgical and metal-transforming industries for nearly 22 per cent.

The preponderance in the regional total of the production of the three most highly industrialized countries (Group 1) means that the composition for Latin American industry as a whole corresponds closely to the composition in those countries, but the composition in the other countries is very different. One of the most striking differences relates to the participation of the food, beverage and tobacco

[27] The proportions in terms of the gross value of production and of the industrial product are not strictly comparable, since the first are based on available data from censuses of industrial surveys, whereas the second are based on more general estimates on the sectoral distribution of the domestic product. For the purpose of comparability, the analyses that follow are based mainly on the figures for the gross value of manufacturing production.

Table 12

ESTIMATES OF THE INDUSTRIAL STRUCTURE BY BRANCHES OF INDUSTRY IN THREE GROUPS OF LATIN AMERICAN COUNTRIES, 1960

(Values in millions of dollars and percentages of gross value of production)

	Total	*Group of countries*		
		Group 1 [a]	*Group 2* [b]	*Group 3* [c]
Gross values of manufacturing production	*47 831*	*36 034*	*10 122*	*1 675*
Percentage composition	*100.0*	*100.0*	*100.0*	*100.0*
Food, beverages and tobacco	29.0	27.0	31.7	57.3
Textiles, footwear and clothing	16.1	15.0	19.9	17.0
Wood products and furniture made of wood	3.4	3.4	3.2	5.0
Paper and paper products	2.5	2.7	2.0	0.9
Printing and allied industries	2.2	2.2	2.4	1.9
Leather and leather products	1.5	1.6	1.3	1.3
Rubber and rubber products	1.9	1.9	1.9	0.8
Chemicals and petroleum products	14.3	14.3	15.8	6.8
Non-metallic products	3.7	3.7	3.6	3.8
Metallurgy and metal-transforming	21.9	25.0	13.6	3.6
Miscellaneous	3.5	3.2	4.6	1.6

[a] Argentina, Brazil and Mexico.

[b] Chile, Colombia, Peru, Uruguay and Venezuela.

[c] Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama and Dominican Republic.

industries, which declines sharply with an increase in the absolute size of the market and the relative level of industrial development. In the countries in Group 3 this sector represents over 57 per cent of the total value of manufacturing output, as against less than 32 per cent for Group 2 and only 27 per cent for Group 1.[28] The same is not true of the industries producing textiles, footwear and clothing; although in the less industrialized countries they represent a considerable proportion of the total (17 per cent), this proportion is even higher in Group 2 (nearly 20 per cent), reflecting an almost complete substitution of imports of such goods, and then declines in Group 3 (to only 15 per cent), as a result of greater diversification of manufacturing. Much the same is true of the chemical and petroleum-products industries, although in this case there is a much greater difference between Groups 2 and 3 — over two to one (15.8 per cent of

[28] These proportions are affected by the inclusion in the food industry of primary processing of certain foods, in some cases mainly for export, such as the threshing of coffee. In terms of value added, the proportion for these branches would be considerably less.

the total as against 6.8), although it is probable that the high proportion for Group 2 (higher than for Group 1) is largely due to the inclusion of petroleum refining. For the metallurgical and metal-transforming industries, on the other hand, the proportion rises sharply and steadily, for less than 4 per cent for the less industrialized countries to 14 per cent in the intermediate group and 25 per cent as the average for Argentina, Brazil and Mexico.

Generally speaking these comparisons show that the sharpest differences in the structure of manufacturing is between Groups 2 and 3, while the main difference between Groups 1 and 2 is in the development of the metallurgical and metal-transforming industries.

Apart from the many features associated with the different branches of industry — a traditional or modern outlook, productivity, technological absorption, capital intensity, etc. — special importance attaches to these structural differences in so far as they reflect a greater or lesser predominance of activities classified, mainly with reference to the behaviour of demand for the products of those industries, as dynamic or slow-growth industries. The dynamic industries consist mainly of those producing chemicals, petroleum products, rubber products, paper and paper products, non-metallic products, and, in particular, the metallurgical and metal-transforming industries. The slow-growth industries are those producing food, beverages and tobacco, textiles, footwear and clothing, wood products and furniture, and the printing and allied industries.

From this standpoint the differences in the industrial structure of the three groups of countries appears even more clearly in table 13. In the most industrialized countries, nearly half the total value of manufacturing output is contributed by the dynamic industries; in Group 2 the percentage is 38 and in Group 1, with the lowest level of industrial development, it is only 17. However, the conclusions to be drawn from these comparisons are subject to certain reservations, from two standpoints. In the first place it is doubtful how far it is correct to define the demand for certain manufactured products in Latin America as slow-growth, in view of the low *per capita* consumption in most countries of the region and the margin for expansion in the context of a planned policy of general economic development. As will be explained in greater detail in subsequent sections, this question is closely linked not only to the level of income in Latin America, but also to its distribution, and consequently may be greatly affected by a policy of income redistribution, opening the way for a dynamic development of demand for many of the manufactures produced by what are now termed slow-growth industries.

Secondly, it is doubtful how far such groupings as those used in table 13 are valid, in view of the heterogeneity of the branches of industry defined at such a high level of aggregation. Even what may be regarded as typically dynamic activities, such as the chemical and metal-transforming industries, include varying proportions of a series of activities that are not really dynamic. Thus, for example, the chemical industries include the production of such articles as soap, candles and matches, and the metal-transforming industries include a vast number of semi-artisan workshops and occupations. The slow-growth industries, on the other hand, include certain lines of production for which the demand is undoubtedly more dynamic. Thus a more detailed analysis of the structure of industry is needed before a valid distinction on the lines indicated can be made. Such an analysis would probably show that for Latin America as a whole, and for each of the groups of countries referred to, the proportion

Table 13

ESTIMATES OF THE INDUSTRIAL STRUCTURE IN TERMS OF DYNAMIC AND SLOW-GROWTH INDUSTRIES, IN SELECTED LATIN AMERICAN COUNTRIES, 1960

(Gross values of production and percentages of total value)

Groups of countries	*Type of industrial activity*		
	Total	*Dynamic industries*[a]	*Slow-growth industries*[b]
Absolute values (millions of dollars)			
Total	*47 831*	*21 901*	*25 930*
Group 1	36 034	17 750	18 284
Group 2	10 122	3 862	6 260
Group 3	1 675	289	1 386
Percentage composition			
Total	*100.0*	*45.8*	*54.2*
Group 1	100.0	49.3	50.7
Group 2	100.0	38.2	61.8
Group 3	100.0	17.3	82.7

[a] Includes paper and paper products, rubber products, chemicals, petroleum products, non-metallic minerals, and metallurgy and metal-transforming.

[b] Includes food, beverages and tobacco; textiles, footwear and clothing, wood products and furniture, and printing and allied industries.

of truly dynamic industries would be much lower, and the differences in the industrial structure of the groups of countries would be even greater from this standpoint.

In addition to the differences in the structure of industrial production by industrial branches, there is another significant structural distinction, relating to the trend of industrial production according to the use of its products.

In Latin America as a whole about a third of the present industrial output represents intermediate products for use as inputs both in other sectors (including building materials) and, above all, in the manufacturing sector itself (*see* table 14). Of the total output of end goods for domestic use, only 10 per cent are capital goods and 90 per cent manufactures for consumption; that is, there is a heavy emphasis on the latter, while the region's output of machinery and equipment of all types, and of transport materials, remains at a low level. Manufactures for export represent only 7 per cent of the total value of industrial production, and much of the export production consists of very simple processing of ores and agricultural products, so that the proportion of activities producing what might strictly be termed industrial products for export is in fact much lower than 7 per cent. Once again we have the same general features that are characteristic of industrialization in Latin America: the tendency to produce more for the consumer market, the under-development of basic production

lines of capital goods and the major intermediate goods, the accent on import substitution and the small progress in the export of manufactures.

In relation to this general picture, also, the three groups of countries can be clearly distinguished in terms of the level of industrialization. If manufacturing production for export is excluded, for the reasons given above, the proportion of intermediate and capital goods in the region's total manufacturing output is determined by the industrial structure of Argentina, Brazil and Mexico, since in the other two groups the levels for these items are very low, particularly in Group 3. With respect to the value of production, intermediate goods represent over 35 per cent in Group 1, about 26 per cent in Group 2 and 22 per cent in Group 3, and the corresponding percentages for capital goods are 8, 2 and 1.

Despite the imperfections of these comparisons, including an unavoidable arbitrariness in the grouping of the countries and the absence of a really uniform classification of production lines, there does emerge a picture of three more or less distinct industrial structures that should be borne in mind in describing the present situation of Latin American industry from the standpoint of its composition by branches the degree of predominance of the dynamic or slow-growth industries, and the distribution according to the use of its products.

Table 14

ESTIMATES OF THE COMPOSITION OF INDUSTRIAL PRODUCTION ACCORDING TO USE OF ITS PRODUCTS FOR THREE GROUPS OF LATIN AMERICAN COUNTRIES, 1960

(Gross values of production and percentages of total production)

	Total	*Domestic use*			*Exports*
		Intermediate use	*Consumption*	*Capital formation*	
Absolute values (millions of dollars)					
Total	*47 831*	*15 974*	*25 382*	*3 127*	*3 348*
Group 1	36 034	12 903	18 272	2 868	1 991
Group 2	10 122	2 696	6 004	239	1 183
Group 3	1 675	375	1 106	20	174
Percentage composition					
Total	*100.0*	*33.4*	*53.1*	*6.5*	*7.0*
Group 1	100.0	35.8	50.7	8.0	5.5
Group 2	100.0	26.6	59.3	2.4	11.7
Group 3	100.0	22.4	66.0	1.2	10.4

Side by side with these distinguishing features there are others that tend to blur the distinction between the groups, and that appear in most Latin American countries regardless of the degree of industrialization or the absolute size of the market. Certain fundamental features of this type, such as relative costs and prices, are referred to in

detail in later sections; here attention will be confined to a brief examination of two other aspects, the degree of concentration of manufacturing production and the trends with respect to location.

At the beginning of the present chapter there is a summary of the main background data on the industrial establishment and its classification by size, with emphasis on the fact that the group described as large-scale, in which there are comparatively few establishments, accounts for a substantial proportion of the total volume of manufacturing output. The degree of concentration of industrial production that this general ratio reflects cannot, however, be established on the basis of census data or general industrial statistics, nor would the results show significant differences in relation to an economy of such a different nature as that of the United States. On the other hand, some studies on these lines provide information of an illustrative nature that gives at least a general impression of the situation in this respect. Thus, for example, what was defined in Chile in 1957 as large-scale industry consisted of 177 establishments, representing only 3 per cent of the total number but 50 per cent of the total gross value of manufacturing output, and an even higher percentage in terms of value added;[29] furthermore, even within this group, 12 establishments accounted for 40 per cent of the output of the whole group, and 20 per cent of the total industrial output in Chile. Similarly, in Venezuela, it is estimated that in 1961 the 196 establishments in the large-scale group produced about 60 per cent of total industrial output.[30]

These comparisons vary from sector to sector, and concentration is particularly high in the dynamic industries of recent development, where one or very few establishments represent relatively large volumes of production. Concentration also affects other sectors, including certain of the traditional industries, where the number of establishments is very high; for example, it is estimated that 10 per cent of Colombia's textile enterprises account for 70 per cent of the total output of this branch of industry.

As to location trends, Latin American industry is recognized as being concentrated in a very small number of large cities. It is estimated, for example, that the area of less than 5,000 square kilometers represented by the metropolitan area of Buenos Aires, the Municipality of Sao Paulo and Mexico City accounts for over a third of the total value of Latin American production, although it contains only about 8 or 9 per cent of the region's population. Within each country the two main industrial centres usually constitute a very high proportion of the nation's industry: 66 per cent for the metropolitan area and Rosario in Argentina; about 40 per cent for the municipalities of São Paulo and Guanabara in Brazil; 66 per cent for the economic areas of Santiago and Valparaiso in Chile; over 45 per cent for Mexico City and Monterrey in Mexico; 56 per cent for the Lima-Callao area in Peru, and about 75 per cent for the single city of Montevideo in Uruguay.

In Argentina the trend is for the industrial concentration in the metropolitan area of Buenos Aires to spread all along the coast of the River Plate, to La Plata in the south and Rosario in the north. La Plata accounts for about 60 per cent of industrial production, the province of Buenos Aires (including Rosario) as a whole for 66 per cent, and the provinces of Buenos Aires and Santa Fe together for 75 per cent. Apart from Cordoba, the rest of the country consists of a series of small economic islands

[29] Max Nolff, in *Geografía económica de Chile*, Chilean Development Corporation (CORFO), 1962, Vol. III, pp. 200 et seq.

[30] *Encuesta industrial de 1961* (CORIPLAN, November 1963).

related more or less directly to the main or secondary industrial areas,[31] and moreover the communications between these islands is wholly inadequate. There is also a heavy concentration in the area of the capital for particular branches of industry, although to a lesser extent than for industry as a whole; for the food and beverage industry the proportion is 46 per cent, for non-metallic minerals (largely cement), 29 per cent, for textiles and rubber products it is extremely high, 92 and 98 per cent, respectively, and somewhat lower for electrical and leather products (80 per cent), paper and chemicals (72 per cent) and the metallurgical industries (78 per cent). For the machinery and motor-vehicle industry, on the other hand, the concentration in the Buenos Aires area is being reduced because of the expansion in the provincial industrial centres of Cordoba and Santa Fe.

In Brazil the concentration in the coastal area around São Paulo and Rio de Janeiro, and in the region of Belo Horizonte in the interior, forms a triangle that accounts for about 80 per cent of the country's industrial production. São Paulo is the dominant centre, and contributes about 54 per cent of the total value added in industry, 39 per cent of employment and 28 per cent of the number of establishments. As in Argentina the concentration is less for some of the more traditional branches, particularly the food industry, where a higher proportion is in the States in the south and north of the country where there is more sugar production. On the other hand concentration is high for the intermediate and metal-transforming industries, and consequently the principal centres of São Paulo and Rio de Janeiro-Guanabara accountfor nearly 83 per cent of the output of the dynamic industries. For some specific branches there is a particularly high concentration in the São Paulo area: transport items (87 per cent), electrical machinery (80 per cent) and rubber products (84 per cent).

In Chile the Santiago area accounts for 47 per cent of industrial output, and Valparaiso for another 19 per cent, and recently a third industrial centre has been developing in Concepción. In Mexico only 38 per cent of industry is in Mexico City, because of a growing contribution from other areas of the country, especially the Monterrey area, which accounts for about 11 per cent of the total. In Venezuela, if petroleum refining is excluded, the same concentration in and around the capital is found, although the opening up of a new industrial centre in the eastern areas of the country is leading to a rapid change in this respect.

Colombia constitutes an important exception to the general rule; it has a much more balanced regional distribution of industrial production, with similar proportions contributed by the Departments of Cundinamarca (Bogota) and Antioquia (Medellin), and substantial production also in the Departments of Valle (Cali), with 18 per cent of the total, and Atlanta (Barranquilla), with 10 per cent.

Thus, apart from a few exceptions, the high degree of geographical concentration is another distinctive feature of the situation in Latin American industry today. This is one reflection (which may be regarded to some extent both as cause and effect) of the lack of internal integration and the very uneven economic development of different areas that is characteristic of the region's economies.

The causes of this high degree of concentration are varied, and in the absence of specific studies in this field it is difficult to determine their degree of responsibility. One main cause is, of course, the demographic concentration in a few towns that has long been a feature of the development of many Latin American countries, which in

[31] *Bases para el desarrollo regional argentino* (C.F.I., Buenos Aires, 1963).

turn has been reinforced by an industrial development that adapted itself more or less passively to these existing conditions. In addition the concentration is also due to the actual form of industrialization, initially directed towards the immediate demand for consumer goods rather than to the development and increased processing of natural resources. The shortage of capital has also increased the need to make the maximum use of the external economies provided by the existing towns in the form of social services, power supplies, transport and communication, etc.

These basic factors have been reinforced by others of a more institutional nature. For example, the weakness and instability of industrial policy has led to location as near as possible to the centres of government decision, to facilitate contact with the authorities responsible for protectionist and development machinery, price controls, foreign trade licences or permits, allocation of loan funds, etc. The great social and cultural differences between the large town and the rest of the country makes it more difficult to persuade the technical and specialized staff to leave the towns for other areas. There has also been a high concentration of financial machinery and institutions, whose regional or local offices are usually relatively ineffective from the standpoint both of their resources and their ability to adopt any important decisions.

This series of obstacles to more regional decentralization of industry have meant either that no steps have been taken to encourage decentralization, or that those taken have been ineffective. Exemptions from particular taxes, for example, have not been on a sufficient scale, and have sometimes tended to be equalized between regions, in so far as they depend on autonomous regional decisions, which means that they lose their discriminatory effect in favour of a particular locality.

Meanwhile new factors have appeared recently that have operated against geographical concentration of industry. In many cases the expansion of the dynamic industries, particularly the metal-transforming industries, have tended to increase concentration, mainly because of the institutional and market factors referred to, whereas in other cases, where the development of the industry is closely linked with the use of certain basic national resources, the location of the resources leads to the establishment of new industrial centres. In some of the principal towns the external economies represented by certain public services such as housing, urban transport and water and electricity supplies are either small or even negative, and consequently it may be economically preferable to invest in other smaller towns the additional funds needed for these purposes. Thus conditions are arising that may in the future facilitate the location of much industrial development in new areas, quite apart from the political and social considerations that may lead to more emphasis on questions of better regional balance within the country in the general process of development, and other aims that may be desirable in the context of an integrated industrial development in Latin America.

However, these are trends that cannot go far in entirely uncontrolled conditions, and consequently their reinforcement depends very much on industrial policy, as recent experience has shown. This is not merely a matter of general incentives, nor even only of public investment in infrastructure to stimulate the development of new areas, but must include the formulation and execution of broad programmes covering a whole industrial complex, in order to ensure the economicity of the basic inter-industrial relations, which are beyond the scope of a single branch of industry. This question is dealt with again below, in connexion with industrial policy and the prospects for industrialization in Latin America at the regional level.

5. Some major sectors of industry

The above general analysis of the composition of manufacturing by branches of industry is now followed by an examination of certain individual sectors that throw more light on the present situation in Latin American industry. The existence of certain specialized studies makes it possible to settle on a small number of sector for this purpose that may be considered to some degree representative of the traditional or dynamic industries, and include both intermediate production and the production of final consumer and capital goods. It is by no means the aim here to embark on any extensive study of these sectors, but rather to point to certain characteristics that should be taken into account for the purpose of the analysis submitted in later chapters.[32]

(*a*) *The textile industry*

The textile industry is one of the oldest-established industries in Latin America, and represents a major section of the region's manufacturing sector. In recent years it has accounted for 15 per cent of industrial employment and over 10 per cent of the gross value and the value added for all manufacturing.

Since the machinery can be divided up into small units, and thus the size of enterprises is not determined by economies of scale, the industry has been established in every Latin American country, and in all countries consists of a relatively large number of mills, varying greatly as to size and type of organization, and includes a considerable artisan and cottage industry sector.

Table 15 summarizes the main data on the installed capacity of spinning and weaving mills in eight countries (Argentina, Bolivia, Brazil, Chile, Colombia, Mexico, Peru and Uruguay) which together account for about 95 per cent of all Latin American textile production. This group of countries have about 9 million spindles and over 250,000 looms; the bulk of these are used for the production of cotton fabrics, a very small proportion for wool products, and an even smaller proportion for products made from man-made fibres (a much more recent development).[33]

In general the production capacity represented by this equipment is usually more than sufficient to meet the region's present level of consumption of textile products. All the above eight countries except Bolivia are more or less self-sufficient in cotton products, and some are even net exporters, although on a small scale. A high level of self-sufficiency has also been achieved for wool products, and in this industry there is an appreciable flow of exports from Argentina and Uruguay. The situation varies widely from country to country as regards man-made fibre products; until 1960 Brazil was the only country that was more or less self-sufficient in this field, while in some of the other countries the percentage of consumption satisfied by domestic production was 88 for Argentina, 75 for Colombia, 60 for Chile, 25 for Uruguay and less than 15 for Peru.

The absolute levels of *per capita* consumption of fabrics also varies considerably from country to country, from 7 kg for Mexico, for example, to only 2 kg for Ecuador.

---

[32] For a broader description and analysis, see *Los principales sectores de la industria latinoamericana: problemas y perspectivas* (E/CN.12/718).

[33] These data and most of what follows are largely taken from the United Nations publications forming the series entitled *The textile industry in Latin America*. The only study so far available in English is the one on Brazil, Vol. II.

Table 15

LATIN AMERICA: INSTALLED CAPACITY IN SPINNING AND WEAVING MILLS IN SELECTED COUNTRIES

		Spindles				*Looms*			
		Total	*Cotton*	*Wool*	*Man-made fibres*	*Total*	*Cotton*	*Wool*	*Man-made fibres*
Argentina	(1963)	1 379 482	1 019 492	360 000	[a]	34 923	23 923	6 000	5 000
Bolivia	(1961)	37 158	19 448	17 710	—	916	566	204	146
Brazil	(1960)	4 294 400	3 840 000	301 900	153 000	131 860	102 760	5 500	23 600
Chile	(1959)	325 642	219 000	83 018	23 624	7 538	5 389	1 305	844
Colombia	(1961)	640 564	560 000	48 564	32 000	15 500	11 000	1 000	3 500
Mexico	(1962)	1 794 224 [b]	1 416 202	147 343	36 716	47 098 [b]	34 109	1 989	3 303
Peru	(1961)	307 890	215 216	64 253	28 421	8 034	5 811	970	1 253
Uruguay	(1961)	216 228	99 296	98 446	18 486	3 342	1 801	934	610

Source: Industria Textil Sudamericana, No. 244-245 (Buenos Aires, January-February (1962)), and ECLA survey.

[a] Included under cotton and wool.

[b] Including spindles and looms used for the manufacture of mixed-fibre yarns and fabrics.

However, these differences are closely related to the *per capita* income, and a comparison of the two variables shows that the eleasticity of demand for textile products is fairly low, at least within the present framework of income distribution among the economic and social sectors in Latin America. Consequently demand forecasts evaluating the need for future expansion of the industry are based on rather moderate growth rates, except for the man-made fibres, which are expected to continue to benefit from changes in the structure of the total consumption of textile goods, at the expense of cotton and wool products.

With respect to cotton, and even more to wool, the present low utilization coefficients appear to indicate that installed capacity generally seems sufficient to meet the requirements of a domestic market expanded considerably beyond its present limits. Thus, for example, a recent study estimates that in comparison with the full use of the machinery available during a total of 6,600 hours a year (300 working days consisting of 22 hours of continuous operation), the existing utilization coefficients for installed capacity are represented by the percentages shown below:

	Cotton		*Wool*	
	Spinning	*Weaving*	*Spinning*	*Weaving*
Argentina	55.9	55.1	34.5	26.5
Bolivia	65.5	58.0	56.6	36.0
Brazil	85.3	76.7	74.5	53.0
Colombia	104.6	103.8	68.8	66.0
Peru	75.0	60.0	60.0	49.0
Uruguay	76.3	73.1	63.3	50.3

Apart from the cotton industry in Colombia, and from the many imbalances between the spinning and weaving mills, there seems to be no urgent need for any expansion of productive capacity to meet the growth of the Latin American market. On the contrary, the above data indicates that there is a considerable margin for expansion of production by better use of existing capacity, which would at the same time improve the capital output ratio for the industry as a whole, and liberate investment funds for other manufacturing sectors.

However, this comment should be qualified in the light of another characteristic feature of Latin America's textiles industry: the relatively high proportion of out-of-date and obsolescent machinery and the consequent need for reconditioning and modernization. Certain detailed studies of this question by ECLA indicate that in terms of the age of the machinery, its level of automation and other technological features, the extent to which the textile industry is up-to-date in the countries concerned is indicated by the following indexes:

	Cotton		*Wool*	
	Spinning	*Weaving*	*Spinning*	*Weaving*
Argentina	48.9	56.0	56.7	34.4
Bolivia	26.5	85.5	—	5.9
Brazil	20.8	31.5	51.9	37.8
Chile	81.3	82.8	43.8	45.0
Colombia	90.6	99.6	84.4	73.3
Peru	31.3	44.1	27.3	24.5
Uruguay	95.6	88.2	40.5	22.9

The defective nature of a large proportion of the machinery, particularly in the countries listed above, are one of the main reasons for the low productivity. For instance, it is estimated that in the cotton-spinning sector a reasonable standard of average productivity to aim at for Latin America would be 4,300 grammes per man/hour, as against an actual average productivity of 5,500 grammes achieved in Europe. It should be noted that the actual Latin American average represents a wide range of levels in individual countries, from the high level of 5,484 grammes per man/hour in Colombia, through the rather low level of 2,950 grammes for Argentina, to the very low level of only 1,996 grammes in Brazil (a figure which explains the importance attached in Brazil to preparation and execution of its vast plan for the modernization of the textile industry). From a more general standpoint, it is estimated that, in terms of what might be regarded as a suitable standard for Latin America, productivity indexes for cotton fabrics in metres per man/hour are as follows:

Selected standard for Latin America	*100*
Argentina	33
Bolivia	34
Brazil	30
Chile	43
Colombia	107
Peru	54
Uruguay	31
United States	289
Japan	112

This list shows that only in Colombia does the cotton-weaving industry attain a productivity comparable with that of Japan, whereas in the other countries of the region for which the relevant data are available the level is much lower. The comparison with the United States is even less favourable.

The defective machinery not only results in low levels of output per worker, but also has adverse effects on production costs. Thus, for example, the unsatisfactory state of the equipment is considered at least partly responsible for the abnormally high level of wastage and loss of raw materials in cotton spinning and weaving, which are usually about 19.5 per cent, as against the level of 13 per cent that could be regarded as a normal standard of reference.

However, the studies referred to have indicated that the relatively out-of-date machinery is only one of the factors responsible for the high production costs of the Latin American textile industry. The underutilization of the available production capacity referred to above leads to excessively heavy capital costs. These are further increased by the lack of specialization in the textile industry, where a single mill often produces a wide range of products, and deals with all stages of the production process, and there are consequent difficulties in achieving a balance between the production capacity of the various departments. Furthermore, although economies of scale are not a decisive factor in the textile industry, they can have an appreciable effect from the standpoint of investment per unit of output and operating costs. Thus, for example, it has been estimated[34] that in the production of cotton grey goods (Ne 10c) with

[34] *See Economías de escala en la industria textil* (ST/ECLA/Conf.11/L.20).

reasonable levels of productivity, differences in size result in the following indexes:

	Size I	*Size II*	*Size III*
Production	100	199	274
Investment per unit	100	88	85
Investment cost per unit	100	88	86
Operating cost per unit	100	95	93
Total average cost	100	90	88

In some Latin American countries another unfavourable factor from the cost standpoint is the need to import the basic raw material. Apart from the additional cost this involves in the way of freight and insurance, these imports are usually subject to substantial tariff duties, and in any case make it necessary to keep sufficient stocks to cover several months of operation, which means an additional financial burden. In other cases a policy aimed at stimulating a greater degree of self-sufficiency in raw materials results, at least temporarily, in guaranteed prices at a fairly high level involving a purchase cost to the industry higher than the import costs would be, or else costs are increased because the quality and specifications of the raw materials supplied are below normal.

The textile studies referred to also reach the more general conclusion that remedying of the serious administrative and organizational defects of production could result in appreciable reductions in the present costs of Latin America's textile industry.

It is difficult to assess the cost levels for some countries in the region with any precision, both because of the wide variation in the operating conditions of the industry, and because of the margin of error involved in any conversion from values in national currencies to values in a common currency. To obtain an approximate idea of the problem, a study has been made to determine the levels of what might be defined as the "part cost" which, although it does not include all the cost components,[35] covers at least the main inputs. For the purpose of comparability a standard output unit was chosen of one metre of cotton fabric of yarn count Ne 8, 2,000 picks, weighing 130 grammes, produced in integrated plants. On this basis hypothetical calculations were made with the Japanese industry as the basis of comparison. The indexes of the estimated part cost for 1961 thus obtained were:

Japan	100
Bolivia	205
Brazil	121
Chile	160
Colombia:	
with imported cotton	94
with domestically-produced cotton	144
Peru	138
Uruguay	244
United States	128

Although comparisons of this kind are subject to considerable reservations, these calculations undoubtedly reveal great differences in cost levels between the countries

[35] Excludes capital cost.

of the region, and a general situation (apart from certain exceptions such as the Colombian industry) that compares most unfavourably with that of countries that play a major part in world textile trade. This is why the high degree of self-sufficiency attained in the Latin American countries is still based on protectionist measures, in the form either of tariffs of or direct import controls, and on relatively high sales prices on the world market. Similarly, this explains why, although in the textile industry wage levels represent a high proportion of production costs, and countries are particularly well placed from the standpoint of raw materials, the Latin American countries have not yet succeeded in achieving any really significant volume of textile exports comparable to that attained by other under-developed regions.

(*b*) *Pulp and paper industries*

An eloquent indication of the level of development attained thus far by Latin America's pulp and paper industries is the balance-sheet of the levels and composition of supply registered in recent years[36] (*see* table 16).

Over two-thirds of the consumption of end-products, of the order of 2.7 million tons, was met in 1962 by internal production. Imports have declined gradually to a level of about 850,000 tons annually; they represent less than 20 per cent of the region's consumption of writing and printing paper and only 15 per cent of the consumption of other paper and paperboard, although they are still the main source of supply for newsprint, since only a quarter of the total needed is supplied locally.

These general self-sufficiency indexes also vary greatly between one country and another. In eleven Latin American countries either the whole or the bulk of total

Table 16

LATIN AMERICA: APPARENT CONSUMPTION OF PULP AND PAPER INDUSTRY PRODUCTS, 1962

(Thousands of tons)

	Production	*Net imports* [a]	*Consumption*
Paper and board	*1 890.3*	*850.2*	*2 740.5*
Newsprint	162.1	538.9	701.0
Writing and printing paper	401.8	84.5	486.3
Other paper and board	1 326.3	226.8	1 553.1
Pulp	*1 020.7*	*312.4*	*1 333.1*
Mechanical pulp	256.6	3.9	260.5
Chemical wood pulp	514.1	308.5	822.6
Other chemical pulp	250.0	—	250.0

Source: ECLA/FAO/BTAO Pulp and Paper Advisory Group.
[a] Exports deducted.

[36] These and other data referred to in this section are mainly from *Paper and pulp prospects in Latin America* (United Nations publication, Sales No.: 63.II.G.7).

consumption is supplied by imports. They account for about half the total supply in Uruguay and Venezuela, approximately a third in Argentina, Colombia, Cuba and Peru, and a fifth in Brazil and Mexico. Chile has become the only net exporter of this type of product in Latin America, with an annual volume of newsprint in the neighbourhood of 30,000 tons. Argentina, Brazil and Mexico are the only Latin American countries besides Chile which have attained significant production levels for newsprint, which account for 7, 20 and 40 per cent of consumption, respectively; domestic production in other countries is confined to writing and printing paper and, in particular, to other paper and paperboard.

The same applies to the raw materials for these manufactures. Of the total pulp needs, of about 1.4 million tons, over 1 million tons was supplied in 1962 from the regional output while imports have gradually declined to about 300,000 tons annually,[37] consisting mainly of chemical pulp, since imports of mechanical pulp have been almost entirely replaced. Self-sufficiency in pulp also varies considerably from country to country: in some, imports are still the main source of supply (Venezuela, for example); in others, they still account for a suigificant proportion — between a third and a half — of total supply (Argentina, Colombia, Cuba, Peru and Uruguay); and in Brazil and Mexico they represent from 8 to 10 per cent of consumption; Chile, on the other hand, is a net exporter of pulp, as well as paper.

The significance of the existing production levels will be better understood if it is borne in mind, first, that this is a comparatively new industry in the region, and secondly, that in many Latin American countries its expansion is faced with serious obstacles, relating mainly to the magnitude of the investment required and to the relationship between the size of the markets and the economies of scale of their production process.

In some of the less important items, the domestic production drive dates back over many years, and there was already a tendency to forge ahead and introduce modern techniques as early as the twenties. Today there is still a wide assortment of establishments operating in Latin America, including small units with annual production capacities of 1,500–2,000 tons (engaged mainly in the manufacture of low-quality paperboard for which there is a seasonal demand), intermediate units with annual capacities of 10,000–20,000 tons, specializing in the production of certain types of paper, and a small number of large plants producing 30,000–150,000 tons annually. The latter constitute the really up-to-date nucleus of the industry, comprising newly established integrated mills or pulp mills whose expansion is highly dynamic. The production of newsprint in Argentina, for example, was begun on a very small scale only in 1950; Brazil's output rose from about 12,000 tons in 1947 to over 70,000 tons in 1962; production in Chile, although it started much earlier, increased fivefold between 1955 and 1962, when it amounted to nearly 55,000 tons; and in Mexico the industry was established only in 1959, with an initial output of about 14,000 tons a year.

The financial problems involved in establishing or expanding these plants is illustrated by the fact that the direct investment needed for plants with an annual capacity of about 100,000 tons of chemical pulp are of the order of 35 million dollars, that is, about 350 dollars per ton and 70,000 dollars per worker. In addition the need to locate the plants near the sources of supply of the raw materials frequently adds to

[37] These represent net imports after deducting exports, and about 30,000 tons more, were actually imported.

these direct investment costs other sums for essential infrastructure investment to provide the basic services (water, electric power, communications, housing, etc.) in the area where the plant is to be installed. Furthermore, unit investment and operating costs are greatly affected by the scale of production. It has been estimated, for example,[38] that for the integrated product of kraft paper the doubling of the scale of operations (above a certain level) reduced investment per unit of output by nearly 40 per cent and total average cost by nearly 30 per cent, while if the scale is increased fourfold the corresponding cost reductions are 54 per cent and 43 per cent. Similarly, in a plant with a daily ouptut of 50 tons the labour inputs may represent between 27 and 33 per cent of the cost of production, while this range is reduced to 19 to 25 per cent for a daily output of 100 tons and to 12 to 18 per cent for one of 200 tons. Apart from the cost weight of labour and capital charges, unit costs are also affected by other aspects of production associated with the scale of operation. Thus, for example, a chemical or semi-chemical pulp plant with a daily capacity of less than 100 tons generally has no system for the recovery of the chemical liquids employed in the process.

The obstacles deriving from the small domestic markets, the large investments needed and the effect of the scale of operations are partly offset by a fairly plentiful supply of basic resources. The best equipped country in this respect is Chile, which has vast reserves of conifers and can therefore develop its pulp production with a view to securing a substantial share of the world trade in long-fibre pulp. Mexico and Central America also have conifer reserves, though they are less plentiful. The other Latin American countries have no such reserves, but some of them have stocks of suitable broad-leaved species, as well as other raw materials such as, in particular, sugar-cane bagasse.

In evaluating the future growth prospects of the Latin American pulp and paper industry, another useful factor (in addition to the margin for import substitution still open to some part of the industry, and the prospects of exports to other markets) is the foreseeable expansion in *per capita* consumption. Despite the considerable progress made in the last few years, Latin America's average annual *per capita* consumption of paper and paperboard is only about 12 kg, a very low figure compared with that of countries outside the region, even with due regard for the difference in income levels. This justifies the tendency to foresee a vigorous growth of demand in the next years, amounting to a twofold increase in the regional consumption of paper and paperboard during the next ten years. If at the same time the degree of self-sufficiency in final and intermediate paper and paperboard products continues to increase, as expected, it appears likely that this industry will expand substantially, and that additional investment will be needed amounting to hundreds of millions of dollars. The allocation of this additional investment will have a decisive effect in changing levels of productivity and efficiency in this sector.

(c) *The chemical industries*

Unlike the textile and paper and pulp industries, the chemical industries do not constitute a fairly homogeneous industrial sector, since they cover a wide range of products with very different forms of production and use. However, some account of

[38] *Programming data and criteria for the pulp and paper industry* (E/CN.12/702).

their development in Latin America is required here because of their great importance to the industrialization process.[39]

Some individual production lines were established long ago, such as the manufacture of simple final products, such as soaps, matches and candles, which in some cases are mainly artisan industries. Later on, especially in the thirties, there was a rapid growth of the production of pharmaceutical products and toilet preparations, based largely on imported raw materials, and the production of certain basic chemicals, mainly sulphuric acid, caustic soda and fertilizers, was introduced or expanded. As import substitution activities gradually shifted from consumer goods to intermediate goods, there was a further expansion and diversification of the chemical industry, which has recently included production of some of the main petrochemical products.

Thus Latin America's chemical industry has become fairly established, especially since the Second World War, and has been able to enter more complex fields where technological and investment requirements are high.

The total value of the chemical output of the region is estimated at over 2,500 million dollars a year. Of this, about 40 per cent is contributed by Brazil, 20 per cent by Argentina, and slightly over 20 per cent by Mexico. Thus the degree of concentration in those countries of the region with the broadest markets and the highest degree of industrialization is higher for the chemical industries than for other branches of industry. However, the chemical industries are expanding fairly rapidly in other countries of the region where, as in the three most industrialized countries, new production lines are being introduced, with the effect of increasing diversification and reducing the predominant role of the old traditional lines of chemical production. Nevertheless, these industries still account for a considerably higher proportion of total chemical output than in Argentina, Brazil and Mexico, as can be seen from the figures in table 17, which are taken from a recent study on the distribution of the value of the chemical industry's output, by type of product, in seven countries of the region that together account for the bulk of regional production, and which are compared with the corresponding figures for the United States for 1957.

As the table shows, wetting and bleaching agents account for about a quarter of the total value of the region's chemical production; within this group, two-thirds of the value of production represents soaps, although the trend is for their replacement by the detergents, with the modernization that this entails because of the mainly traditional type of production in the manufacture of soaps. The group of products mainly for final consumption — pharmaceutical products and toilet preparations — also constitute a relatively high proportion of total output.

Basic organic and inorganic chemicals, on the other hand, account for less than 11 per cent of the total, although they include natural products used in agriculture, such as ethyl alcohol and glycerine. These natural products account for half the value of production of the whole category of basic products (consisting of Groups I and II in table 17). Other products in these two groups include sulphuric acid, of which about

[39] Most of the data have been taken from ECLA, *La industria química en América Latina* (E/CN.12/628/Rev.1), and two studies presented by ECLA at the Latin American Seminar on the Integrated Development of the Chemical Industry, held at Caracas in December 1964: *Evolución de las industrias químicas de América Latina en el período 1959-62* (ST/ECLA/Conf.15/L.4/Rev.1) and *La industria petroquímica en América Latina* (ST/ECLA/Conf.15/6).

Table 17

STRUCTURE OF THE CHEMICAL INDUSTRY IN SEVEN LATIN AMERICAN COUNTRIES AND COMPARISON WITH THE UNITED STATES OF AMERICA

(Percentage of the total value of production)

Groups of products	*Latin America*[a] *(1962)*	*United States (1957)*
I. Major inorganic chemical products	4.3	8.2
II. Major organic chemical products	6.4	9.3
III. Chemical products for agriculture	4.8	3.3
IV. Plastic materials and synthetic resins	5.1	8.8
V. Artificial and synthetic fibres	9.9	9.5
VI. Synthetic rubber and related products, including carbon black	0.8	4.7
VII. Painting, dyeing, tanning and colouring materials	9.5	12.6
VIII. Surface-active agents and bleaches	23.8	9.8
IX. Products for explosives, matches and fireworks	2.8	1.4
X. Industrial gases	1.9	1.2
XI. Toiletry products, essences and flavourings	5.6	4.5
XII. Products for other specific uses	2.6	5.8
XIII. Tars, pitches and similar by-products	3.6	2.9
XIV. Salts, oxides and other inorganic compounds of unspecified uses, excluding those in Group I	0.7	2.2
XV. Organic compounds of unspecified uses, excluding those in Group II	0.8	2.3
XVI. Pharmaceutical products	16.4	13.5
XVII. Chemical products, unspecified	1.0	—

Source: *Evolución de las industrias químicas de América Latina en el período 1959–62* (ST/ECLA/Conf.15/L.4/Rev.1).

[a] Aggregate production of Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela.

a million tons a year are produced in the region; caustic soda, of which seven Latin American countries produce about 300,000 tons a year; ammonia, with an annual regional production of the order of 150,000 tons, and basic organic chemicals such as benzene and formol, of which output is about 20,000 and 4,500 tons, respectively.

About two-thirds of the chemicals for agriculture are pesticides, although their relative importance has been decreasing rapidly as a result of the expansion of fertilizer plants, and the establishment of new plants; annual production now amounts to 60,000 tons of nitrogen in the form of nitrogen fertilizers (excluding Chilean nitrate), and about 100,000 tons of phosphoric acid in the form of phosphates (these figures are for 1962).

There is a rapid increase in the relative importance of plastics and synthetic resins, and in 1959–62 their annual cumulative growth rate is estimated to have been about 22 per cent. The production of synthetic fibres — mainly of the polyamide fibres rather than the cellulose fibres — has expanded so rapidly that this group now represents nearly 10 per cent of the total chemical output of the seven countries

referred to. Lately great strides have also been made in the production of carbon black and synthetic rubber.

Despite the progress in these more dynamic sectors, in Latin America's chemical industry bulk chemicals and end products still predominate over intermediate products, whereas in the industrially more advanced economies intermediate products account for about two-thirds of all chemical output. However, this situation is bound to change gradually if the growth rate of the region's chemical sector as a whole is maintained, since, in view of the decreasing margin left for import substitution, and the slow growth of demand for many traditional chemical products, growth will have to depend more and more on intermediate products.

Furthermore, these structural changes are being increasingly facilitated by the growing importance of the petrochemical industry in some Latin American countries. The growth potential of this sector is illustrated by the fact that while in the United Kindom only 9 per cent of organic chemical products were produced from petroleum in 1949, by 1962 this figure had risen to 65 per cent. In Latin America the first important step was taken in 1944, when the production of isopropyl alcohol was begun in Argentina; this was followed by the production of toluene in Argentina in 1951, and the production of synthetic ammonia in Mexico in the same year. At the present time a group of plants, mainly in Argentina, Brazil and Mexico, and to a lesser extent in Colombia and Venezuela, together represent a very considerable production capacity, already existing or in course of construction.[40] Thus, for example, within a short time seven plants for the production of ethylene (three in Argentina, one in Brazil, one in Colombia and two in Mexico) will provide an annual capacity of about 150,000 tons, to be used mainly in the production of polyethylene and styrene. Similarly, installed capacity already exists or is under construction in Argentina and Brazil for the production of propylene from residual gases, to be used in the manufacture of isopropanol. The same countries will shortly have an annual capacity of over 60,000 tons of butadiene, for the manufacture of synthetic rubber. One plant each in Argentina, Brazil and Mexico will together have annual capacities amounting to over 170,000 tons of benzene and toluene, produced from naphtha. Projects already under way or partly completed will provide annual capacities amounting to 45,000 tons of xylenes (a Mexican plant), 30,000 tons of ethyl benzene (in Brazil and Mexico) and about 75,000 tons of methanol. Plants for the production of carbon black from aromatic residues are in operation or under construction (two in Argentina, two in Brazil, one in Mexico and one in Venezuela), with annual capacities amounting to 80,000 tons. Existing installed capacity for the production of carbon sulphide (Argentina) and sulphur (Mexico) from natural gas amounts to 14,000 tons and 62,000 tons a year, respectively. A number of plants in Brazil, Colombia, Mexico, Peru and Venezuela use natural gas, residual gases or fuel oil for the production of ammonia, mainly for fertilizers; their capacities range between 18,000 and 90,000 tons a year, and in all total about 350,000 tons.

Although a number of the products referred to may be produced in a single plant, the total number of products is relatively high in relation to the size of the national markets; this is partly due to the trend for such plants to integrate with enterprises engaged in the production or refining of petroleum. In this connexion, it has been pointed out that although this agglomeration of activities centred round the basic

[40] *See La industria petroquímica en América Latina, op. cit.*

industry offers undoubted advantages, in the long run it has drawbacks from the standpoint of the size of the plants, since the lack of specialization often means the neglect of possible economies of scale, with a consequently higher cost level.

It should be noted that the undoubted progress made in Latin America's output of chemical products has not sufficed to meet the increase in demand; hence, imports have continued to expand in absolute volume, although their rate of growth has declined. In 1962, total imports of chemical products in the whole region — excluding Cuba — amounted to some 1,050 million dollars, which represented nearly 13 per cent of all imports of goods and services. The single group of imports comprising raw materials for man-made fibres and the finished fibres amounted to about 60 million dollars. Imports of synthetic rubber and pharmaceutical products continued to represent a high proportion, amounting in 1962 to some 65,000 tons, for an approximate value of 210 million dollars, or more than one-fifth of the region's total imports of chemical products.

These figures, to which should be added those relating to a broad range of other products, show that chemical products still have an important effect on Latin America's capacity to import, and that a considerable import substitution margin is available for the subsequent development of this sector. Furthermore, the levels of supply — imports and domestic production — dealt with thus far relate to fairly low consumption levels as compared with those in other economies. For example, the region's average *per capita* consumption of plastic materials is of the order of 0.8 kg annually, as against 1.4 kg in Portugal, 2.1 in Ireland, over 4.5 in Austria and over 12.5 kg in the Federal Republic of Germany. Still more pronounced are the discrepancies in the use of fertilizers per unit of agricultural area: the regional average is about 10 kg per hectare, compared with 35 kg in Portugal and Greece, over 60 in the countries members of the Organization for Economic Co-operation and Development (OECD) and approximately 200 in Belgium and the Netherlands. The low *per capita* consumption levels apply equally to the traditional chemical products and to such semi-traditional products as paint (with an average *per capita* consumption for the region of about 1.5 kg annually, as against the 1958 figures of 4.4 kg for Ireland, 8 kg for France and 10.6 kg for Sweden) and detergents (5 kg annually in 1959, as compared with about 8 kg for Italy and Austria, and over 12 kg for Belgium, Denmark, Sweden and the United States).

While it is true that these disparities between the *per capita* consumption levels of Latin America and other regions are largely attributable to differences in *per capita* income, there are also other factors involved, including supply restrictions — due to insufficient domestic output and the adoption of measures likely to discourage imports or increase their cost — and relatively high prices. As regards the latter, it may be useful to give here the results of some comparisons which, subject to the inevitable reservations in all analyses of this kind, help to illustrate the importance of the price factor. In 1959 the average prices of an extensive group of chemicals produced by six Latin American countries were estimated[41] to be higher than United States prices in four of the countries (Chile, Colombia, Mexico and Peru), practically the same in Argentina, and somewhat lower in Brazil. It was further noted that these results were strongly influenced by the particularly favourable prices being paid for certain basic chemicals produced by the region; hence, if natural alcohol, glycerin and soaps are excluded, prices in the six Latin American countries were even higher compared with the United States. Even through some of the factors which determined this price ratio

[41] *See La industria química en América Latina, op. cit.*

may have changed, it is a fact that the prices obtaining in the most dynamic sectors of the chemical industry, in particular intermediate products, continue to be far higher in Latin America than in the United States.

Obviously, the comparatively high prices of Latin America's chemical manufactures not only tend to limit domestic demand, but also obstruct the development of a wider export flow of these products. Although in several instances there are abundant natural resources available, the f.o.b. value of exports in 1962 was under 120 million dollars, or less than 2 per cent of the region's total exports, and only 10 per cent of its imports of chemical products. Moreover, the range of manufactures is very limited and traditional products of natural origin predominate (quebracho extract, casein and essential oils). Even so, considerable progress has been made of late, particularly in Mexico, which now contributes nearly one-third of Latin America's total exports of chemicals and has embarked on the manufacture of a great many new products (in 1962, over twenty separate items accounted for exports worth over 100,000 dollars each). On a lesser scale, the chemical exports of Brazil and Colombia have also been stepped up and their range broadened. Of the region's total exports of chemical products, some 30 million dollars' worth comes under the head of intra-regional trade, that is, only about 25 per cent; this percentage would, of course, be much higher if traditional exports to other regions were excluded.

These recent export trends, though they relate to very small absolute values, are at least a sign that certain branches of the Latin American chemical industry can penetrate foreign markets, despite the persistence of such adverse factors as their inability to take full advantage of the economies of scale afforded by up-to-date techniques. In any case, it seems that the interaction between high costs and prices, on the one hand, and the small domestic markets and limited export opprtunities, on the other, which governs the exploitation of economies of scale, will have to be overcome, to some extent at least, by a more rational development of the chemical industry based on the situation in the region as a whole, with a view to overcoming the difficulties that may arise as a result of development of the industry on a basis of strict national autonomy.

(*d*) *The steel industry*

The development of the steel industry is undoubtedly one of the more striking manifestations of the industrialization process. The demand for steel products shows, in general, a highly dynamic behaviour pattern and their use extends to a wide range of activities, including construction and transport, and to many other branches of the manufacturing sector linked to the production of both intermediate products and consumer and capital goods. Furthermore, its installation represents considerable progress in the absorption of technology and requires fairly substantial investments, whose value per unit of production is strongly influenced by the scale of operations.

These broad characteristics of the steel industry have determined, at least in part, the lines along which it has developed in Latin America, especially its slow growth up to the forties and the tendency to be concentrated in those countries with the widest domestic markets. Up to the Second World War, the main projects which had borne fruitful, though still modest, results were confined to the steel mill at Monterrey (Mexico), established at the beginning of the century, with a blast furnace producing 350 tons daily; the mill at Corral (Chile), which began operations in 1910 and for which unseasoned wood was originally used as fuel; a Companhia Siderurgica

Belgo-Mineira plant established at Sabará (Brazil) in 1925, and a second at Monlevade in 1937. Since then, the industry has developed rapidly, thanks to its having spread to other countries of the region. Thus, in Mexico, the Compañía Fundidora de Fierro y Acero de Monterrey installed a second blast furnace in 1942 with a daily capacity of 600 tons; two years later, Altos Hornos de México S.A. installed at Monclova Latin America's second integrated plant fired with metallurgical coke, specializing in flat products; and in 1946 a new Mexican company was established — Hojalata y Lámina — which subsequently developed into an integrated plant through the adoption of a new process known as HYL, consisting in the direct reduction of iron ore by means of gas instead of by the blast furnace technique. That same year the Volta Redonda plant was established in Brazil as that country's major enterprise, others being added later, so that Brazil's consolidated steel industry came to represent the largest capacity in Latin America, and was composed of the largest number of integrated plants. In Chile, the Huachipato steel mill of the Compañía de Acero del Pacífico entered into operation in 1950. Colombia contributed to Latin America's steel industry in 1954 with the Acerías Paz del Río plant at Belencito. The Corporación Peruana del Santa installed a steel mill at Chimbote, Peru, in 1958. In Argentina the San Nicolás plant, owned by the Sociedad Mixta Siderúrgica Argentina (SOMISA), was inaugurated in 1960. Later on, the Corporación Venezolana de la Guayana established its Orinoco plant, and in Brazil the USIMINAS mill was set up and some headway was made in the construction of the COSIPA plant.

These and other advances made during the period concerned constitute the existing picture, that of a wide range of producing enterprises, both integrated and otherwise, differing in size and techniques.[42] In 1963, 14 integrated mills contributed 96 per cent of the region's production of steel ingots. In addition, there was an appreciable number of semi-integrated mills in operation, 97 per cent of whose output was produced by the 35 largest. Altogether, both integrated and semi-integrated enterprises produced about 7 million tons of steel ingots in 1963, distributed by countries and according to the types of plants, as shown in table 18. Table 19, for its part, sums up the figures for pig iron and sponge iron production, also distributed by countries and according to the process employed and the use of the primary iron produced.

Production in 1963 fails to reflect the real magnitude of the growth of Latin America's steel industry, since owing to certain factors — the partial use of the capacities available, the failure to operate certain rolling mills or the fact that some of the plant sections were still under construction — it was far below the capacities that will shortly be available. In fact, the final annual capacity — including the proposed expansion of some of the existing plants — totals about 16 million tons of steel ingots, of which rather more than 6 million tons would be produced by mills in Brazil, over 4 million by Mexico and over 3 million by Argentina, with figures also much above the existing levels in Chile, Colombia, Peru and Venezuela.

A future capacity so far above recent production levels is particularly important in the light of two basic considerations: the size of the investment needed for the development of steelmaking, and the serious deficit in the region's steel supplies which, despite the notable headway made in import substitution, continues to absorb a significant proportion of its import resources.

---

[42] For a broader description of the characteristics of these plants, *see La economía siderúrgica en América Latina* (E/CN.12/727), prepared jointly by ECLA, the Instituto Latinoamericano del Fierro y del Acero (ILAFA) and the Inter-American Development Bank.

Table 18

LATIN AMERICA: PRODUCTION OF STEEL INGOTS IN INTEGRATED AND SEMI-INTEGRATED PLANTS, 1963

(Thousands of tons)

Country	*Total output of steel*	*Integrated plants*	*Semi-integrated plants*	*Output of integrated plants as a percentage of total*
Argentina	894.7	510.7	383.7	55
Brazil	2 840.8	2 426.8	413.4	85.5
Chile	521.5	500.0	21.5	96
Colombia	222.3	198.0	24.3	89
Mexico	2 016.9	1 560.4	456.5	77
Peru	76.3	76.3	—	100
Uruguay	6.5	—	6.5	—
Venezuela	358.4	288.4	70.0	80
Total	*6 937.4*	*5 550.2*	*1 387.2*	*80*

Sources: Instituto Latinoamericano del Fierro y del Acero (ILAFA), Instituto Brasileiro de Siderurgia, and ECLA.

It is common knowledge that the large sums that have to be invested in steel-making constitute one of the major factors limiting its expansion, the normal figure being some 400 dollars per ton of steel ingots annually for an integrated plant, and about 60,000 dollars per person employed, according to United States employment standards. Moreover, external economies are often impossible, particularly when — because of the location of certain basic materials — steel mills have to be established in areas that are barely integrated in the national economy, in which case the additional investment in transport and even housing and other public services may be substantial. These factors, coupled with differences in the scale of operations, cause the amount of unit investment in Latin America to vary considerably.

As regards the ratio of Latin America's steel production to total requirements, a comprehensive estimate for 1962 shows the following results (in thousands of tons):[43]

	Production	*Imports*
Bars and light shapes	2,181.2	395.4
Plates and rolled steel products	1,450.5	881.5
Tin-plate	234.2	269.4
Rails and heavy shapes	265.3	258.0
Wire rod	545.0	209.3

Notwithstanding the rapid growth of domestic production, imports still represent a sizeable proportion of Latin America's total consumption, with an absolute volume of about 2 million tons annually. The proportion of self-supply is highest in the cate-

[43] *See* ILAFA, *Series históricas, período 1951–62.*

Table 19

LATIN AMERICA: PRODUCTION OF PIG IRON AND SPONGE IRON ACCORDING TO THE PROCESS EMPLOYED AND THE USE OF THE PRIMARY IRON, BY COUNTRY, 1963

(Thousands of tons and percentages)

Country	Total output	Use		Process employed			
		Foundry	Steel-making	Blast furnace		Electrical reduction	Sponge iron
				Coke	Charcoal		
Argentina	422.5	38.0	384.5	384.5	38.0	—	—
Brazil	2 323.1	368.7	1 954.7	1 154.2	1 106.5	62.4	—
Chile	418.3	15.0	403.3	418.3	—	—	—
Colombia	203.2	—	203.2	203.2	—	—	—
Mexico	1 002.8	90.0	912.8	833.1	—	—	169.7
Peru	29.0	—	29.0	—	—	29.0	—
Venezuela	283.2	5.0	278.2	—	—	283.2	—
Total	*4 682.1*	*516.4*	*4 165.7*	*2 993.3*	*1 144.5*	*374.6*	*169.7*
Percentage, according to use	100	11	89	—	—	—	—
Percentage by type of process	100	—	—	63.9	24.5	8.0	3.6

Source: *Revista Latinoamericana de Siderurgia*, No. 50–51, p. 25.

gory of non-flat products, particularly bars and light shapes, whereas import substitution has taken place on a relatively lesser scale in flats, especially tin-plate, imports of which still represent over half the region's consumption for that year. It should be borne in mind, moreover, that these are only direct imports of rolled steel products to which, in the interests of a more accurate evaluation, would have to be added the indirect imports in the form of rolled products included in the category of finished consumer or capital goods; while in the particular case of Argentina consideration would also have to be given to imports of steel billet for processing by the domestic steel industry.

Since steelmaking is concentrated in certain countries of the region, a large proportion of Latin America's steel imports is absorbed by the non-producing countries, although their markets are the narrowest in absolute terms. Of the producing countries, Brazil, Chile and Mexico are now 75–90 per cent self-sufficient, Argentina about 60 per cent, and Colombia, Peru and Venezuela somewhere between 25 and 50 per cent.

The reason why these self-sufficiency indexes are not higher, despite the rapid expansion of domestic production, is the dynamic growth of demand. Between the pre-war period and 1962, the apparent *per capita* consumption of rolled steel products (in the equivalent of kilogrammes of steel ingots) increased by approximately 60 per cent in Argentina, more than doubled in Chile and Colombia, and practically trebled in Brazil and Mexico. These trends, moreover, will in all probability be maintained in the future, since even after such increases Latin America's *per capita* consumption

is still relatively low compared with other economies, particularly in the more industrialized countries. In 1962 the apparent *per capita* consumption of rolled steel products (in the equivalent of kilogrammes of steel ingots) was estimated at about 82 kg in Argentina, a little over 40 kg in Brazil, 84 kg in Chile, less than 25 kg in Colombia and nearly 45 kg in Mexico, as against figures exceeding 500 kg per head in Czechoslovakia and Sweden, some 490 kg in the United States and the Federal Republic of Germany, over 330 in Australia and the Soviet Union, 240 in Japan and over 90 in Spain and Yugoslavia.[44]

The wide range of processes and scales of operation presented by the Latin American steel mills, as well as other factors related to the origin of their principal inputs and the costs involved in obtaining them, also make for appreciable differences in their operating costs, which are estimated to fluctuate between about 35 dollars and just over 50 dollars per metric ton of pig iron, and between a little over 60 dollars and nearly 80 dollars per ton of steel.[45]

Needless to say, these are merely illustrative estimates, which are often influenced by transitory factors — including the exchange rates at which the essential currency conversions are effected — the effects of which are likely to change appreciably as expansion projects materialize or the industries concerned become more firmly established. In some important components of the total cost, such as capital charges, a great deal of weight is carried not only by the basic scale of operations, but also by the proper adjustment between the capacities of the different mill sections, and even by the possibility of introducing technical innovations calculated to increase the operating efficiency or the production capacity of the equipment. A case in point is Huachipato, a plant in Chile, whose blast furnace, originally designed for a daily output of 650 tons of pig iron, was able to produce 1,250 tons daily in 1963, while the coke burden was reduced from 800 kg to 520 kg per ton of pig iron as a result of injecting fuel oil.

If in addition to the factors influencing production costs consideration is given to others connected with marketing, the treatment of imports and the exchange policy in effect, a pattern of serious disparities in the prices of steel products in the various Latin American countries begins to be formed. Purely for purposes of illustration, some figures on prices as at 31 August 1963, in terms of dollars per ton, contained in recent ILAFA publications and converted into dollars at the exchange rates indicated therein, are set out below:[46]

	Bars for concrete (10 mm in diameter)	*Wire rod in rolls (8 mm in diameter)*	*Hot rolled flat sheet (1 × 3 m and 3 mm thick)*
Buenos Aires . . .	162.59	175.41	205.96
São Paulo	209.67	306.45	204.32
Santiago	160.84	197.78	212.56
Bogota	193.33	214.44	216.67
Mexico City . . .	145.60	165.92	179.76
Lima	205.53	205.07	156.08
Caracas	129.96	134.36	—

[44] ECLA and Economic Commission for Europe (ECE) publications.

[45] *See La economía siderúrgica en América Latina, op. cit.*

[46] *See* ILAFA, *Carta Mensual*, September, October and December 1963. The following are the exchange rates used: 1,342 Argentine pesos, 620 cruzeiros, 1,895 escudos, 9 Colombian pesos, 12.5 Mexican pesos, 26,82 soles and 4.54 bolivars to the dollar.

However imperfect, the various comparisons referred to above, as regards both cost and prices, are undoubtedly useful for purposes of illustrating the present situation, particularly in an industry like steelmaking which, because of the dynamic nature of demand and the advantages afforded by specialization and scale of operations, presents particularly favourable structural characteristics from the standpoint of the prospects for Latin America's industrial integration.

(e) *Metal-transforming industries*

The metal-transforming industries group together a number of widely heterogeneous activities comprising the manufacture of metal products, machinery and equipment (including electrical appliances) and transport material (including motor vehicles). Because of the very nature of these products and the complex techniques involved in their manufacture, the development of these industries is regarded as one of the most striking features of the dynamic growth and maturity attained by the manufacturing sector.

If strict attention were paid to the statistical data available on fairly extensive groups or categories of manufactured products, it would be concluded that on the whole the metal-transforming industries play an important part in the structure of industry in the Latin American countries. In fact, they would appear to represent about 18 per cent of the total value added in the manufacturing sector for Latin America as a whole, and to absorb at least 16 per cent of the labour force employed in industry. Although this average contribution is mainly attributable to the most industrialized Latin American countries, it is by no means unimportant in others where industrialization is at a less advanced stage, and even in those where the manufacturing sector is weakest.

However, owing to their high level of aggregation, these data might well be conducive to highly misleading conclusions if they are interpreted as development indexes in those dynamic branches of industry which are usually associated with the concept of metal-transforming industries. The fact is that they include, sometimes to an overriding extent, repair and maintenance activities, which constitute services to industry and transport rather than actual production of materials or of machinery and equipment.

In other words, the internal structure of the metal-transforming industries differs widely according to the level of industrialization reached by the countries concerned. In some, it is predominated by repair workshops, besides the manufacture of certain simple metal products mainly for building purposes; later on they attain a higher level of diversification through the incorporation of such activities, as the assembly and production of durable consumer goods, particularly household electrical appliances: and, finally, a growing share is absorbed by the manufacture of productive machinery and equipment, and of motor vehicles.

The information available is not sufficiently detailed to allow of a systematic presentation and analysis which would place the individual Latin American countries in one or another of those stages of development, except by means of certain general indicators, to which reference has been made in the preceding section (for example, average employment or installed capacity per establishment). However, the existing import figures and certain studies which happen to be available on specific countries

and industries serve to illustrate at least some important characteristics of this sector of manufacturing industry, as will be seen from the data summed up below.

In 1960, imports of items produced by what are usually termed the metal-transforming industries, including basic metal products, amounted to a little over 4,500 million dollars for the whole of Latin America, or more than 60 per cent of the region's total imports. Even if basic metal products are excluded, the products of metal-transforming as such represented over half the region's total imports, and if building materials and durable consumer goods are also excluded, farm, industrial and transport machinery and equipment alone would account for nearly one-third of Latin America's total imports.

Both the absolute volume of these imports and their incidence in the capacity to import bring into focus the tremendous room for development there is in the region's metal-transforming industries, and their strategic role in the over-all economic development prospects. The turning to account of these potential prospects of growth is hampered, however, to a greater extent than in the case of other branches of the manufacturing industry, by those general obstacles which have been mentioned so often before: the narrow markets, which make it difficult to take full advantage of specialization and economies of scale; the shortage of funds in particularly capital-intensive activities, and the need for technical know-how and skilled personnel.

These and other general facts concerning the metal-transforming industries are sufficiently illustrated in two studies, one on Uruguay and another on Venezuela, which are not among the most advanced countries in this sphere of industry.[47]

Uruguay's metal-transforming industry was estimated to have contributed 10.4 per cent of the country's total manufacturing output, and to have employed over 18 per cent of its industrial labour force (about 38,000 persons). These proportions were accounted for mainly by the general category of "construction of transport material", a smaller participation being absorbed by the "electrical machinery", "metal products" and "non-electrical machinery" groupings. It was pointed out, however, that the first category was chiefly concerned with maintenance activities rather than the actual manufacture of transport equipment or parts, which also explains why over 90 per cent of the establishments employed fewer than twenty persons. The total inventory of machine-tools was estimated at 8,000–9,000 units, two-thirds of which were partly obsolete, low-productivity cutting dies, while the remaining third were more powerful shaping dies, of better quality and in a better state of repair. Among other things, the inventory was found to be incomplete, not easily adaptable to the manufacture of products other than those currently produced, and to have a substantial under-utilized installed capacity. While some import substitution possibilities were noted, they do not appear to involve large quantities, since at present domestic industry absorbs nearly 60 per cent of the products of the metal-transforming industries in general, including assembled final goods containing varying degrees of imported elements difficult to substitute. It was thought, on the other hand, that the country might develop some industries for metal-transforming light, precision manufactures, for which local conditions are favourable and export markets exist which might provide annual earnings of some 18 million dollars.

---

[47] *La industria mecánica del Uruguay* and *Un programa de sustitución de importaciones para el desarrollo de las industrias mecánicas de Venezuela*, as yet unpublished studies of the ECLA/INST/IDB Programme on Integration of Industrial Development.

The study on Venezuela shows that in 1961 its metal-transforming industries accounted for 9.4 per cent of the industrial value added and 14 per cent (some 22,000 persons) of the manpower employed in the manufacturing sector. But they absorbed only 4.2 per cent of this sector's total fixed capital, which indicates that these industries were oriented towards service and maintenance rather than towards production proper. The research was directed mainly at outlining an import substitution programme in respect of products of the metal-transforming industries, whose gradual implementation over a period of five years could result in the replacement of some 77,000 tons, representing 25 per cent of the weight and 23 per cent of the value (about 100 million dollars annually) of total imports of these products. A large proportion of the above-mentioned quantity (62 per cent in terms of weight and 44 per cent in terms of value) would consist of products involving no major technical difficulties — tin-plate containers and other items, wire products, screws and nuts — which would temporarily ease the position with regard to the shortage of skilled personnel.

The studies available on specific sectors within the wide range of metal-transforming industries include those on basic equipment in Argentina[48] and Brazil,[49] which — even though aimed mainly at evaluating market prospects — show the level of maturity reached by these industries in the two countries concerned.

In Argentina, equipment needs in five industrial sectors — petroleum, natural gas and petrochemicals; generation and transmission of electric energy; steelmaking; shipbuilding; and pulp and paper — are estimated at 2,000 million dollars in the next ten years, three-fourths of which could be met by means of local manufacture, under the conditions prevailing in Argentina's metal-transforming industry. A similar evaluation for Brazil showed prospects of producing locally, with the existing installations and under the known expansion programmes, 86 per cent of the electric power generating equipment required (its total value exceeding 400 million dollars), 90 per cent of the equipment for pulp and paper production (about 200 million dollars), 77 per cent of that required for the steel industry (a total of 110 million dollars), 66 per cent of the equipment for cement production (some 65 million dollars), and an equally high proportion of the equipment needed for petroleum refining and the petrochemical industries.

Another significant sign of the growth potential of Latin America's metal-transforming industries, particularly in the more industrialized countries, is the size of the latent demand for railway material. In this respect, it is pointed out[50] that in 1959 Argentina, with its huge railway network (some 44,000 kilometres of track), possessed 84,000 goods wagons, nearly two-thirds of which were over 40 years old and only 4 per cent less than 20; and that 1,300 of its total inventory of 4,400 passenger coaches would have to be taken out of servise, as they had been in use for over fifty years. Again in 1959, 64 per cent of Uruguay's goods wagons and 77 per cent of its engines were over 40 years old. In Chile, over half of its 10,000 goods wagons in use were over 35 years old, and it is estimated that 20 per cent of the material was not being used because of its poor state of repair. The rehabilitation and re-equipment

---

[48] *See La fabricación de máquinas y equipos en América Latina. III. Los equipos básicos en la Argentina* (United Nations publication, Sales No.: 64.II.G.5).

[49] *See The manufacture of industrial machinery and equipment in Latin America. I. Basic equipment in Brazil* (United Nations publication, Sales No.: 63.II.G.2).

[50] *See The railway rolling stock industry in Latin America* (E/CN.12/508), pp. 31 *et seq.*

programmes demanded by these and other similar situations prevailing in Latin America reach astronomical figures, quite apart from the expansion requirements. Thus, Brazil has to supply its needs of 2,000 goods wagons annually; and Mexico would require nearly 20,000 goods wagons, 350 passenger coaches and more than 300 engines within a period of ten years in order to maintain and expand its railway network.

In the face of these needs, it is considered that several Latin American countries have the necessary industrial capacity to supply a good deal of that material. Brazil's railway industry has reached a fairly advanced stage and is now in a position to export railway wagons; Argentina has specialized in the manufacture of large diesel motors; Mexico is equally capable of exporting various types of wagons and coaches; and other countries would be able to export at least important parts of that equipment (Chile, for example, could export axles and wheels). However, this sector more than any other branch of manufacturing production is faced with problems and obstacles other than those related to supply possiblities, namely the long-term financing of its sales of equipment, which make it difficult for the Latin American industry to compete.

Argentina and Brazil have made most headway in the wider field of the machine-tools industry. According to a specific study on the subject regarding Brazil,[51] in 1960 this sector employed some 5,000 workers in 114 establishments located for the most part in the State of São Paulo and producing a total of over 13,000 tons annually. The inventory of machine-tools, including both cutting and shaping dies, seemed to be about 205,000; these on the whole were relatively new units (55 per cent were less than ten years old), a high proportion of them being simple machines in widespread use. The machine-tools industry is engaged in activities with relatively low volumes of production, and this is confirmed by the data on the average size of the establishments, three-fourths of which employed less than 50 workers, while less than 8 per cent employed from 100 to 500. Although this industry is capable of offering the market more than 50 types of nearly 150 models, its present structure does not yet provide a very full range of production in terms of the country's inventory of machine-tools; even so, it was able in 1957–61 to supply nearly 40 per cent of domestic needs.

One of the most significant events in the recent development of metal-transforming in Latin America is the establishment and growth of the motor vehicle industry, both because of its own importance and because of its impact on other sectors of the metal-transforming industries proper. In Brazil, its development began with import substitution in respect of certain parts and was given a strong impetus by the prohibition (in 1953) on imports of assembled vehicles. The import coefficient had already dropped to less than 42 per cent by 1957 and to insignificant proportions by 1961, when annual output amounted to some 200,000 units. In Argentina, assembly activities reached high levels in the early post-war years (in 1947, for example, about 350,000 units were assembled in the country) and assembly-line production began in 1951, later attaining an annual output of some 130,000 vehicles. The development of this industry is more recent in Mexico, where imports of engines for private cars and lorries have been banned since 1962, and imports of mechanical units for use and assembly prohibited since 1964. Venezuela is planning to incorporate a proportion of 30 per cent of locally produced

[51] *See La fabricación de máquinas y equipos en América Latina. II. Las máquinas-herramientas en el Brasil* (United Nations publication, Sales No.: 63.II.G.4).

parts in the vehicles assembled in the country by 1965, 60 per cent by 1970, and to manufacture complete vehicles by 1980. In Chile, 5,000 vehicles — both private cars and lorries — are assembled annually.

Table 20

LATIN AMERICA: MANUFACTURE AND ASSEMBLY OF VEHICLES, 1962-63

(Units)

	1962	*1963*
I. *Manufacture*		
Argentina	*129 014*	*105 424*
Private cars	84 848	72 103
Jeeps	32 067	25 334
Lorries	12 099	7 987
Brazil	*191 194*	*174 126*
Heavy lorries and buses	4 113	3 478
Medium lorries	35 557	20 546
Light cargo and passenger trucks	54 390	50 157
Utility vehicles	22 247	13 922
Private cars	74 887	86 023
Total number of vehicles manufactured	*320 208*	*279 550*
II. *Assembly*		
Chile		*5 149*
Private cars		3 841
Light trucks, lorries and jeeps		1 308
Mexico	*66 000*	*75 700*
Private cars	41 700	48 900
Lorries and buses	24 300	26 800
Venezuela	*11 666*	*24 440*
Private cars and charabancs	8 768	18 090
Commercial vehicles and lorries	2 898	6 350
Total number of vehicles assembled		*105 289*

Table 20 presents figures for the manufacture and assembly of vehicles in the countries mentioned above, in 1962 and 1963, which incidentally illustrate the wide range of types and the relatively small scale on which the motor-vehicle industry operates in Latin America compared with the more industrialized countries. Added to this is the relatively large number of enterprises contributing to that output, which explains why the efficient utilization of economies of scale must constitute one of the most serious problems in the industry's future development. Later on there will be occasion to refer more fully to the scope and projections of this problem, as well as to other aspects of the industry's development, including the nature of the incentives and institutional arrangements that have facilitated its recent rapid expansion.

6. Available supply of manufactured goods

The data relating to the amount and composition of the supply of manufactured goods available in Latin American markets in recent years are undoubtedly among the most representative indicators of what the industrial process has come to signify in Latin America. In the last analysis, the ultimate aim of this process is to make possible increasingly large *per capita* supplies and consumption of manufactured goods and to augment the available quantities of production machinery and equipment, as well as to meet the demand for intermediate goods from other sectors of production and the manufacturing industry itself. It is therefore worth while to assemble a systematic body of quantitative data defining the characteristics of the available supply of manufactured products, both in terms of cumulative values for major categories or groups of manufactures, and of physical units for some important individual products.

Broadly speaking, on the basis of current activity in Latin American industry and the Latin American countries' imports of manufactured goods, the total supply of industrial products available to Latin America as a whole may be estimated to be worth over 50,000 million dollars per annum.[52] In other words, the region's gross available supply[53] of industrial products *per capita* probably averages about 270 dollars per annum at the present time,[54] including both final goods (consumer and capital) and intermediate products.

The significance of these figures will grow clearer as the aggregate available supply is broken down by categories of manufactures and the substantial differences in level and composition registered within the region itself are taken into account. To this end, table 21 presents a general picture of the distribution of the total available supply, by countries and by source (domestic production or imports).

Naturally, the countries whose total population is biggest also absorb the major share of the region's available supply of manufactured goods: approximately three-fourths of it, if the 28 per cent corresponding to Brazil is taken in conjunction with the figures for Argentina and Mexico, which are, moreover, the most advanced of the Latin American countries as regards their industrial development. But the same is not true of the *per capita* values; although Argentina shows the highest figure in the region, other countries, such as Venezuela, Uruguay and Chile, far outstrip Brazil and Mexico.

These *per capita* figures are influenced by the corresponding total *per capita* income, by virtue of which *per capita* demand for consumer manufactures is greater;

---

[52] For the purposes of the present analysis, the available supply is calculated as the sum of gross domestic production values, at ex-factory prices, plus import values (c.i.f.), export values (f.o.b.) being deducted where necessary. Although reference is made to the current available supply, strictly speaking the figures correspond to estimates for 1960, in view of the difficulties of obtaining statistical data for more recent periods. For the same reason, the regional totals really cover sixteen countries, in default of comparable estimates for Bolivia Cuba, Haiti and Paraguay, countries whose aggregate product represents a small proportion of the total for Latin America.

[53] The concept of gross available supply involves a measure of duplication in so far as it represents the sum of the values of intermediate products and of final manufactured goods in which those products may be incorporated. In later analyses the two categories are dealt with separately, in order to show more appropriate ways of measuring these concepts.

[54] Excluding exports of manufactured goods.

Table 21

LATIN AMERICA: ESTIMATES OF AVAILABLE SUPPLY OF MANUFACTURED PRODUCTS (IN TERMS OF VALUES), 1960

Country	Total available supply (millions of dollars)			Per capita available supply (dollars)
	Production [a]	Imports	Total	
Argentina	14 099	1 032	15 131	722
Brazil	13 200	1 225	14 425	205
Chile	2 450	481	2 931	384
Colombia	2 654	497	3 151	204
Costa Rica	149	94	243	201
Dominican Republic	241	90	331	109
Ecuador	307	124	431	100
El Salvador	186	114	300	123
Guatemala	290	121	411	109
Honduras	121	61	182	93
Mexico	6 744	1 344	8 088	225
Nicaragua	96	57	153	104
Panama	112	75	187	177
Perú	1 461	328	1 789	177
Uruguay	733	151	884	355
Venezuela	1 641	1 348	2 989	408
Total	*44 484*	*7 142*	*51 626*	*272*

[a] Excluding exports.

consequently, those countries where industrial development has made less headway attempt to compensate for the proportionally smaller contribution of domestic production by means of relatively higher import levels.

It can be inferred from table 21 that thanks to the import substitution process described above, the region as a whole has reached a point at which domestic production accounts for 86 per cent of total supplies of manufactured goods.[55] But although imports of industrial products represent only 14 per cent of the amount available, their annual value exceeds 7,000 million dollars, and in consequence there is still plenty of room for substitution. At the same time, these data throw into relief the marked differences between the Latin American countries as regards the origins of their aggregate supplies of manufactured goods. In two of them the share of domestic production is above the average for Latin America (93 per cent in Argentina, 91 per cent in Brazil); in others it stands at levels very close to this average (between 82 and 84 per cent in Chile, Colombia, Mexico, Peru and Uruguay); and yet in others the relative

[55] It should be pointed out that this ratio is not determined on the same bases as the usual concept of "import coefficient", in which the value of imports is related to the product or value added in the various sectors of internal economic activity, whereas here gross industrial production values are used. In the light of the more conventional definition, therefore, the present comparisons tend to under-estimate the relative share of imports.

significance of imports is still very high, for instance, in Costa Rica (39 per cent), El Salvador (38 per cent), Honduras (34 per cent), Nicaragua (37 per cent), Panama (40 per cent) and Venezuela (45 per cent).

The correlation observable between the gross available supply of manufactured goods and the level of *per capita* income is not very close, despite the compensatory role played by imports in those countries which, irrespective of their income levels, are comparatively behindhand with their industrialization process. For example, in countries like Brazil or Mexico the ratios between the available supply of manufactured goods and *per capita* income (50 and 42 per cent, respectively) tend to be relatively greater than in other countries where *per capita* income is higher and the contribution of imports is proportionally bigger. In Uruguay, for instance, where the level of *per capita* income is more than 60 per cent higher than in Mexico and more than twice as high as in Brazil, the ratio is only 41 per cent; and ratios of less than 40 per cent are shown by Costa Rica and Panama, where again *per capita* income exceeds that of Brazil.

The reason for these disparities is to be found in the differences in the composition of the available supply of manufactured goods, which is influenced in turn by the requirements of the industrial development process itself, and particularly by the relative importance of demand for intermediate manufactures. To a greater extent than any other sector of the economy, industrial activity is characterized by the proliferation of intermediate transactions among the various branches of manufacturing industry themselves, some of which specialize in the processing of goods which will be subjected to further stages of transformation, until they are turned out as products that meet final needs; and the farther industrial development advances, the more extensive and complex such transactions become. This is clearly reflected in the figures given in table 22, which shows the composition of the available supply of manufactures by uses. Of the 51,600 million dollars represented by the total available supply of industrial products in 1960, 33,500 million corresponded to final goods (26,700 million to consumer goods and 6,800 million to capital goods), and 18,100 million to intermediate products. The latter figure constitutes a proportion of the total (36 per cent) lower than those registered in industrialized economies — for example, 46 per cent in the United States in 1947 and 54 per cent in Japan in 1951[56] —, thus implying that the internal structure of the Latin American economies is still under-integrated. On the other hand, this average proportion is given by ratios that differ widely from one country to another, since they exceed 35 per cent in Argentina, Brazil and Mexico (reaching a maximum of 39 per cent in Brazil); fluctuate between 30 and 35 per cent in Chile, Colombia, Peru and Uruguay; and fall below 30 per cent in Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama and Venezuela.

As regards supplies of domestic origin, there has already been an opportunity, in the section on the level and composition of manufacturing production, to consider the structure of internal supply, in terms of three broad categories of manufactured goods, and broken down by branches of industrial activity. The relatively large proportion

---

[56] Figures taken from H. Chenery and P. Clark, *Interindustry Economics*, tables 8.6 and 8.9. To make the original figures more exactly comparable, those corresponding to the non-manufacturing sectors were deducted and the pertinent values were re-allocated to sectors 13 and 14 in the tables mentioned.

Table 22

LATIN AMERICA: ESTIMATED COMPOSITION OF AVAILABLE SUPPLY OF MANUFACTURED GOODS, BY USES, 1960

(Millions of dollars)

Country	Total	Intermediate products	Final goods	
			Consumer goods	Capital goods
Argentina	15 131	5 390	7 713	2 028
Brazil	14 425	5 687	7 067	1 671
Chile	2 931	707	1 879	345
Colombia	3 151	1 035	1 724	392
Costa Rica	243	63	128	52
Dominican Republic	331	76	207	48
Ecuador	431	121	241	69
El Salvador	300	85	154	61
Guatemala	411	113	231	67
Honduras	182	46	102	34
Mexico	8 088	3 041	3 943	1 104
Nicaragua	153	41	80	32
Panama	187	52	94	41
Peru	1 789	625	978	186
Uruguay	884	294	520	70
Venezuela	2 989	731	1 608	650
Total	*51 626*	*18 107*	*26 669*	*6 850*

of the region's output still represented by consumer manufactures is typical of a structure of production in which "traditional" sectors predominate, in particular the food, beverages, tobacco, textiles, footwear and clothing industries, etc.; on the other hand, higher percentages of intermediate and capital goods supplies are obtained from domestic sources in those Latin American countries that have reached more advanced stages of industrialization, and have therefore developed such branches as the chemical, metallurgical and metal-transforming industries to a greater extent.

The import component of supply, however, displays opposite characteristics in respect of both uses and industrial sources, as can be inferred from the quantitative data summed up in tables 23 and 24. Imports of consumer goods constitute only 18 per cent of total imports of manufactures, and less than 15 per cent if Venezuela is excluded; furthermore, about two-thirds of them come from the chemical, petroleum derivatives and metal-transforming industries and a little over one-fifth from the activities producing food, beverages and tobacco. Intermediate manufactures account for about 30 per cent of total imports of industrial goods and are more widely distributed by activities of origin, since although here again the share of the two groups mentioned is substantial (about 70 per cent), others, such as textiles and pulp and paper, attain significant proportions. Lastly, capital goods, which are almost exclusively products of the metal-transforming industries, have come to constitute more than half of total imports of manufactures, even in the more highly industrialized countries. In the aggregate, the

Table 23

LATIN AMERICA: COMPOSITION OF IMPORTS OF MANUFACTURED GOODS, BY USES, 1960

(Millions of dollars)

Country	Total	Intermediate products	Final goods	
			Consumer goods	Capital goods
Argentina	1 032	440	107	485
Brazil	1 225	402	148	675
Chile	481	134	95	252
Colombia	497	126	48	323
Costa Rica	94	28	17	49
Dominican Republic	90	27	16	47
Ecuador	124	38	22	64
El Salvador	114	35	20	59
Guatemala	121	36	22	63
Honduras	61	18	11	32
Mexico	1 344	373	196	775
Nicaragua	57	17	10	30
Panama	75	23	13	39
Peru	328	88	76	164
Uruguay	151	85	18	48
Venezuela	1 348	263	468	617
Total	*7 142*	*2 133*	*1 287*	*3 722*

products of the metal-transforming and metallurgical industries thus make up almost two-thirds of the total, while chemical and petroleum products accounts for about 20 per cent. This is yet another indication of the role that will be incumbent on these branches of industry in the continuance of import substitution efforts, although it would be a mistake to disregard the opportunities still afforded by other branches of the manufacturing sector, especially in those countries whose industrialization process is at a relatively less advanced stage.

So much for the basic over-all data on the amount and composition of the available supply of manufactured goods, with reference mainly to its sources. Later, when Latin America's industrialization prospects are discussed, and, in particular, when future industrial development requirements are foreshadowed, the differing degrees of dynamic impetus that may be assigned to demand for the various categories of manufactures and to its effect on the future levels and structure of supply will be duly taken into account. The foregoing observations must therefore be enlarged upon, since there are other background data that would seem to be indispensable for this purpose.

Excluding intermediate manufactures, demand for which is contingent, by definition, upon the composition of final demand and on structural economic relationships, the first of the distinctions referred to may be drawn between consumer manufactures

Table 24

LATIN AMERICA: COMPOSITION OF IMPORTS OF MANUFACTURED GOODS, BY SOURCES AND USES, 1960

(Millions of dollars)

Industry of origin	*Total*	*Intermediate products*	*Final goods*	
			Consumer goods	*Capital goods*
Food, beverages and tobacco	377	109	268	—
Textiles	190	121	68	1
Footwear and clothing	23	11	12	—
Wood and cork, including furniture	64	58	3	3
Paper and paper products	278	277	1	...
Printing, publishing and allied industries	26	—	25	1
Leather and leather products, other than footwear	14	12	1	1
Rubber and rubber products	51	30	4	17
Chemical products and petroleum derivatives	1 322	867	410	45
Non-metallic mineral products	73	46	10	17
Metallurgical and metal-transforming industries[a]	4 545	575	422	3 548
Other industries	179	27	63	89
Total	*7 142*	*2 133*	*1 287*	*3 722*

[a] Including basic metal industries, manufacture of metal products, construction of machinery, fixtures and electrical appliances, and construction of transport equipment.

and capital goods. According to the estimates previously formulated, the total available supply of capital goods amounted to about 6,850 million dollars in 1960, a figure which represents 7 per cent of the total product (at market prices) and 39 per cent of gross investment in the region as a whole.

These ratios between the available supply of capital goods and over-all product and investment may seem abnormally low, and may therefore be interpreted as clearly symptomatic of the inadequacy of the supply of industrial goods for capital formation purposes. Such a view must be modified, however, in the light of several factors, including some that are mere matters of definition or methods of valuation.

As has been seen, estimates of the available supply are based on the sum of gross ex-factory production values plus import values (c.i.f.); consequently, they make no allowance for marketing surcharges in the first case or for tariff duties and distribution costs in the second, and therefore represent a valuation at much lower prices than those paid by the consumer. Furthermore, the concept covers only production machinery and equipment and similar final goods, while such products as most building materials,

which are often included in the capital goods category, are classified in this instance with intermediate manufactures. Herein lies at least part of the reason why the available supply of capital goods seems so small in relation to the aggregate product. But even so, the distortions thus introduced cannot obscure the basic fact that the gross investment coefficients of many Latin American countries are very modest in comparison with those of other economies, and that this is one of the determinants of Latin America's slow rate of over-all economic growth.[57] In other words, the composition of current available supplies of manufactures, defined in the broadest terms, would have to undergo considerable modification within a framework of accelerated economic development, in the direction of increasing the share of capital goods. The implications are particularly significant if it is borne in mind that for 60 per cent of its total supply of capital goods the region still depends on imports.

Demand for capital goods is influenced not only by the low aggregate investment coefficients but also by the composition of investment. The large proportion of resources allocated to infrastructure and housing projects, as well as the high percentage of industrial capital itself that is represented by buildings and other installed facilities, help to explain how it is that the new machinery and equipment annually incorporated into the existing stock of capital account for only 39 per cent of gross investment. Probably this is another of the factors whose operation, given a more rapid over-all growth rate, would increase the share of capital goods in the available supply of manufactures.

It would be difficult to carry general considerations of this kind any further, except in relation to individual Latin American economies, in view of the sometimes substantial differences observable from one country to another. Much the same is true of the available supply of consumer manufactures, its ratio to total consumption and its internal composition by types of products, although in this case certain features emerge which might more legitimately be taken to represent characteristics common to the region.

As previously stated, the annual supply of consumer manufactures currently available for Latin America as a whole may be estimated at approximately 27,000 million dollars, which is equivalent to about 140 dollars *per capita* and roughly 34 per cent of the region's consumption of goods and services of all kinds. The significance of these figures might be seen more clearly in the light of a few comparisons with more advanced economies in other regions, from which it would be inferred that the position of manufactures in Latin America is disadvantageous, both in absolute terms and in relation to total consumption. Once again, however, several reservations, different in kind and sometimes opposite in their implications, would have to be taken into account. For example, the ratio mentioned above involves a considerable measure of under-estimation, in so far as it excludes distributing and marketing expenses in respect of manufactured goods, whereas they are included in measurements of total consumption; conversely, the relative prices of industrial products which are usually higher in Latin America, tend to make their share appear larger than it would be if the comparisons were formulated in real terms or with reference to measurements based on a common system of prices, as weighting factors.

[57] As in the case of other generalizations, a differentiation must be made between the situations existing in the various countries of the region. For more detailed background data on national investment coefficients and the corresponding growth rates, see, for example, *The economic development of Latin America in the post-war period*, *op. cit.*

Table 25

ESTIMATES OF COMPOSITION OF PRIVATE CONSUMPTION

(Percentages of total consumption)

Country	*Food*	*Manufactured products other than food*	*Miscellaneous services*
Latin American countries			
Argentina	36.6	36.7	26.7
Bolivia	43.9	29.6	26.5
Brazil	47.8	25.5	26.7
Chile	38.5	34.7	26.8
Colombia	48.6	27.8	23.6
Costa Rica	46.6	32.1	21.3
Ecuador	43.9	29.6	26.5
El Salvador	52.3	25.1	22.6
Guatemala	44.8	23.6	31.6
Honduras	45.1	28.2	26.7
Mexico	51.2	21.6	27.2
Nicaragua	43.9	31.8	24.3
Panama	34.1	31.9	34.0
Paraguay	57.9	18.4	23.7
Peru	39.7	24.1	36.2
Uruguay	34.9	35.6	29.5
Venezuela	34.7	26.3	39.0
Non-Latin American countries			
Australia	26.9	32.1	41.0
Belgium	27.2	31.7	41.1
Canada	22.0	29.4	48.6
Denmark	24.4	31.2	44.4
France	31.0	36.9	32.1
Italy	41.5	26.6	31.9
Norway	29.6	35.1	35.3
Spain	43.2	21.1	35.7
Sweden	27.5	32.9	39.6
United Kingdom	28.3	32.9	38.8
United States	21.1	29.5	49.4

Sources: For Latin American countries: ECLA, basic data compiled for study entitled "A measurement of price levels and the purchasing power of currencies in Latin America, 1960–62" (E/CN.12/653), subsequently published in *Economic Bulletin for Latin America*, vol. VIII, No 2, October 1963, pp. 195 *et seq.*; for non-Latin American countries: basic data from *Yearbook of National Accounts Statistics, 1963*, United Nations publication, Sales No.: 64.XVII.4.

In any event, while these reservations are fully applicable as regards the exact magnitude of the ratios, in a qualitative sense they make no difference to the fact that, broadly speaking, consumption of manufactured goods is relatively low in Latin America, not only in absolute terms — largely as a result of equally low levels of

average *per capita* income — but also in proportion to total consumption. This conclusion is corroborated by a comparison of the background data available on the composition of private consumption in most of the Latin American countries with the corresponding break-down for economies outside the region (*see* table 25).

The share of total private consumption in the Latin American countries absorbed by expenditure on foodstuffs (which, strictly speaking, also include a percentage of manufactured goods), is so large that in several instances it exceeds one-half and in no case falls below one-third. Since relatively high percentages also correspond to expenditure on services, despite the fact that they fall far short of the quality and diversification standards attained in more highly developed economies, manufactured goods other than food account only for rather small proportions of total consumption, ranging from about 25 per cent to a little over 35 per cent in those countries of the region where *per capita* income is highest.

These characteristics of demand for consumer manufactures are determined not only by each country's average *per capita* income, but also by its income distribution patterns. Nor is this observation applicable only to the position of manufactured goods other than food in relation to other types of expenditure; it is equally valid as regards the internal composition of consumption of industrial products. The disparities between national averages for the broad categories of expenditure under discussion are much more marked when different population strata in one and the same country are considered, in terms of income brackets.

This last aspect of the question is clearly reflected in the surveys of income and consumer expenditure carried out in several Latin American countries, even where they are confined to specific social sectors and to households domiciled in urban centres. For example, according to the findings of research on consumption distribution by family income steps in Argentina,[58] undertaken early in 1963, in the lower income groups the proportion of expenditure allocated to food was about 60 per cent, whereas at the highest income step it was barely 23 per cent. In Chile, a similar survey, confined to the households of workers living in Santiago,[59] showed extremes of 59 and 32 per cent for the year 1956, and a very slow decline from one step to another except in the higher income brackets. An earlier survey carried out in Colombia gave results for Bogotá[60] ranging from 45 to 36 per cent in the case of employees' households and from 60 to 40 per cent in that of workers' families.

If the high proportions of private income used to satisfy food requirements are considered in conjunction with the uneven sizes of income groups (by numbers of households), some idea will be formed of the great extent to which demand for consumer manufactures is conditioned by income levels and distribution in Latin America. Their influence is still stronger in relation to specific categories of manufactured products other than food. For example, in the Argentine survey, the estimated share

---

[58] *See* Joint Organization of American States and Inter-American Development Bank (OAS/IDB) Tax Program, *Estudio sobre política fiscal en la Argentina*, 1963, chapter VI.

[59] *See* Eliana Vicencio, "Distribución del presupuesto familiar de 452 familias obreras" *Economía y Finanzas*, year XXV, No. 296, Santiago, Chile, June 1961, p. 8.

[60] *See* "Memoria de las encuestas sobre ingresos y hastos de las familias de empleados y obreros de Bogotá, Barranquilla, Cali, Medellín, Bucaramanga, Maizales y Pasto: metodología aplicada para actualizar las bases de los índices del costo de la vida", *Economía y Estadística*, year XIV, No. 85, Bogotá, November 1958. The survey relates to the year 1953.

of durable consumer goods is negligible in the lower income groups, rises to about 6–9 per cent in the middle brackets and exceeds 20 per cent at the higest level. Even the behaviour pattern of expenditure on clothing, where the manufactures concerned are essential goods in general use, illustrates how largely specific population strata are cut off from access to the market for industrial products, since in some cases the corresponding proportion of total consumption tends to expand rapidly in the lower strata, diminishing only in the higher income groups.[61]

These fragmentary pointers to the composition of consumption of manufactured goods can be supplemented by the estimates of the available supply of industrial products (*see* table 26). This facilitates a more systematic evaluation of the breakdown of such consumption by industries of origin, as well as of the differences occurring from one Latin American country to another.

The lack of sufficiently detailed research on income distribution in most of the Latin American countries precludes further discussion of its influence on the level and composition of demand for manufactured goods. But it is a factor that will probably have significant repercussions on the future patterns of the region's industrialization process, and therefore merits more thorough study on the basis of new and more extensive research. This topic will be reverted to later, in the context of industrial development prospects, although the data in hand permit only a superficial approach; in the meanwhile, to facilitate its subsequent analysis, at least one hypothesis on the structure of consumption of manufactures and its ratio to expenditure on other types of goods and services, with reference to different incomes groups, may usefully be established as an illustration of the approximate magnitudes probably registered in Latin America as a whole at the present time.

The relevant estimates are shown in table 27, although they will be analysed only in later chapters. There is no need to stress the extremely hypothetical character of the figures in question, which are based, moreover, on different and often very heterogeneous sources.[62] Their sole purpose is to provide a rough illustration of the influence of income levels and distribution on the Latin American market for consumer manufactures, with a view to evaluating the possible effects of the income expansion and redistribution objectives referred to in chapter IV on future supply requirements in respect of industrial products. In so far as these hypotheses are realistic, the implication is that one-half of the Latin American population — mainly the inhabitants of rural areas — aborbs less than 10 per cent of the total available supply of manufactured products other than food, and spends on them about 13 per cent of its total outlay on consumption. A middle income group, comprising 45 per cent of the population, absorbs rather less than one-half of the total supply referred to, but barely

[61] In Argentina, the footwear and clothing groups absorb little more than 7 per cent of total expenditure in the lower income strata, a proportion which rises to nearly 11 per cent and then falls to under 9 per cent in the highest income bracket. According to another survey, relating to Curitiba (Brazil), the shares of expenditure on clothing increase from 6 to 15 per cent, and do not reach 10 per cent in the higher income groups (see Conselho de Desenvolvimento do Extremo Sul (CODESUL), *Paraná, Ingresos e gastos familiares en Curitiba*, Curitiba, October 1964).

[62] The point of departure adopted was the conjectural distribution of Latin American income presented in *The economic development of Latin America in the post-war period, op. cit.* The following computations were based on the estimates of the structure of private consumption, the national surveys on income and consumer expenditure and the calculations of available supplies of manufactured products to which reference is made in the present section.

SELECTED LATIN AMERICAN COUNTRIES: ESTIMATES OF AVAILABI

(Millio

Country or group of countries	Food beverages and tobacco	Textiles	Footwear and clothing	Wood and wooden furniture	Paper and paper products	Printing, publishing and allied industries
	20–22	23	24	25–26	27	28
						Indust
Argentina	2 913	699	699	168	27	148
Brazil	2 739	1 244	450	242	42	181
Chile	543	116	614	96	14	51
Colombia	723	294	156	19	20	61
Mexico	1 622	555	190	38	32	131
Peru	460	139	94	24	3	24
Uruguay	259	68	42	9	6	20
Venezuela	732	117	71	18	13	60
Other[a]	725	81	168	40	1	22
Total	*10 716*	*3 283*	*2 484*	*654*	*158*	*698*

[a] Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua an Panama.

onefourth of the available supply of durable consumer manufactures, allocating about 25 per cent of its total expenditure to the purchase of industrial goods of all types, excluding processed foodstuffs. Lastly, the highest income bracket, which includes only 5 per cent of the population and absorbs more than one-third of total income, purchases nearly 44 per cent of the available manufactured products other than food, devoting to this purpose a little over 40 per cent of its total consumer expenditure, of which proportion, in term, more than one-third corresponds to durable consumer goods. In other words, in the higher income brackets *per capita* consumption of manufactures other than food would seem to be 8 times that of the middle income group and 48 times that of the lowest stratum. Despite these disparities, the hypothesis under discussion would suggest that in the two major categories of manufactures other than food (excluding durable consumer goods), the greatest dynamic effect on demand is noted at the stage of transition from the lower to the middle income groups, between which the share of expenditure allocated to textiles, footwear and clothing increases from a little over 5 per cent to nearly 10 per cent of total consumption, a ratio which remains virtually the same in the higher income brackets; as regards other current consumer manufactures, the proportion rises from the 7.7 per cent in the lower to 12 per cent in the middle income brackets, and then to 16.8 per cent in the highest income group. In contrast, demand for durable consumer goods is almost nonexistent in the lower income brackets, does not amount to 3 per cent of total consumption in the middle stratum and exceeds 14 per cent in the higher income groups.

UPPLY OF CONSUMER MANUFACTURES, BY TYPES OF PRODUCT, 1960

dollars)

origin

Leather id leather products ther than footwear 29	*Rubber and rubber products* 30	*Chemical products and petroleum derivatives* 31–32	*Non-metallic mineral products* 33	*Metallurgical and metal-transforming industries* 34–38	*Other industries* 39	*Artisan industries not elsewhere classified* [b]	*Total*
233	125	850	36	1 173	162	510	7 713
8	153	935	96	729	248	—	7 067
8	15	159	10	124	129	—	1 879
12	31	234	17	121	36	—	1 724
12	44	687	33	494	105	—	3 943
2	16	115	9	52	40	—	978
3	7	53	4	39	10	—	520
4	20	237	11	177	38	110	1 608
—	6	91	10	63	30	—	1 237
282	*417*	*3 361* [v]	*226*	*2 972*	*798*	*620*	*26 669*

In Argentina and Venezuela, data on the value of production in artisan industries are shown parately instead of being incorporated in the various groups of industries.

Lastly, the over-all picture of the available supply of industrial products needs completing with a few additional data. Apart from the statistical reservations expressly mentioned, it must be pointed out that the indicators of level and composition which have been discussed are indubitably affected by other factors — including differences in relative prices and the element of arbitrariness usually involved in conversion to a common monetary unit — which may also introduce significant distortions. These data on values, therefore, should be supplemented by some indicators of volume, relating to consumption of a group of staple industrial products, expressed in terms of physical units.

The relevant data can be seen in table 28, which covers specific products, differing in kind but fairly limited in number, with due regard for the need to deal with relatively homogeneous manufactures. These statistics afford more precise substantiation of the general observations formulated in connexion with the low levels of consumption of industrial goods registered in most of the Latin American countries. For example, annual *per capita* consumption of textile fibres (4.1 kilogrammes) is less than half the average registered for the countries of Western Europe (9.6 kilogrammes) and Eastern Europe (9.3 kilogrammes), with particularly marked disparities in the case of cellulose and man-made fibres, where in the European countries annual *per capita* consumption stands at about 3 to 4 kilogrammes, while the Latin American average is not as much as 1 kilogramme. The same applies to chemical products. Where those for final consumption are concerned, the Latin American average for detergents is much lower than

Table 27

LATIN AMERICA: A HYPOTHESIS FOR THE LEVEL AND COMPOSITION OF PRIVATE CONSUMPTION, BY INCOME BRACKET, 1960

(Millions of dollars)

	Income bracket			
	Lower	*Middle*	*Upper*	*Total*
Percentage corresponding to each bracket				
Of total population	50.0	45.0	5.0	100.0
Of total income	16.0	50.0	34.0	100.0
Of total consumption	19.0	52.0	29.0	100.0
Level and composition of consumption				
Total consumption	*13 000*	*35 000*	*20 000*	*68 000*
Consumption of foodstuffs	*9 700*	*17 000*	*2 800*	*29 500*
Non-processed				21 300
Processed				8 200
Manufactures other than food	*1 700*	*8 600*	*8 200*	*18 500*
Textiles, footwear and clothing	700	3 400	2 000	6 100
Other current consumer manufactures [a]	1 000	4 200	3 350	8 550
Durable consumer manufactures	—	1 000	2 850	3 850
Services [b]	1 600	9 400	9 000	20 000
(Total manufactures)				(26 700)
(Food)				(8 200)
(Other than food)				(18 500)

[a] Including beverages and tobacco, chemical and pharmaceutical products, paper products and printed matter, and other manufactured goods.

[b] Including housing, domestic services, transport and other services.

that of Italy (8 kilogrammes *per capita* per annum) and less than half that of countries like Belgium, Denmark and Sweden (about 12 kilogrammes); the disparities are still more marked in respect of paint (an annual average of 1.5 kilogrammes *per capita* for Latin America as a whole as against 4.4 for Ireland, 8 for France and 10.6 for Sweden), and plastic materials (under 1 kilogramme *per capita* per annum in Latin America, in comparison with 2.1 for Ireland, 4.5 for Austria and 12.5 for the Federal Republic of Germany). As regards rolled steel products, in terms of ingots, *per capita* consumption, as has been shown, differs greatly from one Latin American country to another, but the maximum figures do not reach 90 kilogrammes yearly, as against about 500 kilogrammes in countries such as Czechoslovakia, the Federal Republic of Germany, Sweden and the United States, over 300 in Australia, and some 240 in Japan. The differences noted are due in part to the fact that apparent consumption does not include imports and exports of rolled steel products which are part of other items at a more advanced stage of processing. In the group headed "Other manufactures", average *per capita* consumption of newsprint in Latin America represents hardly more than half the world average, and this proportion drops to nearly one-third in the case of other types of paper and board.

Table 28

LATIN AMERICA: APPARENT PER CAPITA CONSUMPTION OF A GROUP OF STAPLE MANUFACTURED PRODUCTS, 1962

(Kilogrammes)

Products	*Apparent* per capita *consumption*
1. *Textiles*	
All types of fibres	*4.1*
Cotton	3.1
Wool	0.3
Cellulose and man-made	0.7
2. *Chemical products*	
Detergents (1959)	5.0
Paints	1.5
Plastic materials	0.8
Sulphuric acid	4.3
Caustic soda	2.2
3. *Steel products*	
Bars and light shapes	11.8
Plate and sheet	10.4
Tinplate	2.3
4. *Other manufactures*	
Newsprint	3.2
Other types of paper and board	8.6
Cement	83.7

It is beyond a doubt that the disparities in average *per capita* income levels largely account for such marked differences in *per capita* consumption of manufactured products. But it still remains to evaluate how far, over and above this basic factor, the comparatively low levels registered in Latin America are also influenced by income distribution patterns, the inadequacy of supply or the high relative prices of industrial products on the region's markets.

7. Prices and costs of Latin American manufactures

An over-all description of the picture presented by Latin American industry could not omit some reference to the high cost and price levels, which are usually considered as being one of the fundamental problems involved. The consensus is that, on the whole, Latin America's prices of manufactured products are, relatively speaking, very high. This general impression, however, is not often borne out by quantitative evaluations which would permit an assessment of at least some orders of magnitude regarding the seriousness of the problem. Nor are there enough systematic studies on the factors determining those price levels, that is, how far they may be influenced by relatively high

production costs or gross rates or return, distribution and marketing margins, indirect taxes on transactions or consumption, customs duties and other equivalent charges on imports of manufacturers, etc.

In fact, it is a highly complex problem which demands that consideration be given simultaneously to the effect of a great many factors. The very term "relative prices" presupposes a comparison with the situation prevailing in other countries or regions, which in turn entails — implicity or explicitly — the use of exchange rates in order to compare figures for different countries in terms of some common currency unit. The mere over-pricing or under-pricing of the various currencies would therefore do much to vitiate such comparisons, while frequently leading to conclusions, in the study of a single country, which appear radically different in the course of a few years.

It is not proposed to analyse below the full complexity of the problem. The aim is merely to add a few quantitative data to the generally accepted qualitative impression, which will help to define it in its broadest sense, and bring to light the diversified nature of the existing situations, both by groups or types of manufactures, and by countries or country groupings. The price study will be based almost entirely on the background data gathered for a previous ECLA study.[63] Therefore, it is subject to the same limitations and reservations as specified in that study.

In essence, the research was based on the definition of a sample of goods and services whose components were considered to be representative of average consumption throughout Latin America, and a group of investment goods which were valued at the prevailing market prices in one city of each of the Latin American countries and in two United States cities. Thus, the study is limited to final manufactured products — consumer goods and capital goods — without extending to raw materials and intermediate products. Moreover, since the information gathered on prices relates to those paid by the users, the results cannot be taken indiscriminately as the basis for conclusions on factory prices (or on the c.i.f. unit prices of imports), inasmuch as there might be appreciable differences in marketing costs, and in additional taxes or other charges.[64] For purposes of the present study, the data relating mainly to manufactured products have been taken from the research, those bearing on other goods and on different types of services being omitted; likewise, only a few countries have been selected and an average was taken of the figures for the two United States cities.

A preliminary evaluation, not subject to the distortions that might be attributable to the use of specific exchange rates, is shown in figure X. The exact meaning of the magnitudes illustrated therein is as follows: for each of the countries chosen, the expenditure on the group of food products forming part of the sample of goods and services taken as a common basis of comparison for all the countries concerned, has been considered equal to 100, following which the respective indexes have been calculated for each of the remaining groups of expenditure, as determined also by the content of the sample. Consequently, these comparisons do not require the separate national figures to be expressed in terms of a common currency unit, since they are confined to illustrating the structure of relative prices in each country. Neither do they reflect the real composition of expenditure therein, but rather the hypothetical expenditure which

---

[63] *See A measurement of price levels and the purchasing power of currencies in Latin America, 1960–1962, loc. cit.*

[64] These charges are usually quite high in the case of imports, particularly of durable consumer goods. They also affect other specific products, such as beverages, tobacco, etc.

would have to be incurred in each country in order to purchase the same group of goods and services.

Despite its shortcomings, this analysis helps in some measure to define the relative position of the prices of manufactured products in Latin America with respect to the United States, if expenditure on that group of food products is taken as a reference. As can be seen, the ratios for all the non-food manufactures are higher in the eight Latin American countries considered, but the differences are slight in the case of Colombia and Guatemala. However, this situation is not common to different groups of manufactures, as can be seen in the supplementary illustration included in figure X. There are instances, particularly among non-durable consumer goods such as alcoholic beverages and certain pharmaceutical products, in which the expenditure indexes with respect to food are lower in Latin America. This does not occur, however, in such important groups as textiles and textile products. As regards investment goods, the situation is comparable, and even relatively favourable, only as regards the construction of buildings, but very unfavourable in all other groups of capital expenditure covered by these comparisons.

Thus, from the standpoint of price structure, there is no question of the validity of the assertion that on the whole Latin America's relative prices of manufactured products, particularly capital goods, are high compared with those paid in markets like the United States. This might be just another way of saying that in general relative food prices in the Latin American countries are very low, since that is the component of expenditure on which the indexes have been based. This would explain why Argentina — where foodstuffs were particularly cheap when the survey was carried out — should appear in most of these comparisons as having very high relative price indexes for industrial products. Even with this reservation, however, the conclusions reached are significant and cannot but affect the structure of consumption and, in the last analysis, the size of the domestic markets for manufactured products.

However illustrative the foregoing considerations may be, they fail to convey a more accurate idea of the absolute differences in the price levels of manufactured products among the Latin American countries themselves, and between the region as a whole and the United States. The reason for this is that the comparison is between relative prices, which moreover, are defined by large groups or categories instead of by separate products. Accordingly, at the risk of entering into the controversial topic of proper exchange rates an attempt is made in figure XI to overcome those shortcomings by presenting a set of estimates of unit prices for a number of major manufactured products.[65]

The general impression gained from a study of this figure is that the question of Latin America's relatively high prices for manufactures — the qualitative side of which is well known — is a very far-reaching one. If the exchange distortions are corrected — to the extent that they are properly considered in the computation of parity exchange rates — Latin America emerges all the more as a region of prevailing high prices for manufactured products.

---

[65] The pertinent figures relate to unit prices recorded on the respective country markets, converted into dollars at two different exchange rates: those in force at the time for foreign trade purposes, and others corresponding to arbitrary conversion factors, so calculated as to be a more accurate reflection of what might be considered parity exchange rates in respect of purchasing power.

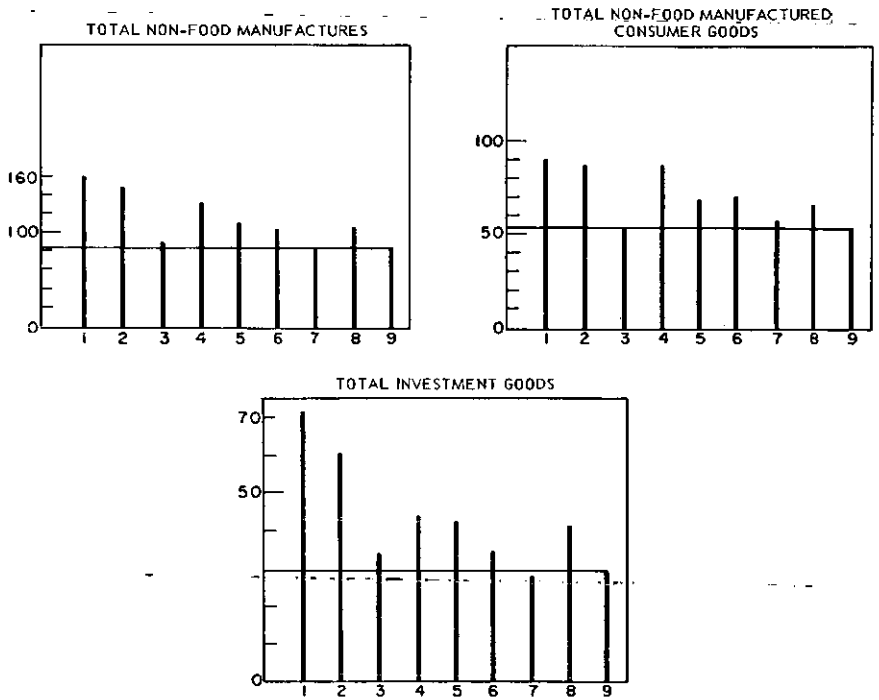
Figure X

LATIN AMERICA AND UNITED STATES: COMPARISON BETWEEN RELATIVE PRICE LEVELS OF MANUFACTURED PRODUCTS, 1962

(Ratio between hypothetical cost, by group, of manufactures and hypothetical cost of sample food products)

1 Argentina
2 Brazil
3 Colombia
4 Chile
5 Peru
6 Venezuela
7 Guatemala
8 Mexico
9 United States

A. GENERAL GROUPS



B. CONSUMER GOODS

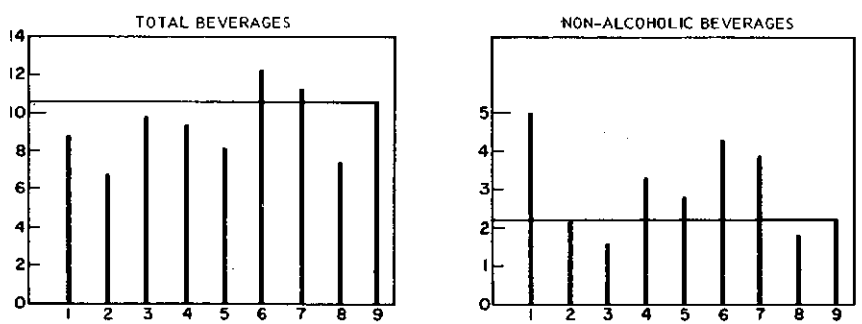
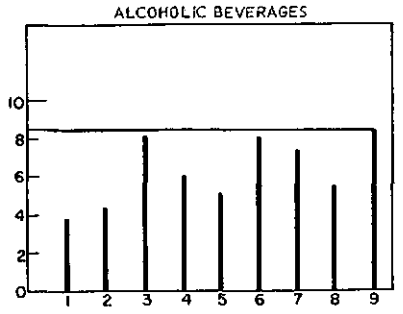
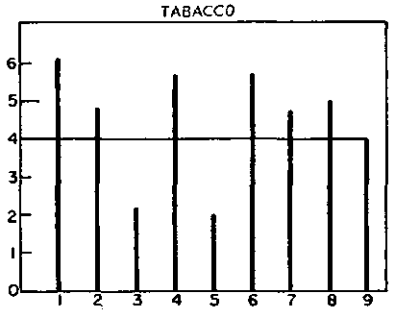
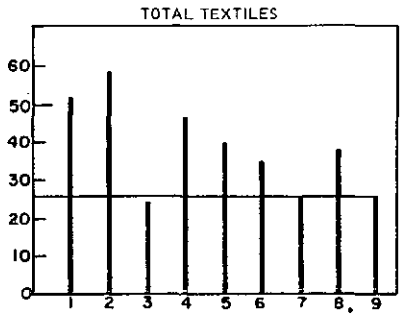


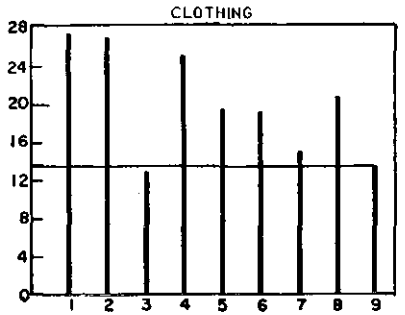
Figure X *(continued)*

B. CONSUMER GOODS (continued)









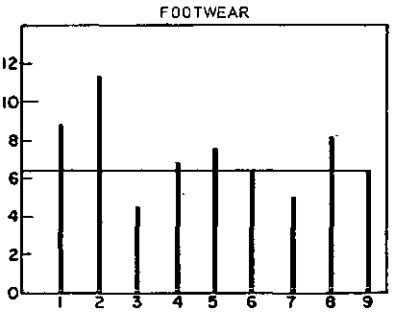
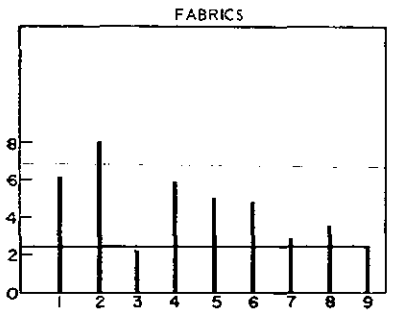
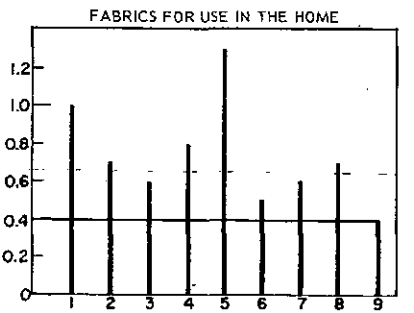
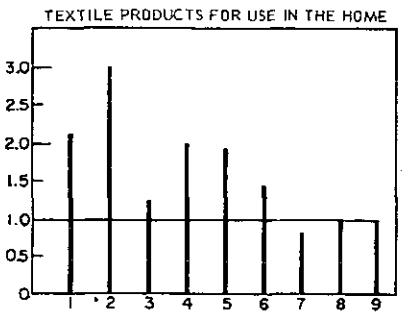


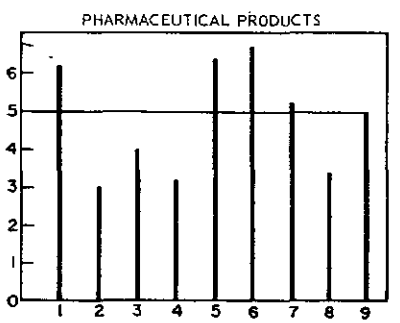
Figure X *(continued)*

B. CONSUMER GOODS (continued)









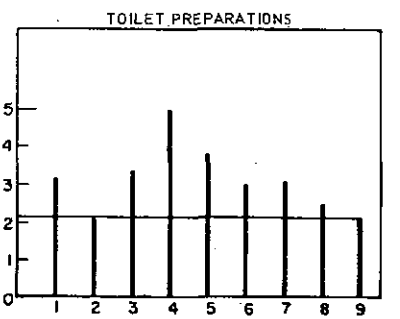


Figure X *(continued)*

C. INVESTMENT GOODS

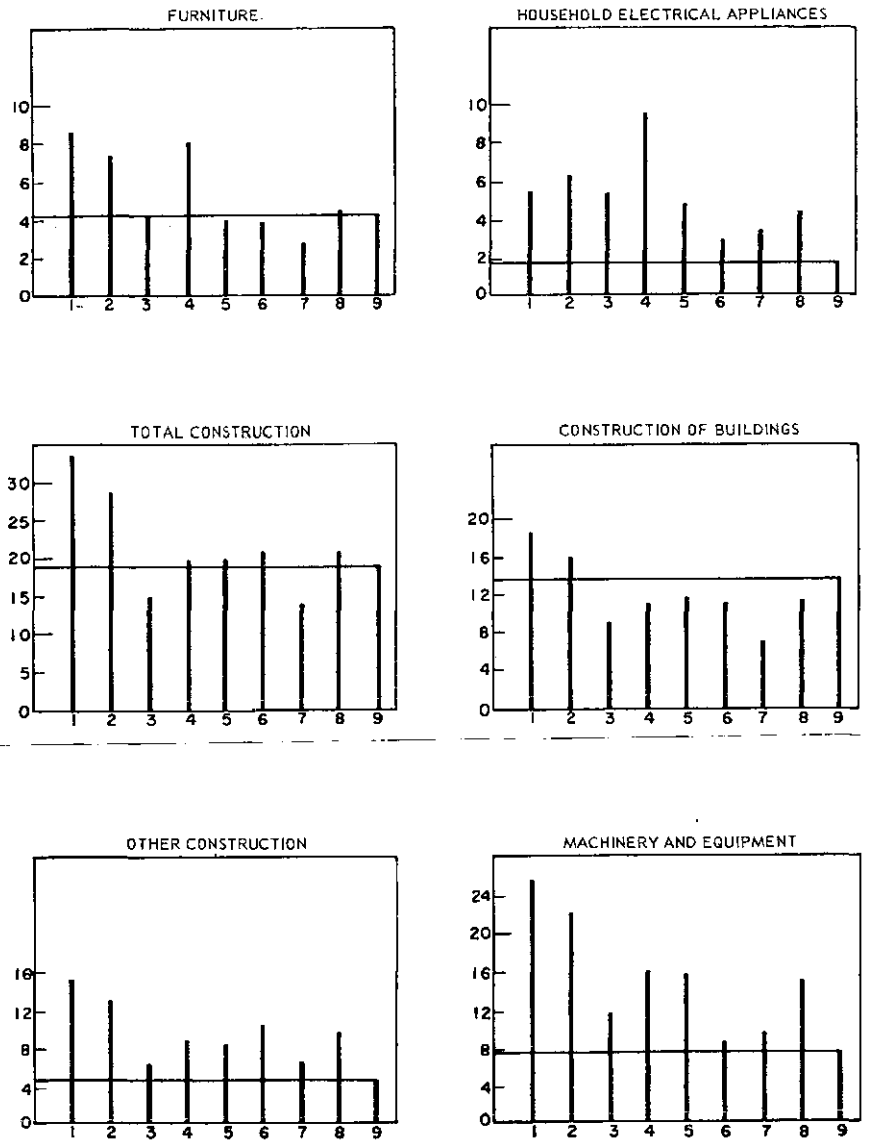
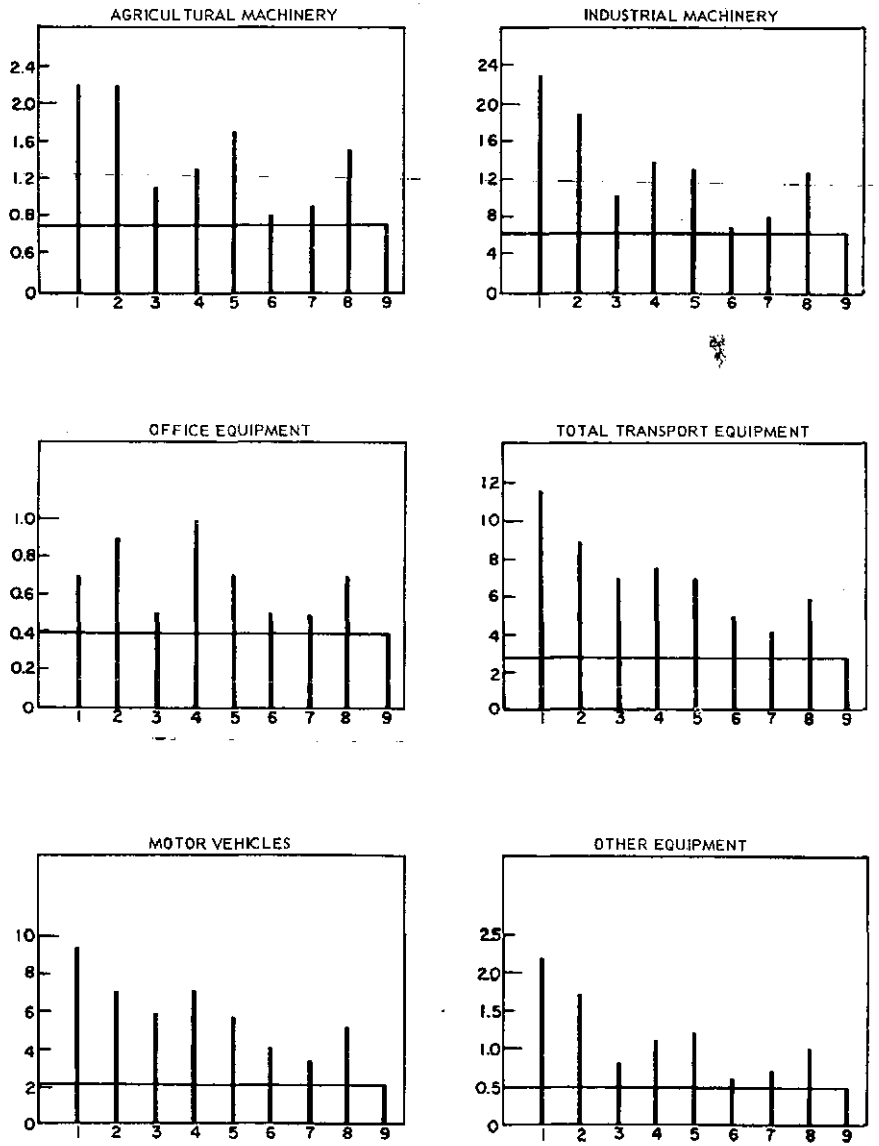


Figure X *(continued)*

C. INVESTMENT GOODS (continued)



The exchange rates chosen for the conversion of Latin American prices, as expressed in the respective national currencies, to a common currency unit weigh heavily in the results of these new comparisons. In all the Latin American countries except Venezuela the results are more favourable if the prices are converted at the exchange rates in force than if the operation is done through factors more accurately reflecting the respective parities of purchasing power. Moreover, the resulting picture presents widely differing situations from which it is hardly possible to draw general conclusions, even though basically it should be interpreted as confirmation of the fact that the high relative prices of Latin American manufactures correspond also to high prices in absolute terms.

It would be as well to qualify that conclusion in some measure by examining more fully the information on which it is based.

In the first place, the position is seen to be far less serious in the case of non-durable consumer goods, where the conclusions depend, in the last analysis, on the conversion factors that are deemed most suitable. If parity factors are used only for footwear — and on a lesser scale for woollen fabrics — the prices in most of the eight Latin American countries are lower than in the United States; on the other hand, they all register far higher prices for cotton fabrics, including two such opposite cases as Chile and Peru, the former relying completely on imports of raw cotton, and the latter being a major exporter of that raw material. The position with regard to rayon fabrics is not too dissimilar. Only two of the eight countries concerned record prices equal to, or lower than, those of the two United States cities for beer and matches — Argentina and Colombia for beer, and Peru and Venezuela for matches. As a rule, Latin America's prices of pharmaceutical products are also relatively higher — with a few exceptions such as penicillin (in Brazil, Chile, Peru and Mexico) — and the differences are very marked in so far as aspirin is concerned, whatever the factor of conversion used. In this group of non-durable consumer goods notable disparities are also observed in the structure of relative prices of manufactures between the Latin American countries themselves, often exceeding a ratio of 1 to 3 between those registering the lowest and the highest price for the same product.

Of the nine durable consumer goods for household use considered, there is practically no exception to the general rule that Latin America's market prices are higher than United States prices, and in general the discrepancies are much greater than those in non-durable manufactures. Furthermore, the differences are so large as to enable this conclusion to be maintained even if the more favourable ratios determined by conversion at official exchange rates are used. In several cases, they are goods supplied mainly by imports, and consumer prices are therefore severely affected by tariff rates and other equivalent charges. This does not happen in countries which have already made considerable progress in import substitution in respect of this type of goods, nor in the case of certain of the items included (such as bicyles), which are produced on a fairly wide scale in all countries of the region.

As to the construction materials group, the conclusions depend entirely on the factors of conversion, although the position is relatively favourable ot Latin America in connexion with two of the most important products: round iron bars for construction purposes and cement, both of which are usually produced locally. At parity exchange rates, in at least half of the eight Latin American countries (and not always the same ones) prices for metal structures and galvanized sheets are comparable with

Figure XI

LATIN AMERICA AND UNITED STATES: COMPARISON BETWEEN UNIT PRICES OF CERTAIN MANUFACTURED PRODUCTS, 1962

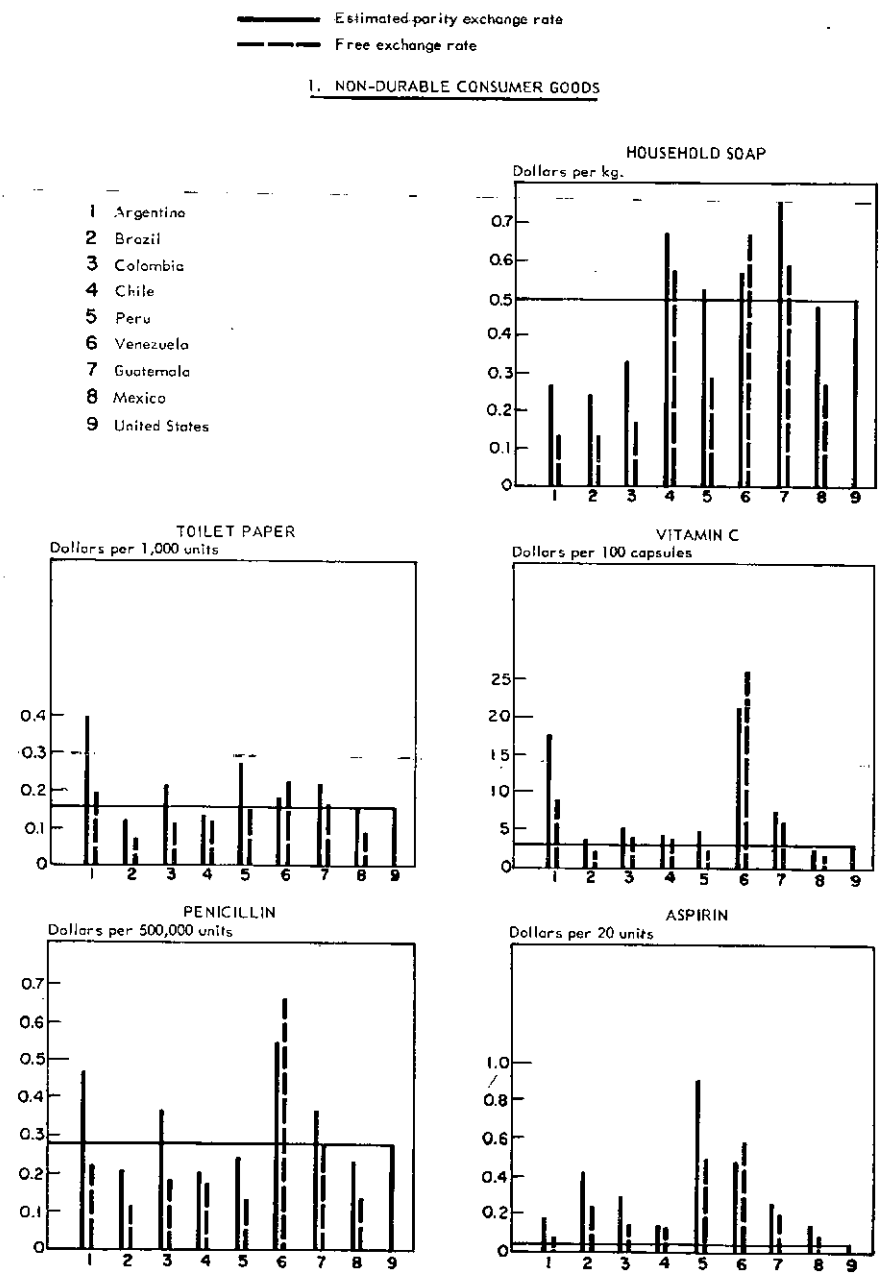


Figure XI *(continued)*

Estimated parity exchange rate
Free exchange rate

1. NON-DURABLE CONSUMER GOODS (continued)

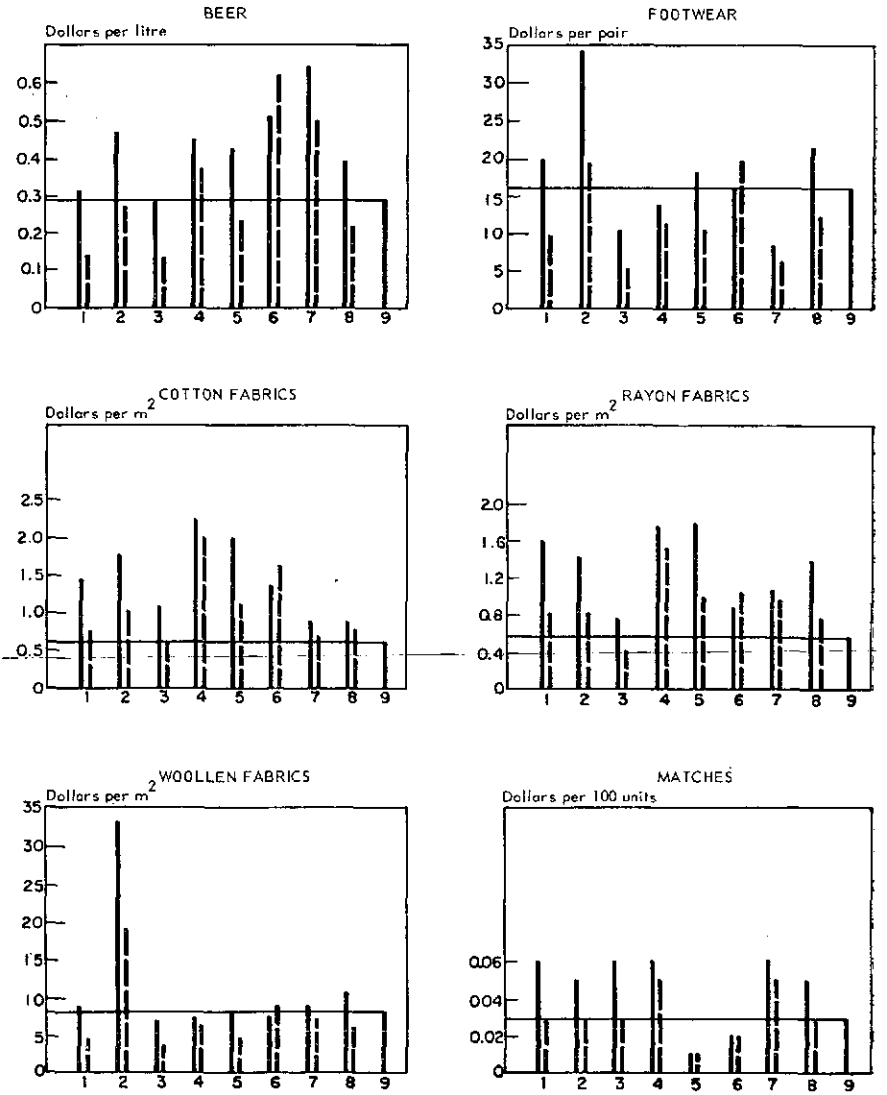


Figure XI *(continued)*

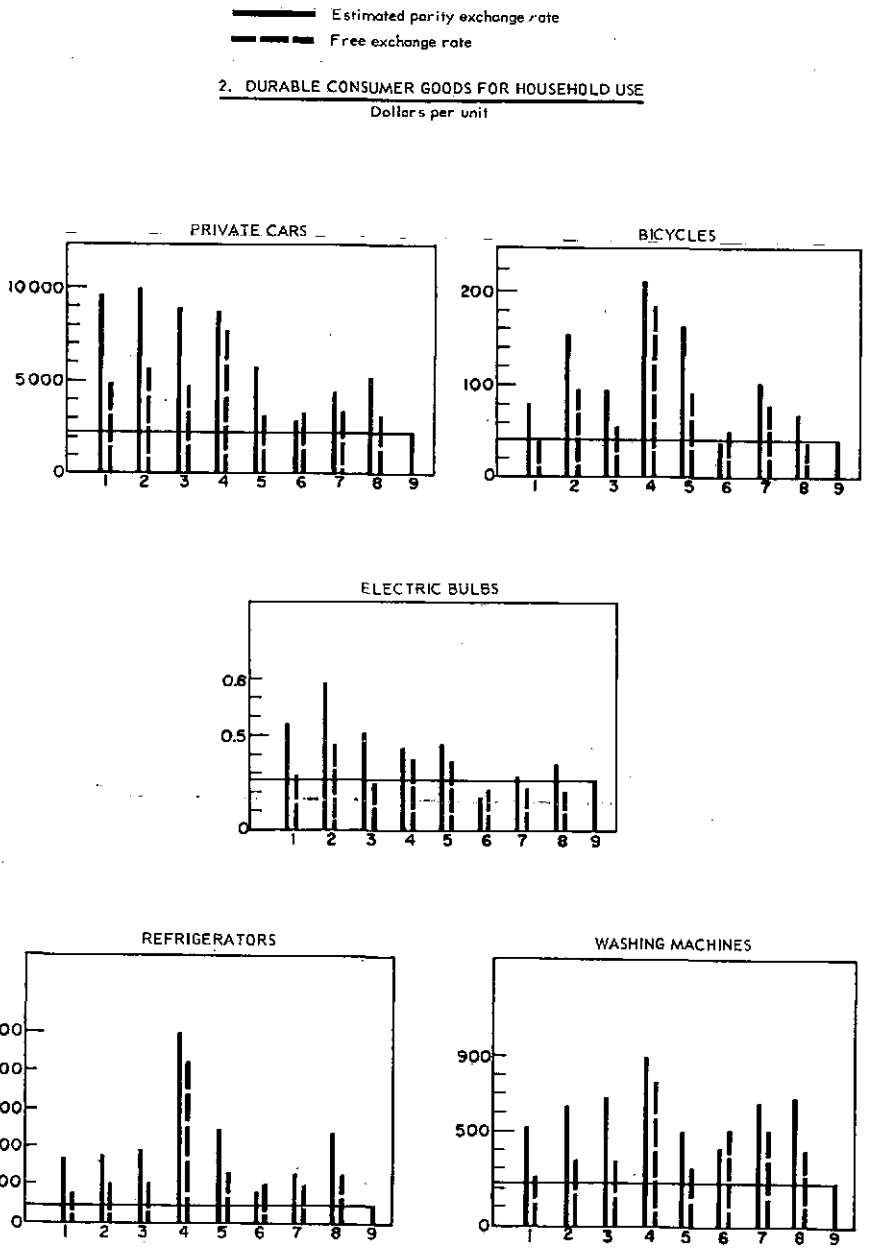


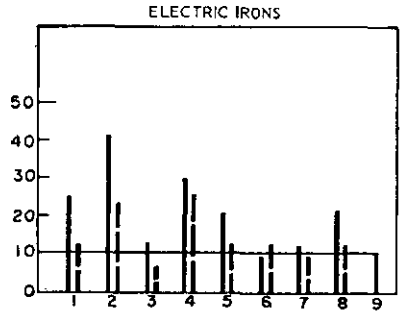
Figure XI *(continued)*

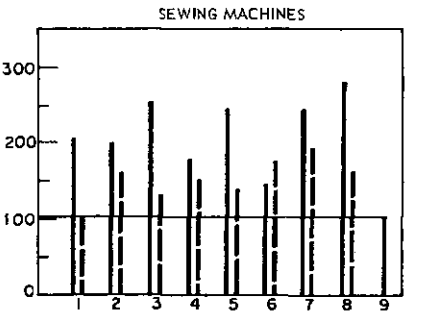
Estimated parity exchange rate

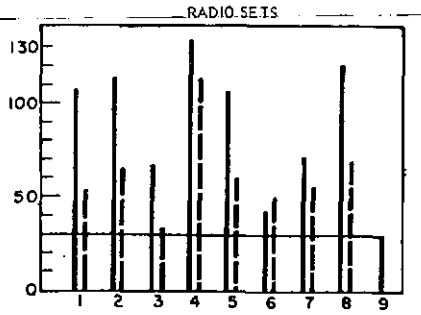
Free exchange rate

2. DURABLE CONSUMER GOODS FOR HOUSEHOLD USE (continued)

Dollars per unit







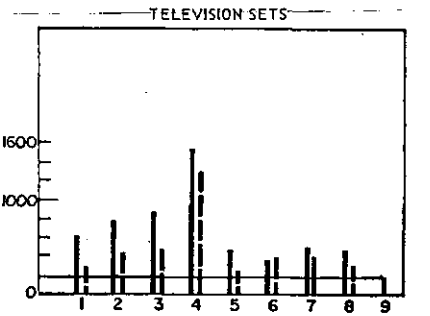


Figure XI *(continued)*

Estimated parity exchange rate

Free exchange rate

3. CONSTRUCTION MATERIALS

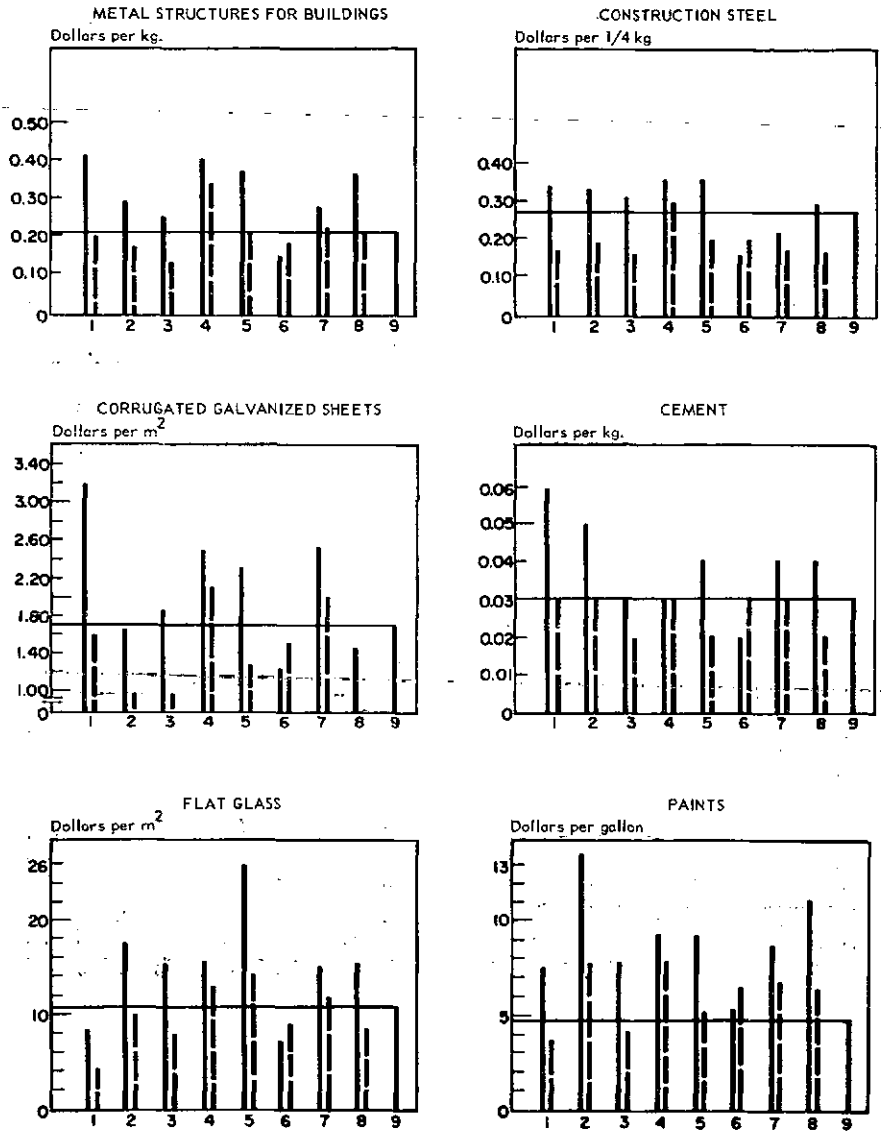


Figure XI *(continued)*

Estimated parity exchange rate

Free exchange rate

4. CAPITAL GOODS

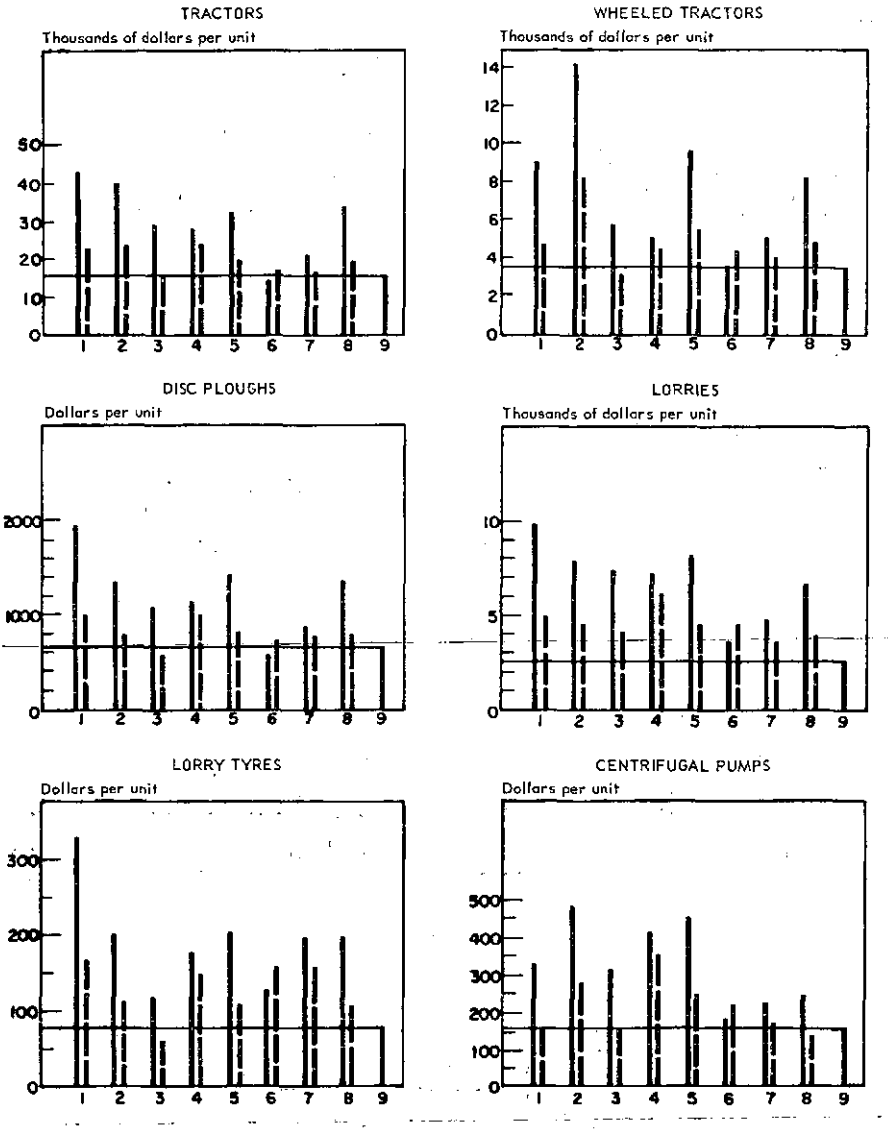


Figure XI *(continued)*

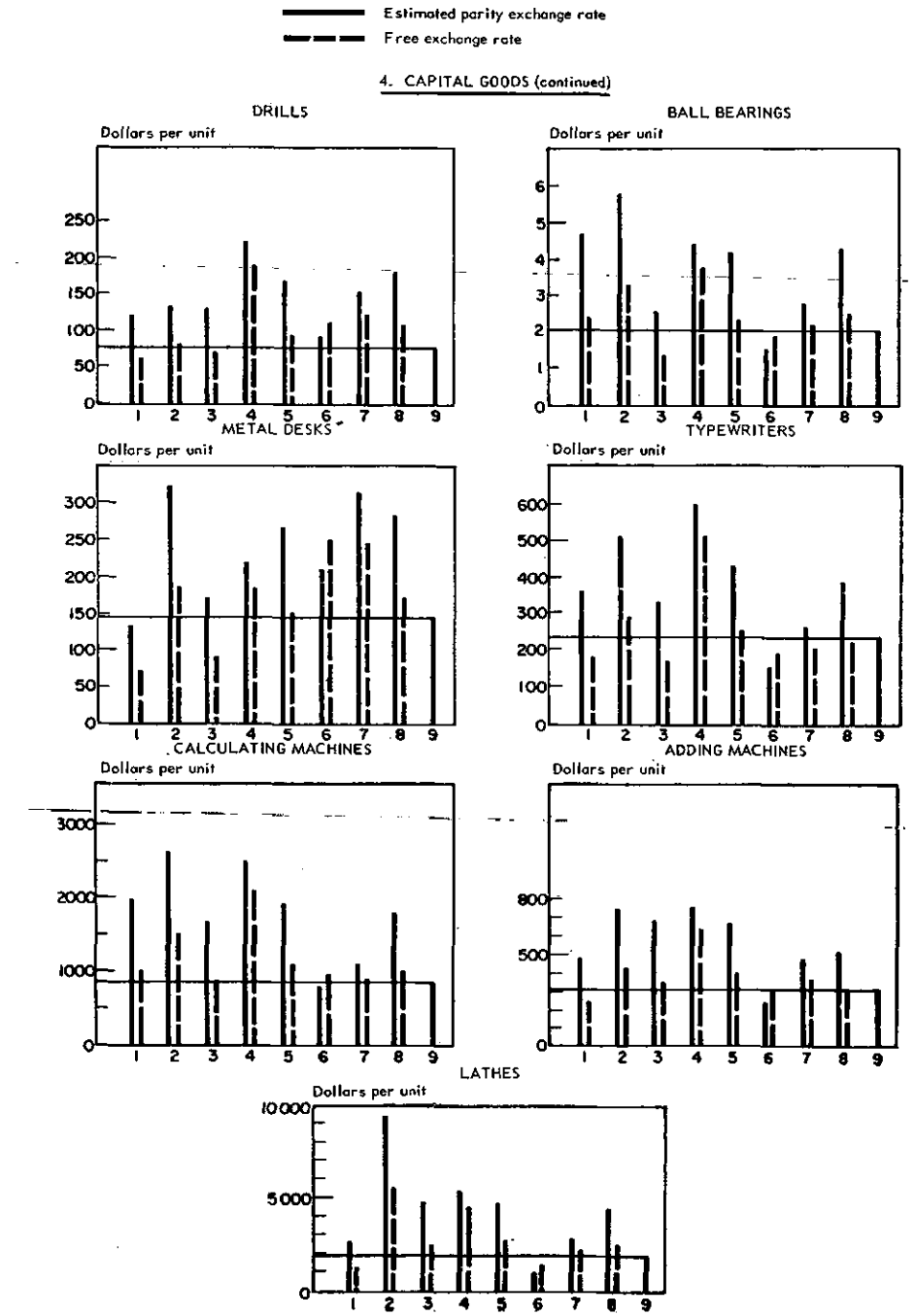
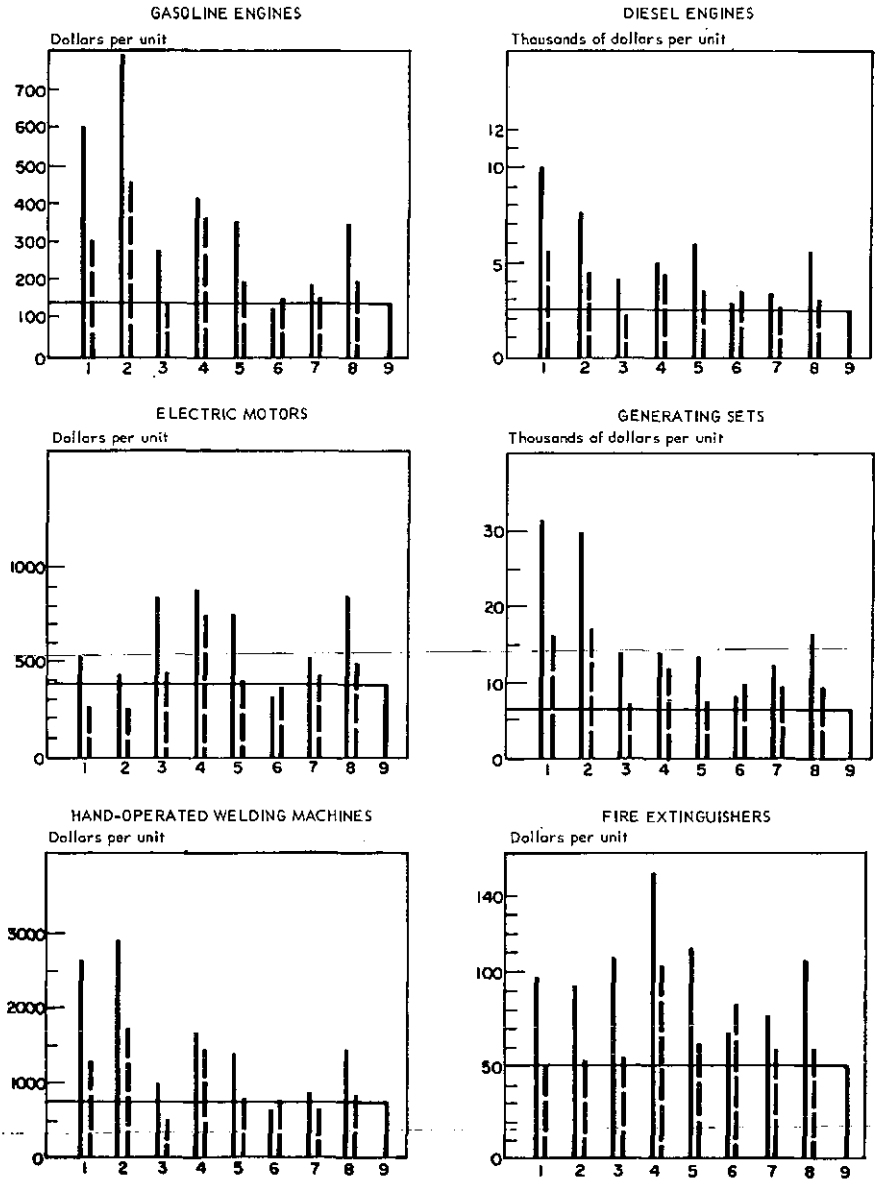


Figure XI *(continued)*

Estimated parity exchange rate
Free exchange rate

4. CAPITAL GOODS (continued)



or lower than, those paid on the United States market. As regards paints, however, all the regional prices are higher, the differences sometimes being very pronounced. While this product is produced locally on a very extensive scale, a high proportion of imported inputs are used.

Capital goods present widely varying situations, characterized as a rule — with the frequent exception of Venezuela — by far higher prices on the Latin American markets than in the United States. Since these goods are chiefly imported, such diversity is largely determined by the differences in tariff treatment. It is not superfluous to emphasize, however, that the domestic supply of these products has also been intensified, especially in those countries which have made most headway in the metal-transforming industries and in import substitution.

It might be as well to stress the nature and limitations of these data, in order to qualify the conclusions outlined and to draw attention to their inadequacy as a basis for broader interpretations. Their principal aim is merely to illustrate by means of certain orders of magnitude the well-known phenomenon of relatively high prices in Latin America for manufactured products taken as a whole. They cannot on their own indicate the causes, nor can the comparisons suggested be taken in too strict a sense. Thus, for example, the illustrations in figure X which reflect the internal structure of relative prices in each individual country are subject, as has been stated, to the reservation that they may be the result of particularly low prices for foodstuffs. The comparison shown in figure XI, for their part, are influenced not only by the unreliable estimate of parity exchange rates or the equally unreliable applicability of official rates of exchange, but also by possible discrepancies in the specifications of the individual products included, although in the basic survey pains were taken to make as homogeneous a classification as possible.

Even supposing that such factors failed to introduce any serious elements of distortion, it would not be right to infer from those comparisons any general conclusion concerning the efficiency or productivity of Latin American industry. As cautioned above, present research deals with prices at the consumer level, applying indiscriminately to imported and locally produced goods, and are therefore affected by many different factors in the way of factory production costs or the c.i.f. value of imports.

These remarks do not detract from the value of a systematic presentation of such data, from which at least some important findings may be derived. Whatever may be the determining factors, there is no denying that the prevailing situation in the region is characterized by high relative prices of manufactured products — in varying, but usually major proportions — and that this phenomenon cannot but affect the size of Latin America's market for this type of goods. With another price structure, or through a gradual change in this situation during the final stages of industrialization, the same proportion of income that is now earmarked for the purchase of manufactures would represent a far greater real demand than that assessed in the light of the existing price structure.

It is regrettable that in the past there seems to have been no such long-term trend, to judge from the variations in the different components of wholesale price indexes available for some of the Latin American countries. As can be seen in figure XII, though marked changes have taken place, they have been of a transitory character without seriously altering the relative price structure prevailing in the region.

The persistence of the problem, as deduced from those past series, underlines the need for further research on the matter, since so far there are not enough data available to carry the analysis to the stage of a thorough examination of its basic causes. There are many factors which help to explain the existence of high relative prices for individual products on the Latin American markets, including those directly influencing production costs and those determining the magnitude of the differences between factory costs and sales prices, and between the latter and the prices ultimately paid by the users. But none of these questions have been studied methodically. Therefore, by way of supplementing the previous considerations, one or two generalizations will be useful on this fundamental aspect of regional industrialization, nearly all formulated in purely qualitative terms and backed by few accurate quantitative data.

This applies to production costs. It is a generally accepted fact that they are relatively high owing to a number of factors such as: insufficient scale of production, as determined by the narrow domestic markets which prevent full advantage from being taken of the economies of scale afforded by modern technology with a view to higher production levels in each individual establishment; under-utilization of available production capacity, for the same reasons, which is reflected in an excessive incidence of capital charges, further intensified by the shortage and high cost of financial resources; the limited number of vertically integrated industries, which is the cause of successive additional charges in the distribution and marketing of raw materials and intermediate products; the high prices of basic raw materials, either because they are imported or because they are locally produced items of poor quality or are the object of price incentives; low manpower productivity, influenced by the unsatisfactory equipment available and by inadequate training facilities, which reduce or cancel out the benefits which might otherwise have stemmed from the low nominal wage levels; the shortage of technical personnel and unsatisfactory methods for the supervision and organization of production; limited specialization, linked also to the size of the market, which culminates in the simultaneous production of too wide a range of certain manufactures. A number of institutional factors also have an adverse effect, including, for instance, the provisions relating to the taxes levied on the purchase or transfer of industrial inputs, social security financing, regulations concerning the number of workers to be employed in certain operations or work in additional shifts, other similar regulations, etc.

It is also accepted as an established fact that there is not always a close enough relationship between factory production costs and sales prices. The uncompetitive structure of industry — protected from foreign competition by high tariffs — and its frequent development under a monopoly or quasi-monopoly system, create the conditions for a policy entailing high profit margins, the rates of return being largely independent of production costs. Wherever a large number of enterprises exists, often with widely differing productivity levels, open competition tends to give way to a form of co-existence through various ways of tacitly distributing the market at prices compatible with the position of the least productive concerns.

To the foregoing considerations are added the deficiencies and shortcomings of the existing distribution and marketing mechanisms, a process which is sometimes highly concentrated at the wholesale stage and is later characterized by too many intermediaries. The ultimate result is high prices for manufactured products at the consumer level, which is only partly reflected in higher earnings for industry and, over

Figure XII

TRENDS OF PRICE INDEX OF INDUSTRIAL PRODUCTS AND OTHER GOODS AND SERVICES IN CERTAIN LATIN AMERICAN COUNTRIES

(1958 = 100)

Semi-logarithmic scale

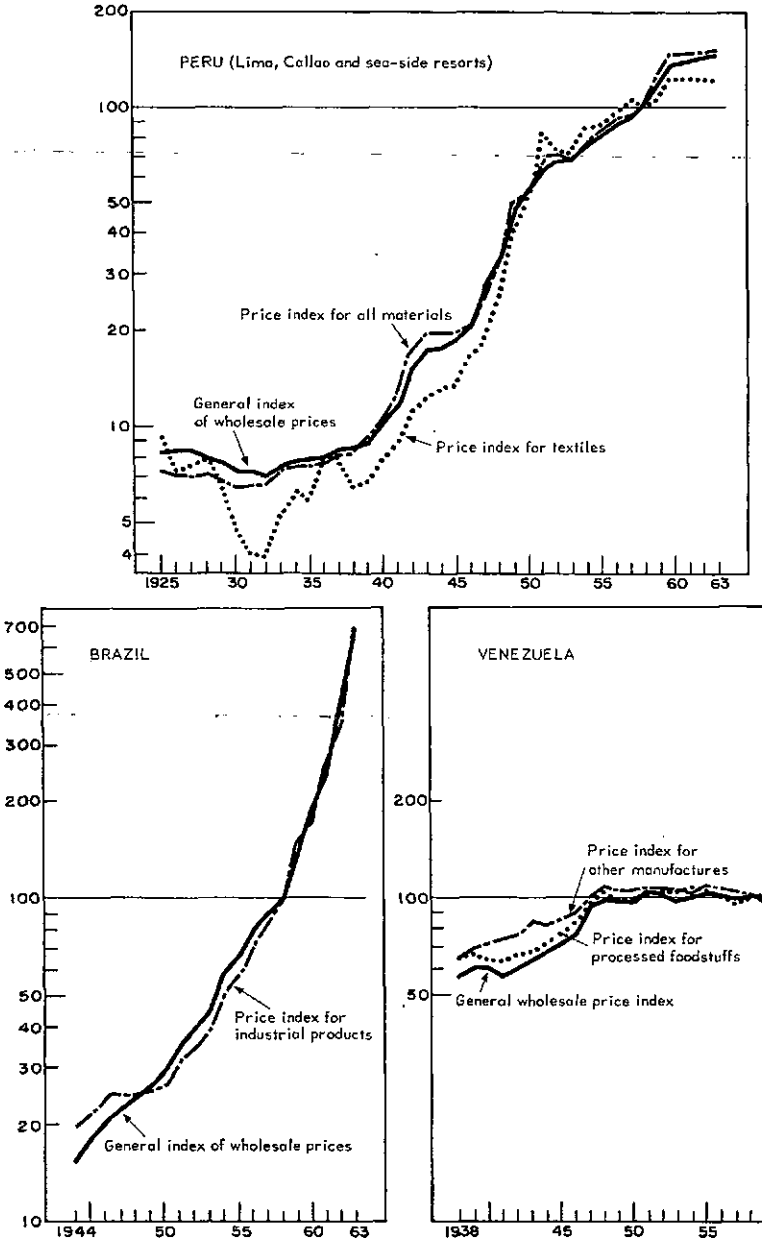
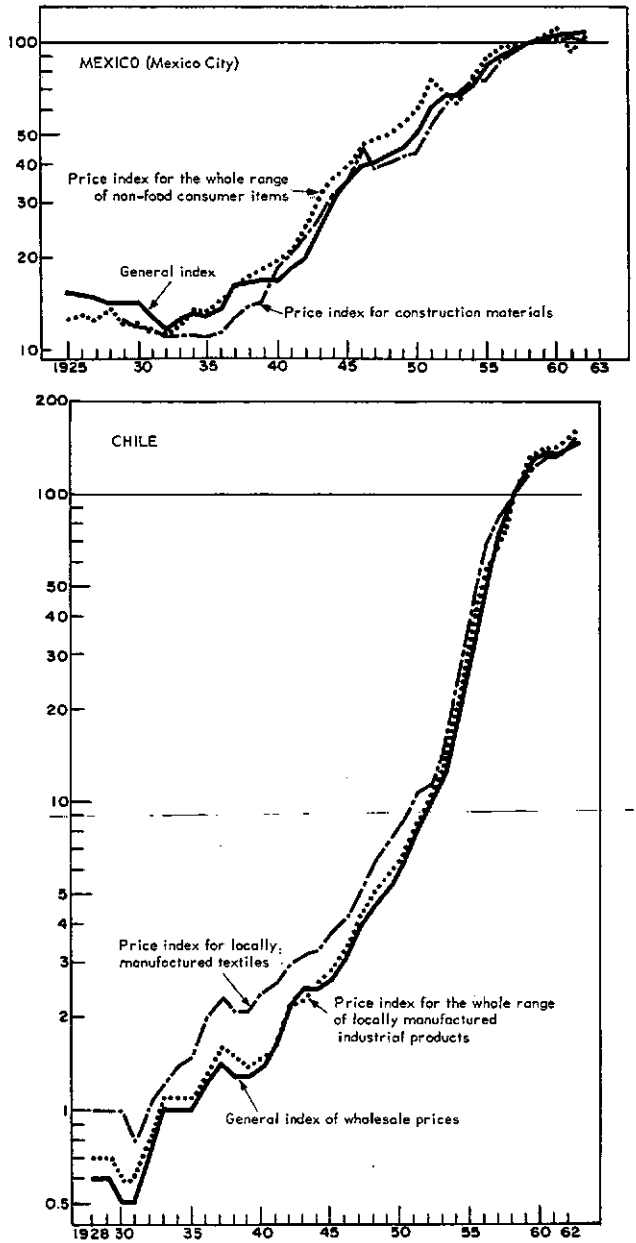


Figure XII *(continued)*



the long term, becomes a stumbling block to the solution of one of the basic problems which in the final analysis, is a determining factor in this cumulative process of rising costs, *i.e.* the substantial broadening of the market for manufactures.

This completes the qualitative generalizations concerning a problem which no doubt is even more complex than this, and is governed by still more disparate causes. As with all generalizations, they are not equally applicable to all countries of the region, nor to all sectors of manufacturing industry. There are many sectors in which economies of scale are not a significant factor, not even with domestic markets their present size; others have access to local supplies of basic raw materials which are also exported, and here enjoy an obvious advantage over world markets.

It is not only necessary, therefore, to qualify those considerations for each specific situation, but also to establish some order of importance within the series of factors indicated, and the degree to which they actually influence the high prices of Latin America's industrial output. It is precisely in this connexion that the aforementioned lack of sufficiently detailed quantitative research is most felt.

A previous ECLA study[66] contained some comments which might usefully be repeated here. They were based on a publication in which a comparison was made between the production costs of a number of United States enterprises operating simultaneously in the United States and, through affiliated companies, in the Latin American countries.[67] Such a comparison is most useful in studying certain basic aspects of cost structure, inasmuch as it assumes at least some degree of uniformity as regards absorption of technology, organization and management methods, etc., which constitute additional adverse factors in Latin American concerns as such.

Table 29 shows the results of this research as regards total unit costs and their components for somewhere between 54 and 66 products. As can be seen, Latin America's total unit costs are higher than those in the United States for 58 per cent of the products considered, equal for 11 per cent and lower for 31 per cent. But within those general levels the differences are even more significant: in only 3 per cent of the cases reviewed are Latin America's costs more than 45 per cent lower than United States costs, whereas they are 45 per cent higher in 24 per cent of the cases considered.

Manufacturing costs, as defined in narrower terms, are higher in Latin America than in the United States in 67 per cent of the instances considered and lower in only 26 per cent. These discrepancies are the result of very disparate ratios in their three main components: raw materials, labour and manufacturing overhead. As regards raw materials, Latin America appears at a distinct disadvantage, with higher costs than in the United States for 81 per cent of the products concerned, over half registering differences of more than 45 per cent. Labour costs, on the other hand, show an inverse ratio, since they are lower in Latin America in 68 per cent of the cases considered, and more than 45 per cent lower for over half the total number of products.

The components of manufacturing costs grouped under the head of "manufacturing overhead", which includes depreciation, are also lower in the United States, perhaps because of the importance attaching to raw materials and "indirect" intermediate products in that grouping. Since this components is of a somewhat heterogeneous nature — it includes raw materials, labour, depreciation, etc. — it is under-

---

[66] *See Problemas y perspectivas del desarrollo industrial latinoamericano* (E/CN.12/664).

[67] The National Industrial Conference Board, New York, *Costs and Competition: American Experience Abroad 1961.*

Table 29

LATIN AMERICA AND THE UNITED STATES: COMPARISON BETWEEN TOTAL UNIT COSTS AND THEIR COMPONENTS

(Percentages of the total number of cases considered)

	Total unit cost	*Manufacturing costs*				*Sales and distribution costs*	*Administrative overhead*
		Raw materials	*Labour*	*Manufacturing overhead*	*Sub-total*		
I. *Lower costs than in the United States*	*31*	*14*	*68*	*35*	*26*	*56*	*30*
a) Lower than 55%	3	...	51	17	3	33	11
b) Between 55 and 84%	18	8	14	14	12	19	11
c) Between 85 and 94%	10	6	3	3	11	4	7
II. *The same costs as in the United States*	*11*	*5*	*5*	*6*	*8*	*9*	*6*
III. *Higher costs than in the United States*	*58*	*81*	*27*	*59*	*67*	*35*	*65*
a) Between 106 and 115%	8	8	2	10	11	4	4
b) Between 116 and 145%	26	29	11	14	26	15	6
c) Over 145%	24	44	14	35	30	17	56
Total	*100*	*100*	*100*	*100*	*100*	*100*	*100*
Number of products . .	62	63	63	63	66	54	54

Source: National Industrial Conference Board, New York, *Costs and Competition: American Experience Abroad*, Appendix, table 2, p. 210.

standable that its behaviour pattern does not differ much from that of total unit cost. To sum up, the sub-total of manufacturing costs is frankly favourable to the United States and the position barely alters in favour of Latin American costs if the remaining components — sales and distribution costs, and administrative overheads — are added owing to fairly sizeable advantages in sales and distribution costs.

These differences in costs for the various components also entail appreciable differences in Latin America's cost structure as compared with that of the United States (*see* table 30). At least two interesting conclusions may be drawn from it. On the one hand, the major disadvantage for Latin America — the cost of raw materials — affects the principal component of manufacturing costs. Thus, raw materials represent practically half the total cost in the region, whereas their incidence in United States concerns is lower than 40 per cent; on the other hand, the regional advantages deriving from the lower nominal wage levels affect — at least in the type of industries covered by this research — less important cost components. Secondly, it is interesting to note that, despite the many disparities among the Latin American countries, the conclusions drawn seem to be applicable in general to both the region as a whole and to each individual country.

The results of the comparisons under analysis may be influenced by the nature of the industries to which they relate, which, as pointed out, are confined to subsidiaries of United States firms. Hence the desirability of citing, in addition, others of a broader character, based on census data, even if they are not entirely homogeneous as regards coverage and period of reference.[68] The results of such a comparison are presented in table 31, and show the differences in the structure of what may be described as the "part cost" of production, excluding depreciation charges, manufacturing overheads (other than fuel), administrative overheads (not including wages and salaries) and sales and distribution costs.

Although a correlation between the two types of comparison is difficult to establish, in a qualitative sense their results seem to coincide fully. The fact that the comparison in table 31 is extended to the manufacturing sector as a whole tends to enhance, in the case of Latin American industry, the relative importance of raw materials, as a result of the inclusion of a number of activities where the value added per unit of production is lower. Hence the differences between the two regions in respect of cost structures are accentuated, the bigger disparities being unfavourable to Latin America as regards the incidence of raw material costs, and favourable with respect to the incidence of remunerations. In other words, this time the comparison is influenced not only by the direct cost ratios of the components referred to, but also by the manufacturing sector's own structure, a circumstance which is likewise reflected in a higher degree of differentiation among the Latin American countries themselves.

Latin America's disadvantages are aggravated if other important components of the ex-factory sales price are taken into account, particularly capital charges and gross profit levels. Although the present type of analysis does not afford specific indications of the incidence of these other factors, it may at least shed some indirect light on their relative weight in the prices of manufactured goods in Latin America as compared with the United States. If the ratios between the part cost and the ex-factory sales

---

[68] To this end, use will be made of the industrial surveys or censuses relating to the following years: 1954 for Argentina, 1957 for Bolivia, 1958 for Brazil, 1957 for Chile, 1961 for Colombia, 1955 for Ecuador, 1956 for Mexico, 1959 for Peru and 1954 for the United States.

Table 30

LATIN AMERICA AND THE UNITED STATES: COMPARATIVE STRUCTURE OF PRODUCTION COSTS IN MANUFACTURING INDUSTRY [a]

(Percentages)

Country or region	*Manufacturing costs*				*Sales distribution costs*	*Administrative overhead*	*Grand total*	*Number of products considered*
	Raw materials	*Labour*	*Manufacturing overhead*	*Sub-total*				
Brazil	50	11	15	76	12	12	100	20
United States	42	15	19	75	16	9	100	
Argentina	49	9	18	76	12	12	100	10
United States	35	14	20	69	21	10	100	
Mexico	55	8	13	76	17	7	100	14
United States	40	12	16	68	25	6	100	
Other Latin American countries	38	11	25	74	18	8	100	11
United States	32	16	21	69	25	6	100	
Total for Latin America	49	10	17	76	15	10	100	55
Total for United States	39	14	18	71	21	8	100	

Source: Costs and Competition: American Experience Abroad, op. cit., Appendix, table 3, p. 213.

[a] Non-weighted averages of data by products.

Table 31

BREAK-DOWN OF PART COST OF PRODUCTION IN SELECTED LATIN AMERICAN COUNTRIES AND IN THE UNITED STATES

(Percentages)

Country	*Remunerations*		*Raw materials*	*Electric power and fuels*	*Part cost of production*
	Wages	*Salaries*[a]			
Argentina	20.6	5.4	70.6	3.4	100
Bolivia	16.7	6.0	70.9	6.4	100
Brazil	14.7	5.6	75.7	4.0	100
Chile	12.5	5.7	76.8	5.0	100
Colombia	10.5	4.4	82.7	2.4	100
Ecuador	16.5	6.4	72.8	4.3	100
Mexico	12.8	8.8	75.2	3.2	100
Peru	14.3	8.0	72.9	4.8	100
United States	24.4	10.1	62.8	2.7	100

Source: Industrial surveys and censuses taken in the countries concerned.

[a] Salaries of senior and administrative staff and of all personnel in general, except manual workers.

price are calculated on the basis of the same data already seen in table 31, the following results are obtained:

	Percentages
United States	81
Argentina	68
Bolivia	75
Brazil	66
Chile	70
Colombia	70
Ecuador	72
Mexico	68
Peru	66

In other words, whereas in United States industry capital charges, gross profits and other similar factors — including in some cases the indirect taxes payable by the producer — represent a surcharge on the ex-factory sales price of under 25 per cent in relation to the part cost of production, in manufacturing industry in Latin America the corresponding surcharge is at least about 40 per cent.

In all likelihood, a similar comparison would also show wider margins of difference in Latin America between ex-factory sales prices and prices paid by the final consumer, owing to the shortcomings already noted in the marketing process. No quantitative data are available, however, with which to substantiate such a conclusion more precisely.

Table 32

VALUE ADDED PER UNIT OF WAGES (WAGE PRODUCTIVITY) IN SELECTED LATIN AMERICAN COUNTRIES AND IN THE UNITED STATES

(Dollars)

Country	*Annual wage per worker*	*Annual value added per worker*	*Value added per unit wages*
Argentina (1954)	734	2 743	3.74
Chile (1957)	436	2 384	5.47
Colombia (1961) [a] . . .	645	2 471	3.83
Mexico (1956)	339	1 382	4.08
Peru (1959)	421	2 144	5.09
United States (1954) . .	3 604	9 449	2.62

Source: Basic data from industrial censuses and surveys.

Note: National currencies were converted into dollars on the basis of the following exchange rates (number of national currency units to the dollars), obtained from *Financial Statistics*: Argentina, 13.98; Chile, 0.69; Colombia, 8.62; Mexico, 12.49; Peru, 27.70.

[a] Wages and salaries, and value added per employed person.

Furthermore, the cumulative effect of these and similar unfavourable factors largely cancels out, in the event, the cost and price advantages that Latin American industry might derive from the nominal wage levels prevailing in the region, which are lower than those current in the United States. A somewhat rough evaluation of this factor can be seen in table 32, which presents a comparison of annual wages and value added per worker employed, and the ratio between these two concepts, in the United States and in selected Latin American countries.

The disparities, in absolute terms, between nominal wages per worker shown in table 32 (for example, levels less than one-tenth and a little under one-fifth of the United States average are recorded for Mexico and Argentina, respectively) are mainly attributable to the element of arbitrariness involved in the adoption of foreign trade exchange rates for conversion operations of this kind, but at all events the wages in question are indubitably far lower in Latin America. On the other hand, the ratios between value added and wages, which are not affected by currency conversions, are a great deal closer (varying from 1 to 1.5, and in only one case more than double). In other words, the advantages deriving from much lower nominal wages are considerably undermined when the amount of value added per unit of wages, in existing operational conditions, is taken into account.

Studies on specific industrial sectors offer concrete examples which give a more precise idea of how far inferior labour productivity may be reflected, even at very much lower nominal wage levels, in higher labour costs per unit of final product.

It has been estimated, for example, that in the textile industry the wages paid in Brazil and Chile (in terms of dollars per hour) are slightly lower than in Japan's manufacturing sector and barely one-fifth as high as in United States industry (0.31,

0.35, 0.36 and 1.68 dollars, respectively).[69] On the other hand, it takes between 6 and 8 times longer (in terms of man/hours) to produce 100 yards of cotton fabric (weighing 106 grammes per yard, and from 98 to 100 centimetres wide) in Brazil and Chile than in the United States, and between 3 and 4 times longer than in Japan. As a result of these differences in productivity, the cost of the labour input for this unit of fabric works out at 5.16 dollars in Brazil and 4.80 dollars in Chile, as against 1.72 dollars in Japan and 3.92 dollars in the United States. In evaluating the implications of this statement it should be borne in mind that in the same research the following conclusion was reached: although 80 per cent of the equipment used in Brazil's cotton textile industry could be regarded as out-of-date, only one-third of what was defined as the over-all operational deficiency could be imputed to the high degree of obsolescence of the machinery, while the other two-thirds were attributable to factors connected with internal organization, including the lack of skilled labour.

Despite the general character of the foregoing comments on the high costs of manufacturing production in Latin America and some of the factors that determine them, they at least serve to underline the complexity of the problem and the innumerable aspects that would have to be covered by a comprehensive and systematic policy aimed at progressively influencing the factors in question. Specific piecemeal policies —for example, the modernization of equipment in certain sectors, the promotion of more rational management or the training of manpower — may undoubtedly prove fruitful. But the problem is deeper and broader, since it also depends upon the transfers of inefficiency that take place through the structural relations between the various branches of industry and between the whole manufacturing sector and other economic activities (such as those supplying it with basic raw materials and those affecting the distribution and marketing of manufactured goods and of the inputs required for making them), as well as upon institutional factors and the competitive conditions in which industry develops.

---

[69] *See The textile industry in Latin America: I. Chile,* and *II. Brazil, op. cit.*

Chapter III

INDUSTRIALIZATION POLICY

1. Measures and instruments of industrial policy

The past evolution and present features of Latin American industry stem from a number of structural factors that have affected its rate and pattern of development, and have helped to determine the different ways in which the manufacturing sector has evolved in the various Latin American countries. However, regardless of the effect of these factors, it is obvious that development has also been considerably influenced by all the different actions taken by public bodies, either as a consequence of provisions and measures deliberately adopted to facilitate and guide the industrialization process, or by steps taken with other aims. That is, many of the factors that have governed the patterns of development of manufacturing are related to the degree of consistency, continuity and efficiency of what might be termed industrial policy.

The expression "industrial policy" summons up a picture of a series of properly co-ordinated measures and instruments used in pursuit of certain clearly defined aims. Perhaps it should recognized from the outset that this has not been the general rule in Latin America. Although a series of provisions and a number of agencies have existed that have undoubtedly affected the pace and patterns of industrialization, yet their effect has been haphazard, or incidental to other aims, or has resulted from the expected outcome of the action taken. This does not mean that there have not also been specific agencies concerned with industrial development requirements, or that no special provisions have been adopted to stimulate and guide manufacturing activities. On the contrary, much has been done on these lines, as will be made clear in later pages. However, it must be recognized that the action and efficiency of these agencies and measures have been governed by other instruments and provisions of a more general nature. Moreover, the activities resulting from specific industrialization measures have not always been governed by the same aims and principles.

Thus it is not easy to identify, among this body of actions, those that may be considered as constituting an industrial policy properly speaking, which can be used as a yardstick to measure the scope and effectiveness of the quantitative results.

More broadly speaking, economic policy as a whole can be included among the relevant factors, since a sector such as manufacturing can hardly fail to feel its effects. Since such a factor as economic policy in general cannot be the subject of a study of the nature undertaken here, it must be dealt with in more restricted terms, without losing sight of the fact that this imposes certain limitations.

The first step is to define certain functions that have been carried out, and certain types of aims that have been put forward. On a somewhat arbitrary basis, it might be considered, for example, that industrial policy has consisted of four kinds of action, measures and aims: protection of domestic industry from foreign competition; general measures for the control and encouragement of industry; direct State promotion of new industrial lines, or of the expansion of existing lines; and industrial technical assistance and other steps aimed at facilitating the assimilation of technology.

The present section analyses each of these types of action in turn, and a prior warning is in order about the problems and limitations of such an analysis. In the first place, it deals with functions and aims that cannot always be clearly distinguished, and which are often grouped together as the responsibility of a single body or department. Secondly, it leaves out of account important elements of general economic policy that may strongly influence industrial development, and even excludes certain actions of public bodies directly concerned with industry. This applies, for example, to State action aimed at extending or improving basic social capital.

From another standpoint, it must be borne in mind that many of the provisions and measures of industrial policy that are included in the categories listed have the same basic aim, to facilitate the financing of industrial expansion. In view of this feature, and its intrinsic importance, the subject of financing is dealt with separately in the second section of the present chapter, and the third section is reserved for the consideration of the institutional form taken by industrial policy, that is, the type of agencies responsible for its formulation, application and control, and how they are related and co-ordinated.

It is hoped that the foregoing general comments may help to place in proper perspective the subjects that are dealt with below.

(a) Protecting industry from foreign competition

It is hardly necessary to refer to the reasons why some degree of protection from foreign competition has been essential in the past, and still is, to permit in the Latin American economies, as in other under-developed areas, the emergence of industrial activities that can build up into a manufacturing sector in line with general development needs. Similarly, it is generally recognized that industry in Latin America has developed in general in an atmosphere free of competition from imported manufactures, as a result either of deliberate encouragement of the domestic industry, or of steps taken for other reasons.

Thus it appears less important to evaluate whether or not the degree of protection has been sufficient, than to study certain features of the measures and machinery of protection, and their form of application, in order to assess their influence on certain characteristics of development and on the present structure of Latin American industry.

This may well be regarded as a typical example of how the lines of action of certain basic instruments of industrial policy are determined by considerations and aims extraneous to industry itself, although they may well have a favourable or unfavourable effect on industry. In fact, on the long-term view the protectionist policy followed by most Latin American countries has resulted from action which, either in addition to or instead of protectionism as such, have had other purposes, such as to increase public revenue or reduce balance-of-payments deficits. According to the predominant aim at each stage specific instruments have been emphasized, while others used pre-

viously were neglected or played down. Although such changes did not deprive industry of the stimulus of a rather wide-based protection, they involved certain handicaps, while the very fact that changes were likely to take place did not encourage long-term decisions or the adoption of selective criteria that could help to stress protection for certain branches in a way that would promote a more rational structure of industry. In fact a brief glance at the evolution of industry over the past forty years reveals a series of stages at which the various instruments of protection and control have alternated or combined, right up to the present day.[1]

During the first stage, which may be regarded as ending early in the thirties, the Latin American countries resorted mainly to customs tariffs, and the principal aim was to increase or maintain the level of government revenue, although in some countries tariffs were also used to stimulate certain types of manufacturing.

The crisis resulting from the Depression in the thirties made it necessary to adopt a series of emergency measures to deal with the violent disruption of the balance of payments. Exchange controls, and subsequently quantitative restrictions and multiple exchange rates, were used in the main, partly because they were flexible and more easily adaptible to the conditions of bilateral negotiation which prevailed during the period.

The restriction of external supplies during the Second World War encouraged the introduction of many new industrial lines, often on very shaky foundations and with little regard for national principles and economicity. Thus in the immediate post-war years the Latin American countries had to resort to frankly protectionist measures in order to shield these industries from renewed foreign competition. The imbalances between import requirements and capacity to import appeared again, in an aggravated form, and consequently Governments resorted not only to the same instruments of direct control that had been so useful in the preceding period, but also to various other measures, usually in the form of composite systems, including in order of importance, multiple exchange rates, import permits, auctioning of foreign exchange, and additional duties and charges.

In more recent years, especially during the second half of the fifties, the Latin American countries began to simplify their systems, whose complexity had become such as to make them ineffective. Thus by the end of the fifties the prevailing rule was a simple exchange control, or none, a single rate of exchange or a limited number, and restrictions in the form of moderate customs duties, or additional duties or charges of equivalent effect, and in some cases the requirement of a prior deposit on imports.

More recently a new factor conducing to substantial changes in tariff systems and other instruments of foreign trade policy has arisen, in the form of the aim of regional integration.

Within this long-term development the effect of the various aims pursued has varied, and even now is in fact very different from one country to another.

Firstly, this applies to the use of the customs tariff as a means of obtaining government revenue. In one group of Latin American countries there has been a considerable decline in the importance of tariffs from this standpoint. In Mexico, for example,

---

[1] For a more detailed description of the evolution of the instruments of import control and other points dealt with in the present section, see Santiago Macario, "Protectionism and industrialization in Latin America", *Economic Bulletin for Latin America*, Vol. IX, No. 1 (1964), pp. 61 *et seq.*

where import duties represented 34 per cent of government revenue in 1930, the proportion fell to 18 per cent in 1940, 14 per cent in 1950 and less than 13 per cent in 1963. In Argentina, the corresponding figures were an average of 22.5 per cent in 1935–39, 9.9 per cent in 1940–44, 6.2 per cent in 1945–49 and 3 per cent in 1955, although the figure rose to 25 per cent in 1960–61 as a result of other factors. In other countries, such as Chile and Colombia, this source provides only about 20 per cent of government revenue. In the second group, however, which includes most of the Latin American countries that are at a lower level of industrial development, the proportion of all tax revenue attributable to import duties is much higher: 50 per cent or over in Costa Rica, Nicaragua and Panama, about 40 per cent or over in El Salvador and Guatemala, and slightly over 30 per cent in Ecuador.

This difference does not always relate to the levels of customs charges on the unit value of imports, but rather to the development of other domestic sources of government revenue. Even so, it is still significant from the standpoint of the difference between the two groups of countries as regards the possibility of reducing the emphasis on revenue production as a criterion governing decisions in the tariff field.

The aim of reducing balance-of-payments deficits, although persisting over the long-term, has varied considerably in importance, becoming paramount in some periods and much less significant in others. These fluctuations made changes in the tariff levels less likely, since such changes usually require legislation measures that take a long time to enact. Hence the desire to improve the balance of payments has encouraged recourse to such instruments as exchange policy measures, quantitative restrictions on imports, or the establishment of other charges of equivalent effect to customs duties. Nevertheless, successive revisions of foreign trade policy led in many cases to a situation where the levels of customs tariffs proper also have the purpose of reducing the pressure of the demand for imports, in view of an inadequate capacity to import.

In brief, what might be regarded as protectionist policy is really the result of a mixture of measures and instruments that are governed (in a form that varies according to the country and the period in question) both by the strictly protectionist aim and by the need to obtain more revenue or to improve the balance of payments. In any case, whatever the real influence of the protectionist aim may have been, the general climate created resulted in a high degree of protection for domestic industry. The high average level reflects great differences from country to country, but in a way that does not indicate any correlation with the level of industrial development.

In fact it is estimated[2] that in a group of eleven Latin American countries the arithmetic averages of the level of customs tariffs and other charges of equivalent effect on the c.i.f. value of imports are as follows: over 90 per cent in one country (Argentina), about 50 per cent in three (Ecuador, Paraguay and Venezuela), and 40 per cent in another three (Brazil, Colombia and Chile), whereas in the other four countries it ranged from 18 per cent (Mexico) to 30 per cent (Bolivia), with levels between those two extremes for Peru and Uruguay. These figures not only reflect general levels that are relatively high compared with those in the industrial economies (for example, between 10 and 20 per cent in the Federal Republic of Germany, Canada, the United States, France, Norway and the United Kindgom, and less than 10 per cent in Den-

---

[2] *See* "Customs duties and other import charges and restrictions in Latin American countries: average levels of incidence", *Multilateral Economic Co-operation in Latin America* (United Nations publication, Sales No.: 62.II.G.3), Vol. I, pp. 106–123.

mark and Sweden), but in some cases are only part of the real protection applied, since they do not include prior deposits on imports, import permits and other forms of quantitative restriction. Furthermore, since the protectionist aim is not always the principal governing factor, the relative levels in the various countries are not directly related to the level of industrialization, because of the influence of the considerations of revenue and balance of payments referred to above.

Consequently it must again be concluded that Latin American industry as a whole has relied on tariff protection at high and even excessive levels. This description would be incomplete without some additional comments on tariff structure, which are essential from two standpoints. In the first place, the real degree of protection is not determined only by the general tariff level, but also by the differences in the rates applied to particular products and those applying to intermediate imported goods needed for the production process;[3] and secondly, it is in fact the tariff structure that allows the tariff instrument not only to act as a general stimulus, but also to affect the direction taken by industrial development.

With respect to the first point, the consideration of criteria extraneous to strict protectionism leads in some cases to situations that must be regarded as anomalous. Thus, for example, in Venezuela the average rate applied to raw materials is higher than that for imports as a whole, and even higher than the average for the group of ordinary consumer goods. More generally speaking, if absolute levels are disregarded, and attention is concentrated on the ratio between the levels of tariffs on raw materials and the average tariffs as a whole, it can be seen that in a country such as France this ratio is less than half that for Argentina, Brazil and Chile, although these are the three Latin American countries in which the ratio is lowest. That is, at least a part of the protectionist effect of the Latin American tariffs is lost because there is not enough difference between the rates applied to raw materials and to the finished products containing them. This feature has other consequences that are referred to later in this section.

This treatment of raw materials is part of a tariff structure that can be described from a broader standpoint in terms of the distinction between other categories of products, mainly those for current consumption, durable consumer goods, intermediate goods and capital goods. Similarly, to some extent the respective rates should be linked with the level of industrialization in the various groups of Latin American countries, and in this respect three different situations are encountered. In the least industrialized countries the rates are higher for current consumer goods, while for other types of goods the rates are below the average; in the second group of countries the accent is on duties on certain intermediate products, while they are low for capital goods and at an intermediate level for consumer goods, whether durable or non-durable; in the third group, which includes the most industrialized Latin Amrican countries, the lowest rates are for current consumer goods, and those for other categories are higher. It should be noted that this classification is based on rather broad categories of goods, and in all cases the reference is to average levels of general application. Moreover there are a number of individual exceptions to this general picture.

Among the first group of countries, Bolivia and Ecuador reflect the pattern rather accurately, since the rates are lower than the average in all categories except current consumer goods and (for reasons other than protectionism) durable consumer goods.

[3] For a detailed account of this concept of net protection, see Santiago Macario, *op. cit.*

The same is true of Paraguay, although the differences between categories is much less. The second group includes Chile, Colombia, Peru and Uruguay, although in Uruguay the rates for certain types of consumer goods, such as food products, tobacco, and chemical and pharmaceutical products, are much lower than the average, and the rates for many intermediate and capital goods are much higher. The third group includes Argentina and Brazil, which both have lower duties on current consumer goods, although the rates are still above the average, and higher rates on capital goods. Mexico is a case apart, since although it belongs to the most industrialized group, there is nevertheless a higher rate of duty for current consumer goods. However, it also has the lowest general level of tariff rates, and consequently the main protectionist function is performed by other instruments such as import permits.

If, in addition to this picture of the existing situation, it can be established that at earlier periods the tariff structure of the countries that are now the most industrialized were similar to those that are further back on the path to industrialization, it can be concluded that the use of the tariff instrument broadly reflects a fairly well-defined model of industrial development. There will be a series of successive stages in line with this model, in which the expansion of the industries producing non-durable consumer goods will follow the expansion of other industries, beginning with the manufacture of certain intermediate products, and going on to the production of durable consumer goods and capital goods, in line with the requirements of capital and assimilation of technology usually associated with these industrial categories. This has been the case in the general development of Latin American industry, and these, too, have been more or less the stages the countries have passed through in the process of import substitution, although certain important exceptions must be recognized. Thus from this standpoint it can be concluded that protectionist policy, as reflected in the tariff structure, has had a marked effect on the pattern of industrialization in Latin America.

Another question is how far the model adopted, or to which industrial policy had to adapt itself by the force of events, was the most desirable and rational in the light of the general features of the economies of the region. Certain doubts and criticisms have been expressed on this point.

One relates to the general discrimination in favour of current consumer goods in the tariff structure, over periods that differ from country to country. This preferential treatment is mainly a reflection of the importance attached to import substitution as an immediate requirement of industrialization, which involves a minimum of difficulties in the way of technical and capital needs, although with considerable sacrifice of productive efficiency and a rational industrial base. The result was an extensive rather than intensive type of growth (referred to earlier in this study), although an intensive growth would have encouraged increasing specialization, as a result of a more critical selection of alternative forms of industrial development based on long-term criteria.

For similar reasons industry was directed mainly towards production lines related to the demand for final consumer goods, even though only the final processing stages were covered. Thus market considerations prevailed over those relating to the availability of particular resources, which could have provided the foundation for a more self-supporting type of industrialization that could even have been aimed at exports to other areas, greater specialization and intra-regional trade.

Moreover, as the changes in the tariff structure took place when general tariff levels were rather high, the result was to maintain absolute levels of protection on such a large scale that there was no pressure on the industrial branches already established

to effect a steady improvement in their productivity and efficiency. The consequences for costs and prices of manufactured goods produced in Latin America have already been examined in earlier sections.

These forms of protectionist policy had the effect, although such was not their deliberate aim, of creating conditions which made it difficult to combine import substitution with the introduction and expansion of a substantial flow of exports of manufactures. Here the question is not so much that the export aim has been neglected, as that it was impossible to work towards it within the particular patterns imposed by the protectionist policy.[4]

These effects also underlie the difficulties that are now hampering the industrial integration of the Latin American countries. The characteristics of the earlier extensive type of growth have led to the present situation, where the industries in each country cover practically the whole range of manufactures in a given category. The great differences that exist reflect the varying levels of industrial development now reached by the Latin American countries, and not specialization in particular lines within a given category based on the country's natural resources and other factors.

This point will be dealt with in greater detail in chapter IV of this study. Nevertheless, the general considerations set forth above need to be supplemented here by a final reference ot the relationship between the structure of the protectionist systems and the relative prices of manufactured products in Latin America.

When this subject was dealt with in chapter II, it was concluded that the relatively high prices of manufactures in relation to the general price level was the result of high production costs and other factors, which made themselves felt to different degrees in different countries and different types of manufactures. Figure XIII indicates that these factors include the level and structure of customs tariffs, which to some extent affect the domestic price ratios of at least some Latin American countries.

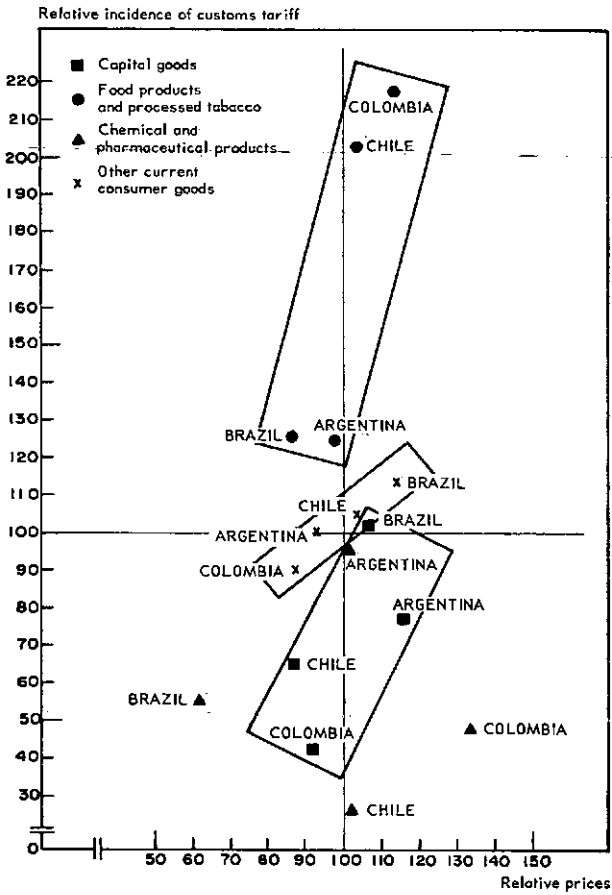
This figure deals with four Latin American countries — Argentina, Brazil, Chile and Colombia — which have high tariff charges and are at a relatively advanced stage of industrial development, and with four categories of manufactures — food products and tobacco, chemical and pharmaceutical products, other current consumer goods, and capital goods. The comparison refers, firstly, to the relative structure of the various tariffs, expressed for each country as the arithmetic mean of the tariffs for each category, as a percentage of the average for the average for all four categories; and secondly, to the price ratios within a single category deduced from the cost figures for the sample of products referred to in chapter II. The first comparison involves leaving out of account the actual level of the tariffs and considering only the internal structure for each country, that is, how far the burden is heavier for some categories of products than for others. The second comparison, on the other hand, involves ratios referred in each individual case to the group of four countries as a whole, in order to reflect how far the price of a particular category of industrial products is higher or lower than that of other categories.

Despite the undoubted shortcomings of such comparisons, they point to certain important conclusions. Firstly, it seems clear that for each category of manufactures

[4] For a detailed examination of this problem, mainly in terms of exchange policy, see Nicholas Kaldor, "Dual exchange rates and economic development", *Economic Bulletin for Latin America*, Vol. IX, No. 2 (1964), pp. 215–223.

Figure XIII

ARGENTINA, BRAZIL, COLOMBIA AND CHILE: RELATION BETWEEN PRICES AND CORRESPONDING LEVELS OF RELATIVE CUSTOMS TARIFF INCIDENCE FOR CERTAIN MANUFACTURED PRODUCTS



there is some degree of association between relative price and the tariff rate. The exception is chemical and pharmaceutical products, where the scattered nature of the results precludes recognition of any definite effect. For food preparations and tobacco products, the customs charges applied in Argentina and Brazil are, compared with Chile and Colombia, relatively lower than those for other categories and the same applies to the relative prices of these products in the two groups of countries. The reverse is true of capital goods, since in Chile and Colombia tariff levels and relative prices are both lower than in Argentina and Brazil. For the category "other current consumer goods" the figure shows clearly that the two variables increase in parallel form from the figures for Colombia to those of Argentina, Chile and Brazil, in that order.

In addition to the qualitative association, certain quantitative assessments can be made. For processed foods and tobacco products a considerable range in tariff levels is associated with a small range in relative prices, whereas the correlation between the two variables is more marked for capital goods, and still more so for other current consumer goods.

This correlation is not suprising for a group of four countries whose over-all import coefficient is fairly low, and where the contribution of imports to the supply of these categories of goods (except for capital goods) is very small compared with that of domestic production. In the absence of other factors — which may well exist, even though they are not explicitly included in the present analysis — it can be concluded that in many cases the prices of manufactures on the domestic market tend to fall into line with the levels of protection afforded by the tariff system, and are to some degree independent of the domestic production costs.

If that were so, it would mean that protectionist systems had been so applied as to bring about consequences that were both unforeseen and by no means desirable. This underlines yet again the need to make tariff systems more flexible, and to base the selection of tariff rates on practical criteria that will ensure that the tariff will act as an effective stimulus without entailing unfortunate side effects.

(b) General measures of industrial promotion

Industrial development may be considerably affected by the incidence and pattern of taxation, and by certain features of monetary and credit policy, both because of the relative effect on this sector in comparison with others, and because of the possible effect on the actual patterns of industrial expansion. Moreover, these are typical instruments of general economic policy, and consequently unless deliberate and systematic action is taken the effects on industry are likely to be residual because of concentration on other aims, as previously stated.

From the long-term standpoint, the body of general development provisions aimed at encouraging industrial growth through indirect incentives of this type have existed as a fairly widely used instruments of industrial policy in Latin America only since the end of the fifties. Before then there were legal provisions and systems of this type, but they were either not aimed at providing significant stimuli to manufacturing, or else were not sufficiently selective to act as such.

The actual process of making such instruments a major part of industrial policy has not been the same throughout the region. In some countries it has taken the form of specific industrial development legislation, unifying and expanding the relevant

legal provisions, but in most cases there has been a collection of miscellaneous provisions, either of a general nature, such as income-tax legislation, or relating specifically to the development of particular areas or branches of industry.

The failure thus far to formulate an exact body of criteria is made clear by the fact that not only are the relevant provisions dispersed among the various laws and ordinances of public bodies, but in recent years there has been a great lack of consistency: decree follows decree, amending what has gone before, and even in some cases changing major principles embodied in earlier provisions.

How far existing development provisions are rational and effective can best be appreciated in the light of three main aims. The first is to introduce certain discriminatory incentives by favouring industry over other sectors in such a way as to encourage the channelling of resources into manufacturing. Secondly, there should be preferential treatment of certain branches of industry so that the Government can not only encourage the sector as a whole, but can also influence its lines of development and internal structure. Thirdly, the incentives should also encourage a certain type of behaviour on the part of existing enterprises, facilitating expansion and raising efficiency and productivity.

Broadly speaking the first aim has been largely overlooked in applying these instruments of industrial policy. To make clearer the meaning of this conclusion, it should be explained that this section deals only with such very specific fields as tax provisions and measures for the general control of private credit, since the other means of industrial development (protectionist policy and direct State promotion, including public credit) are examined separately.

On the other hand, there is no doubt about the intention to apply selective stimuli to particular industries, which is reflected in definitions of industries described as "necessary", "of national importance", etc.

The list of the criteria that qualify an industry to be recognized as of this special character may vary in length, and is not always very clear; in fact these criteria, as specifically reflected in the legal provisions, relate to such conditions as whether or not the industry is engaged in import substitution, has a contribution to make in the form of manpower absorption, is located in particular zones, uses given proportions of domestic raw materials or, more recently, is able to export a part of its output.

It should also be noted that the deliberate intention is that such incentives should affect certain important decisions by enterprises, mainly concerning reinvestment of profits, replacement of fixed capital at the right time, and better use of available capital.

In terms of these objectives, incentives relation to credit (apart from action taken through the credit of public bodies) is usually confined to special authorizations to private banks to conduct more long-term operations, issue bonds and other industrial development securities, or establish special funds for industrial loans, in addition to provisions relating to differential rediscount rates. In other words, these are all incentives of a general nature, that do not lend themselves to application with any great degree of selectivity.

Selective application is easier in relation to tax incentives, since these are granted in on the basis of the nature of the activities they benefit. Existing provisions make this the criterion for the following: granting partial or total exemptions, of a temporary or permanent nature, from the main taxes; differentiating between distributed and

undistributed profits; establishing special systems of depreciation of assets; granting total or partial exemption from customs tariffs on imports of machinery or raw materials; reimbursing such charges paid on that part of output which is subsequently exported, etc.

The content and scope of this body of provisions can be better appreciated in the light of the following brief account of its features in certain Latin American countries.

The promotional system established in *Argentina* in 1944 by means of Act No. 14630, which remained in force until 1957, defined as being "in the national interest" industries that used only domestic raw materials and whose output supplied the domestic market, together with those producing essential items or items of importance to the national defence. The benefits granted to the protected industries consist mainly of additional customs duties on competitive foreign items and import quotas for such items, subsidies, preferential credit arrangements, and in some cases exemption of import duties on imports of the machinery or raw materials used, or both. The maximum period for which such benefits were granted was five years, but this could be extended by the Government. This system functioned effectively up to 1952, when the consideration of applications for these benefits came to a stop.

In 1959 Act No. 14781 abolished this system of protection and promotion, and replaced it by another giving the Government extensive powers to formulate a flexible industrial policy, stipulating only the aims and instruments to be used, in very broad terms. However, the result of the absence of any complete body of regulations was that the system outlined in the legislation was never established.

Between 1961 and 1962 various decrees provided for systems of sectoral promotion (for the steel, petrochemical and pulp industries) and regional promotion (for Patagonia and the north-east). In 1963 decree No. 5388 repealed the provisions of the earlier legislation and laid down new provisions, and in 1964 decree No. 3133 amended the 1963 decree, and was embodied in the regulations established by Act No. 14781, now in force.

The most recent decree establishes an optional system of benefits for enterprises or investors, consisting esesntially of the following: reduction of payment of taxes on interest, on a percentage scale declining over a period of ten years; exemption from the stamp tax on certain types of contracts; facilities for bringing the necessary foreign technical staff into the country; granting of special rates for gas, electricity, fuels and transport, and priority for machinery. There are also other special benefits for certain priority activities. The application of these incentives is confined to particular sectors, including steel, petrochemicals, pulp, mining (excluding petroleum, gas and certain ores), forestry and reforestation, fishing and whaling, etc., and construction. The promotional measures are applied in particular in Patagonia, the north-east and the north-west, and in those areas other activities are included.

In addition to the system of Federal promotion, there are also certain provincial development laws, based on exemption from provincial and municipal taxes and the granting of loans and subsidies.

In *Brazil* there are no general provisions for industrial development, apart from the tariff and exchange system. However, a number of laws have been enacted, both Federal and State, to promote specific branches of industry or to develop particular areas of the country, on the basis of total or partial exemption of taxes on income, sales and consignments, for periods that range up to ten years.

The criteria determining which activities are to benefit are not always the same although those relating to the use of domestic raw materials and to import substitution predominate.

An example that illustrates the government policy of incentives is the option available to juridical persons to use 50 per cent of their income tax in activities promoted by the Superintendencia de Desarrollo del Nordeste, or SUDENE (the agency for the development of the Nordeste region of Brazil). In the area covered the various States have enacted legislation granting tax incentives, on the basis of different criteria and periods, for the industries that are established in their territory. Furthermore, the Superintendencia da Moneda y Crédito (Currency and Credit Agency), responsible among other tasks for the fixing of differential rediscount rates, has established a more favourable rate for operations in the least economically developed regions, which include the Nordeste.

Thus industrial promotion takes the form of a collection of measures adopted by various agencies, based on principles that are not always the same.

Colombia is another country that has no specific industrial development legislation. The incentive measures are dispersed among different laws and decrees, but may be classified into three groups, according to whether they relate to taxes, currency and credit, or tariffs and exchange rates.

The tax measures include Act No. 81 of 1960 on income tax, which provides for the following: (*a*) an exemption from income tax for corporations that establish, in addition to the compulsory reserves, an extraordinary economic development reserve of up to 5 per cent per annum of their liquid trade profits for the purpose of increasing the production of raw materials and import substitution items. Natural persons may benefit from the same exemption if they are engaged in the specified activities provided that they invest in those activities the amount of the exemption; (*b*) an income tax exemption of up to 100 per cent for existing or new corporations whose sole purpose is the conducting of basic industries, provided that they use at least 60 per cent of domestic raw materials; (*c*) the same exemption is granted to corporations which have the permanent and exclusive aim of conducting industries related to the production of iron, and which use over 50 per cent of items produced by Acerías Paz del Río in their processing operations.

Other provisions relating to taxes that represent a stimulus to industrial activities provide for an exemption on liquid income from exports (excluding exports of unprocessed coffee, petroleum, bananas, raw hides and precious metals), and authorization for accelerated capital depreciation when machinery is used for a working day of over ten hours.

The monetary and credit measures include: (*a*) authorization of commercial banks (contained in decree No. 384 of 1950) to grant loans for periods of up to five years for economic development projects, at rates of interest lower than the standard rates, this being made possible through rediscounting by the Bank of Colombia; (*b*) authorization under decree No. 1564 of 1955 for commercial banks to issue industrial credit bonds for periods of up to ten years and at an annual interest of up to 7 per cent, together with an obligation imposed on commercial banks to buy industrial bonds for an amount of 5 per cent of their total callable capital; (*c*) the establishment in 1963 of a Private Investment Fund, under the Bank of Colombia, which provides credits for periods of up to ten years at rates of interest of between 8 and 10 per cent, and (*d*) the possibility of obtaining credits for feasibility studies for new industries.

In *Ecuador*, an Industrial Development Act (Ley de Fomento Industrial) was promulgated in 1957, and abrogated in 1962 by an emergency degree (No. 47) which amended the previous legislation and gave a new slant to State policy. In December 1964 the Industrial Development Act now in force was passed, and established new incentives for private enterprise.

The provisions of this law are specifically and exclusively applicable to transforming industries, whether new or already in existence, and the basic principles underlying it are the expansion of exports and import substitution. The benefits it confers comprise total exemption from various taxes and duties currently levied on the following items or activities: (*a*) statutes of corporations and amendments thereto, as well as the issue of securities or shares and transactions relating to these; (*b*) working capital; (*c*) exports of industrial products; and (*d*) imports of raw materials not produced in the country and used in the manufactures of good for export. Partial exemptions from duties and taxes on imports of new machinery and its spare parts are also established, and new industrial enterprises are granted a 20 per cent reduction of sales taxes, for a period of three years.

Apart from these general benefits, special income tax deductions are authorized for enterprises that reinvest profits or use credits to make new investment, and for those that allocate funds to research, training of personnel and contributions to technical education agencies.

Each of the categories in which the enterprises covered by the law are classified enjoys specific tax and tariff concessions over and above the foregoing.

Lastly, all registered industrial concerns are entitled to take advantage of a system of accelerated depreciation in eight years, a period which can be reduced to five as an alternative to income tax exemption.

In addition to the Industrial Development Act, other legislation establishes special investment conditions for parts of the country regarded as emergency areas.

The Transforming Industries Act (Ley de Industrias de Transformación) passed in *Mexico* in 1940 granted exemption from certain taxes for a maximum period of ten years in the case of new industries considered as essential. As in the other Latin American countries, however, the chief stimulus to industrialization was long provided by tariff protection. The year 1955 witnessed the promulgation of the legislation on the development of new and essential industries (Ley de Fomento de Industrias Nuevas y Necesarias) which is at present in force.

The criteria determining eligibility for the benefits accorded under this law relate to the measure in which the industries in question contribute to import substitution, the development of exports, the expansion of employment and the use of domestically-produced equipment and raw materials. The concessions established under the Act comprise exemptions or reductions in respect of import, export and stamp duties, taxes on trade earnings, and income tax.

Furthermore, the Income Tax (Ley del Impuesto sobre la Renta) exempts from income tax up to 10 per cent of the profits of trading companies that build up reinvestment reserves and up to 100 per cent of the profits of industrial firms, agricultural and stock-breeding enterprises and fisheries that comply with the same requisite.

The 1962 income legislation included an announcement that a fund was to be created for the development of exports of manufactured goods, on the basis of a supplementary tax on certain non-essential imports.

Besides the Federal laws, there are also State acts, passed between 1941 and 1964, establishing tax incentives for the development of industry and of other sectors in the States concerned. Their underlying principles are not all the same, nor are the incentives they offer.

In *Peru*, Act No. 9140, passed in 1940, empowered the Executive to grant exemptions from duties and taxes for the purposes of protecting and encouraging industrialization. In conformity with this legislation, successive decrees accorded tax exemption to a number of branches of industry, such as the manufacture of synthetic nitrogenous fertilizers and of man-made fibres, the metallurgical and canning industries, and the industrial activities established in the Selva area.

Subsequently, in 1959, legislation on industrial promotion (Act No. 13270) was promulgated in favour of new and established industries, different incentives being offered to those producing goods classified as basic items and to those manufacturing products of any other type.

The following are the special concessions granted under this Act: (*a*) total or partial exemption from import duties on new machinery and equipment not competing with similar domestic products, and on raw materials or intermediate goods not produced in Peru; (*b*) exemption from several taxes during the enterprise's first few years in operation; (*c*) authorization to reinvest a proportion of profits tax-free; (*d*) provision for accelerated depreciation, in proportion to the degree of utilization; (*e*) authorization to revalue fixed capital whenever a devaluation of the currency takes place; (*f*) reduction of profit tax rates for enterprises established in the provinces; (*g*) the right to adequate tariff protection; (*h*) drawback facilities in respect of exports of manufactured goods; (*i*) protection against dumping and unfair competitive practices.

In several of the *Central American* countries, too, there are industrial promotion laws of relatively recent date. Those of Honduras, El Salvador and Nicaragua were passed in 1958, that of Costa Rica in 1959 — although it abrogates another enacted in 1940 — and that of Guatemala in 1960. Almost all of these offer as an incentive partial or total exemption from import duties on capital goods and raw materials used by industry, as well as income tax reductions.

Over against the measures aiming at the indirect encouragement and promotion of industrial development, mention may also be made of specific restrictions incorporated in anti-monopolistic and price-control legislation, and other more general provisions relating to public health and town planning.

The political Constitution of several of the Latin American countries expressly forbids the formation of private monopolies, while the State is authorized to keep in its own hands certain branches of industry or exploitation of natural resources, or specific services, considered to be of public interest.[5]

In other countries, where the Constitution does not contain such prohibitions, special legislation has been passed. In *Argentina*, a law promulgated in 1923, amended by another in 1946 and supplemented with procedural regulations in 1949, established sanctions for acts creating or seeking to create monopolies. In *Chile*, Act No. 13305 (1959) stipulated that no monopoly could be granted to individual entrepreneurs in respect of industrial or commercial activities.

---

[5] *See*, for example, the following articles in the respective political Constitutions: Ecuador, 198; El Salvador, 142; Mexico, 28; Nicaragua, 87 and Venezuela, 97.

Article 28 of the Constitution of *Mexico* was supplemented by an organic law in 1934, and in 1955 the Penal Code stigmatized cornering, practices militating against free competition in production or trade, and others of similar nature as "offences against national consumption and wealth".

As regards price controls, different conditions seem to prevail, since several of the Latin American countries have not yet adopted legal measures to authorize them. In *Argentina*, they existed up to the year 1959, the date of expiry of the extension period of Act No. 12130, repressing agios and speculation; no price controls have since been re-established. In *Chile*, the Government is empowered to declare such products as it deems necessary to be essential goods, and to fix and control their prices. *Ecuador*'s Industrial Development Act establishes "the fixing of prices at levels prejudicial to consumers" as a reason for the temporary suspension of the benefits it accords. In *Mexico*'s case, price controls are grounded on article 28 of the Constitution, and the pertinent regulations are found in legislation on the terms of reference of the Federal Executive in the economic field (Ley sobre Atribuciones del Ejecutivo Federal en Materia Económica), under which price controls are applied to foodstuffs and clothing classifiable as current consumer goods, essential raw materials, products of basic or staple industries, etc. In *Venezuela*, the Ministry of Development controls the prices of essential goods, and those of the products of protected industries.

Neither anti-monopolistic measures nor price controls seem to discourage investment in industry, and the same might be said of other provisions which in some instances stipulate that specific registration formalities must be complied with, or official authorization obtained, before new manufacturing activities can be undertaken.

It is not difficult to infer from the foregoing account that these instruments of industrial policy do not as a rule imply preferential treatment for the industrial sector as a whole *vis-à-vis* other sectors of economic activity. Except for occasional measures, the provisions designed to channel the credit operations of private financing agencies are of a general nature, and are dictated mainly by the needs of short-term economic policy. As far as taxation is concerned, the fact that in most of the Latin American countries a very high proportion of fiscal revenue accrues from foreign trade duties and charges and from indirect taxes means that the incidence of taxation on the profits of industrial enterprises is rather light than otherwise. The same is true of other activities, and it is even likely that the position of industry may be relatively disadvantageous, not on account of differential rates or régimes, but because less tax evasion takes place, owing, in turn, to the predominance of the corporation or joint-stock company — which is subject to stricter control — as the legal organization pattern of manufacturing enterprises. Nevertheless, the incentive that could be provided through taxation should not be under-estimated especially in relation to those countries where direct taxation has become comparatively important.

On the other hand, this relatively neutral operation of tax machinery in respect of industry as against other sectors is certainly not the prevailing characteristic of the provisions in force when it comes to discrimination by branches of manufacturing, or by the allocation of profits, or by the use made of available capital resources. The efficacy of the incentives established in these connexions can be viewed in broader perspective in a later section, when the problem of the financing of industry is considered as a whole, and an attempt is made to assess the contribution deriving from the enterprises' own internal sources, chiefly in terms of reinvestment of profits, amortization funds and the constitution of other reserves. Application of the principle of selectiveness

by branches of industry has undoubtedly exerted a significant influence on the orientation of industrial development, and may do so to a still greater extent, provided that the type of activity eligible for the benefits conceded is defined with precision; the criteria embodied in the relevant legislation seem to be formulated in unduly general terms.

The efficacy of such stimuli is more open to question where influencing the location of industries is concerned. In the first place, the equalization of incentives depending upon local — as distinct from national — taxes or duties sets up industrial "decentralization" as a generally desirable objective, without particularly favouring any specific location. Secondly, tax advantages at the national level seem very inadequate, even when given locations are specified, in comparison with the disadvantages connected with external economies and other institutional factors, which call for the use of more direct instruments of promotion.

From another angle, a provisional conclusion might also be suggested to the effect that the instruments under discussion are likely to prove more effective in relation to new developments than in respect of existing industry, and will thus help to widen the range of manufacturing activities rather than to improve the productivity and efficiency of the enterprises already installed. More detailed study should therefore be devoted to what exactly is meant by the references, so frequently recurring in the legislation in force, to the "newness" of the activities eligible for the benefits it accords.

Lastly, it must be pointed out that in view of the mode of presentation adopted, the foregoing data do not give a sufficiently clear idea of one of the unfavourable features characterizing the use of these instruments of industrial policy, namely, the lack of continuity caused by frequent changes in the nature, the scope and even the orientation of the provisions established. The result is an atmosphere of uncertainty which weakens or frustrates the effects that should be produced by the stimuli and incentives offered.

(c) Direct State promotion

In addition to the general incentives deriving from protectionist policy and from other measures and instruments designed to encourage the installation and expansion of manufacturing industries, as outlined in the preceding sections, an enormous amount of work is done in the field of direct industrial promotion. It has followed widely varying patterns, both within one and the same country and from one Latin American country to another; even so, however, within this diversity some common features can be discerned, which it is useful to bear in mind in evaluating the possible scope of direct promotion as a basic instrument of industrial policy, in the broadest sense of the term.

Accordingly, it is worth while to review in broad outline the activities carried out in this field at least in some countries of the region, more for illustrative purposes than with any intention of presenting a complete and systematic picture, for which much more thorough supplementary research would be required.

Table 33 presents in summarized form some indications of the most important public bodies concerned with the promotion of industry in seven Latin American countries: Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. As can be noted, the oldest of these institutions — except for those specializing in credit operations — were first established in the second half of the thirties, but others are

of much more recent date. Up to a point, this coincides with a striking change in the importance attached to industrial policy, whose reliance upon indirect instruments alone has given way to active and deliberate participation in the promotion of new industries, either by setting up State enterprises and maintaining them as such, or by transferring them to the private sector once they are consolidated, or by getting private enterprise to back them from the start, in which case undertakings are proposed and assistance in their execution is provided, or support is given to those already launched by individual entrepreneurs.

It is difficult to judge how far the strengthening of this type of State action has been the result of a definite intention to speed up the industrialization process, and how far it has stemmed from the broader aim of intensifying government incentives to over-all economic development. The nature of the agencies listed in table 33 seems to weight the scales in favour of the latter, as they are not usually connected exclusively with manufacturing industry, but are also concerned with other sectors of the economy. What is more, in several cases, at least during an initial phase, the bulk of their efforts and resources have been channelled towards activities only indirectly related to industrial development — investment in infrastructure in the main, although the latter objectivehas gradually been acquiring more importance in their subsequent operations.

The types of activity carried out by these agencies have also varied considerably. In some instances, they might be described as general promotional procedures: basic economic studies for the purpose of defining enterprises that it would be expedient to develop; suggestions as to special incentives for their encouragement; contacts with the private sector to awaken its interest; assistance in the establishment of the enterprises in question, etc.[6] In other cases, the bodies concerned operate mainly by channelling credit resources so as to facilitate the financing of the installation or expansion of such industries. The same ends have often been served by means of direct contributions of public capital, resulting in the establishment of enterprises in which both the State and private interests participate in varying degrees. Lastly, the work of these agencies has frequently taken the form of setting up State enterprises, some of which have permanently retained their public character, while others have been transferred to the private sector once they have achieved operational conditions capable of attracting private investment.

It is not always possible to identify a given agency with any one of the specific participation patterns described above, since it often happens that one and the same agency operates in all these various ways, the nature of its intervention being determined by the specific requirements of the undertaking concerned. This circumstance has given direct State promotion policy great flexibility, and has enabled it to exert a particularly marked influence on the intensity and direction of industrial development.

The measure of its real success has of course been contingent upon the resources at the disposal of the instrumental agencies, as well as on the more general definitions of economic policy by which they have been actuated in each period.

A preliminary impression of the results achieved can be deduced from the scale and nature of the enterprises owned and run by the State or developed by the public sector. Table 34 sums up, in relation to eight Latin American countries, data or their

[6] *See* the next section for a separate discussion of more specific activities, such as technical assistance in the field of industry, training of technical personnel, and so forth.

Table 33

SEVEN LATIN AMERICAN COUNTRIES: MOST IMPORTANT PUBLIC INDUSTRIAL PROMOTION AGENCIES

Country and agency	*Date of foundation*	*Type of activity*	*Sectors served*
Argentina			
Office of the Secretary for Trade and Industry		Guidance and co-ordination	Industry and mining
Banco Industrial	1944	General promotion, capital contributions and credit	Industry and mining
Local development corporations and institutes		General promotion, capital contributions	Industry and others
Brazil			
Ministry of Industry and Commerce	1960	Orientation and general co-ordination	
Banco Nacional do Desenvolvimento Económico	1952	General promotion and credits	Industry and others
Banco do Brasil (Agricultural and Industrial Credit Portfolio)		Credit	Agriculture and industry
Local banks		Credit	Industry and others
Executive groups		Promotion of specific branches of industry	
Chile			
Development Corporation (Corporación de Fomento de la Producción, CORFO)	1939	General promotion, capital contributions and credit	Industry and others
Banco del Estado	1953	Credit	Industry and others
Colombia			
Institute of Industrial Development (Instituto de Fomento Industrial)	1940	Promotion and capital contributions	Industry
Caja de Crédito Agrícola, Industrial y Minero		Credit	Agriculture, industry and mining

Banco de la República (Private Investment Fund)	1963	Credit	Agriculture, industry and mining
Banco Popular (Special Fund)	1963	Credit	Small and medium-scale industry
Mexico			
Nacional Financiera S.A.	1934	General promotion, capital contributions and credit	Industry and others
Banco de México		Credit	Industry and others
Banco Nacional de Fomento Cooperativo		Credit	Small and medium-scale industry
Banco Nacional de Crédito Egidal		Credit	Agricultural industries
Financiera Nacional Azucarera		Credit	Sugar industry
Peru			
Banco Industrial	1936	General promotion, capital contributions and credit	Industry
Ministry of Development and Public Works (Department of Industry and Electric Power)		Capital contributions	Industry, electric power and others
Development corporation and local boards		Capital contributions and credit	Industry and others
Venezueia			
Ministry of Development		Miscellaneous functions	Industry and others
Venezuelan Development Corporation (Corporación Venezolana de Fomento)	1946	General promotion, capital contributions and credit	Industry and others
Banco Industrial de Venezuela	1937	Credit	Industry and mining
Ministry of Development (Commission for the Financing of Small and Medium-Scale Industry)		Credit	Small and medium-scale industry
Venezuelan Corporation for Guiana (Corporación Venezolana de Guyana)	1960	Promotion and capital contributions	Several branches of industry
Ministry of Mines and Hydrocarbons, Venezuelan Institute of Petrochemistry (Ministerio de Minas e Hidrocarburos, Instituto Venezolano de Petroquímica)		Promotion and capital contributions	Several branches of industry

Table 34

EIGHT LATIN AMERICAN COUNTRIES: RELATIVE IMPORTANCE AND CHARACTERISTICS OF ENTERPRISES OWNED BY THE STATE OR DEVELOPED BY THE PUBLIC SECTOR

Approximate number and nature of enterprises	*Principal activities*	*Relative importance*
Argentina		
A considerable number of enterprises, including dependencies of the Dirección General de Fabricaciones Militares (14), of the Dirección Nacional de Fabricaciones e Investigaciones Aeronáuticas, or DINFIA Group (11), and of the Dirección Nacional de Industrias del Estado, or DINIE Group (38). A large proportion were later transferred to the private sector	Steel-making, manufacture of metal products and machinery, motor vehicles, petrochemicals	In the aggregate, 1 per cent of total industrial production; 60 per cent of production of steel ingots; 5 per cent of that of metal products and machinery; and 4 per cent of that of motor vehicles
Brazil		
Several important enterprises in the hands of the Federal Government, besides those developed by State authorities (separate consideration is given to most of those in whose establishment BNDE took part)	Steel-making, petroleum refining and the manufacture of petrochemicals, motor vehicles, rubber	Federal Government enterprises account for 6.3 per cent of the total industrial product; 85 per cent of petroleum refining; 45 per cent of production of steel ingots; and 1 per cent of that of motor vehicles
Chile		
A considerable number of enterprises promoted by the Development Corporation (CORFO) through various types of participation (contributions, loans, loan guarantees); some kept in the hands of the State, others transferred to the private sector, and yet others in which the latter has played a predominant part from the outset	Steel-making, manufacture of petroleum derivatives, metallurgical, metal-transforming and fishing industries, production of cement, beet sugar, chemicals, textiles and wood manufactures	Almost 100 per cent of steel production and manufacture of petroleum derivatives (excluding fuel oil); 20 per cent of sugar production

Colombia		
Several enterprises developed by the central Government or through the Institute of Industrial Development, some transferred to the private sector; in addition, many small enterprises owned and run by departmental authorities	Steel-making, petroleum refining, manufacture of alkalis, fertilizers, tyres, spirits, salts	100 per cent of steel and caustic soda production; 60 per cent of petroleum refining; and 40 per cent of production of fertilizers
Ecuador		
Several enterprises promoted by central Government agencies, including the Department of Monopoly Control (Dirección de Estancos), and others established by the *municipios*	Manufacture of cement fertilizers and spirits; pasteurization of milk	
Mexico		
Several State enterprises developed by agencies other than the Nacional Financiera, and a large number promoted by this latter through various types of participation, including assistance in the expansion or consolidation of existing enterprises	Steel-making, manufacture of petroleum derivatives, metallurgical and metal-transforming industries, production of fertilizers, cement, sugar	Taking into account State enterprises only: 45 per cent of production of steel ingots, 20 per cent of sugar production and 100 per cent of that of petroleum derivatives
Peru		
Several enterprises developed by the central Government and others by local development agencies, in addition to the tobacco and salt monopolies	Steel-making, manufacture of fertilizers, tobacco products, cement, petroleum derivatives	
Venezuela		
Apart from the private concerns which the Venezuelan Development Corporation (CVF) has helped to build up, State enterprises include the Siderúrgica del Orinoco and several sugar mills	Steel-making, sugar production	CVF sugar mills account for 40 per cent of the country's production

number and on the chief activities in which they have engaged, together with some indicators of their relative importance within industrial activity as a whole or the corresponding branches of industry.

The information given makes it clear that as a general rule State effort has been channelled in the direction of basic industrial activities, calling for relatively substantial investment, in absolute terms, and entailing in the conditions prevalent in Latin America, relatively greater risks. In this sense, the role of State enterprise has not been to compete with private capital, but rather to meet the growth requirements of industrial sectors which private enterprise was not in a position to serve, either because of the aggregate amount of resources needed or because of the risks involved. Thus, the iron steel industry; particularly during the forties, and subsequently others which to a large extent implied the opening-up of new fields for Latin America's industrial production, came into being as public enterprises, benefiting by external resources that could be drawn upon through State channels.

In relation to industrial production as a whole, State enterprises have not attained significant proportions, to judge from the two cases in which an evaluation of this kind is available. In Argentina, their contribution to total industrial output has amounted to only 1 per cent, while the enterprises in the hands of the Federal Government of Brazil have accounted for a little over 6 per cent of the country's industrial product. On the other hand, as can be seen in table 34, their importance has been preponderant, or at any rate considerable, in specific sectors of industry, especially steel-making and the manufacture of petroleum derivavites, fertilizers and other chemical products.[7]

Qualitatively, as distinct from quantitatively, it must be recognized that their contribution has been of a different order, inasmuch as they have paved the way for the development of new basic industries. The switch-over from the provision of indirect industrial development incentives to direct promotional activities seems to have corresponded to a stage when radical changes in the structure of industrial capacity were becoming imperatively necessary, and were not being carried out more or less spontaneously by private enterprise with the requisite speed. Once a start had been made on the introduction of these changes, the appropriate conditions for the more active participation of private capital were also created, with the result that in many instances undertakings already consolidated by the competent public bodies were handed over to the private sector, and financial resources were thus recovered that could be used to further other new lines of development. From this point of view, the role of public institutions has been "promotional" rather than "entrepreneurial" in the true sense of the word. Hence, the operational conditions and performance of the whole group of State enterprises that have retained their public character cannot be strictly evaluated, for it must not be forgotten that although their efficiency is often found to be relatively low, it was precisely those registered higher levels of productivity that were transferred in many cases to private interests.

As has been pointed out, the establishment and expansion of public-sector enterprises has constituted one of several forms of direct State promotion, often closely linked

---

[7] In addition to the State enterprises listed in table 34, a fair number have been set up for the purpose of directly supplying public-sector agencies. Cases in point are afforded by the manufacture of furniture for Government offices and of clothing for the Armed Forces; engineering and railway workshops, etc.

to the activities of a single agency. This makes it difficult to differentiate clearly between the various types of operation undertaken by any given body. In order, therefore, to form a broader picture of the scope and patterns of such promotional action, a few data illustrative of the *modus operandi* in selected Latin American countries may usefully be assembled.

In *Argentina*, the development of the iron and steel industry has been mainly in the hands of the Dirección General de Fabricaciones Militares, an autonomous agency set up in 1941 as a subsidiary of the War Office. One of its dependencies is Altos Hornos de Zapla, which up to 1959 was the only plant in the country producing pig iron, with a maximum annual capacity of 60,000 tons. Also under its control and guidance is the Sociedad Mixta Siderúrgica Argentina (SOMISA), which was established in 1947 on the basis of public funds representing 80 per cent of the total capital. SOMISA's first blast furnace (whose annual output is currently about 700,000 tons of steel ingots) was brought into operation in 1960, and a year later its statutes were amended, an increase in its capital being accompanied by the equalization of the shares of the public and private sectors. The Dirección Nacional de Fabricaciones e Investigaciones Aeronáuticas (DINFIA) had its origin in the Fábrica Militar de Aviones established in 1927, and subsequently undertook the manufacture of military and civil aircraft, later joining forces with foreign companies to promote the development of the motor-vehicle industry. Astilleros y Fábricas Navales del Estado (AFNE) has been mainly concerned with shipbuilding and repairs and the manufacture of explosives. The Dirección Nacional de Industrias del Estado (DINIE) was formed to act as a controlling and co-ordinating agency for the State-owned industrial establishments transferred to it by the Executive, a function for whose discharge no specific agency existed, and which acquired great importance upon the purchase, in 1947, of a group of so-called "enemy capital" enterprises. These concerns, which had been more or less at a standstill since the war, included chemical, metallurgical, textile, electrical and other manufactures; from 1957 onwards they were handed over one after another to the private sector, only the petrochemical industry remaining in the possession of the State.

The first public agency for the granting of industrial credit was the Banco Industrial de Argentina, established in 1944. The volume of its operations became so significant after the nationalization of bank deposits in 1946 that during the period 1947–51 it came to provide 60 per cent of the total credit resources available to industry. The further change in the banking system that took place in 1957 substantially reduced its contribution, which represented only 14 per cent in 1959–63.

Lastly, some more recently established local development agencies have served to strengthen the promotion machinery; they include the Corporación de Fomento del Río Colorado, formed in 1960, and the Corporación de Fomento del Río Chubut and the Instituto de Desarrollo del Valle Interior del Río Negro (IDEVI), both set up in 1962.

In *Brazil*, one of the chief promotional instruments has been the Banco Nacional de Desenvolvimiento Econômico (BNDE), founded in 1952 to further the implementation of the Economic Re-equipment Programme, and empowered to operate through various procedures, ranging from the extension of conventional types of credit to subscribing for shares, underwriting and so forth. Its initial activities were primarily channelled towards the development of railways and electric power, but later on increasing importance was gradually attached to manufacturing industry, which absorbed 49 per cent of the Bank's resources in 1957–63, as compared with only 10 per cent in

1952–56. It has been the principal source of financing for the steel-making programme, and has even acquired a controlling share in some of the major enterprises; at the same time, it has granted and endorsed loans and has subscribed for shares in metallurgical, metal-transforming, transport equipment, shipbuilding, electrical equipment and chemical industries, besides discharging other promotional functions of a more general nature. It has also had something to do with the installation or expansion of several State enterprises, although two of the most important are exceptions, *i.e.*, Petroleo Brasileiro (PETROBRAS), which includes refineries and petrochemical complexes, and the Companhia Siderurgica Nacional, which dates from 1941 and contributes about 45 per cent of Brazil's total output of steel ingots.

Furthermore, to facilitate co-ordinate action on the part of the various Federal Agencies responsible for the formulation and execution of special industrial development programmes, the so-called "Executive Groupes" were organized as dependencies of the Industrial Development Commission of the Ministry of Industry and Commerce. A decree issued in June 1964 reshuffled the existing groups to form seven: the metal-transforming group, which absorbed the motor-vehicle, agricultural machinery and engineering industries; the metallurgical industry; the group manufacturing textiles, leather products and derivatives, which absorbed the textile and leather industries that had formerly operated separately; the chemical industries including those manufacturing pharmaceutical products and fertilizers; the cinematographic industry; the group manufacturing electrical and telecommunications equipment; and the food-processing group.

The industrial promotion machinery also comprises certain agencies responsible for the development of specific areas, such as the Superintendencia do Desenvolvimento do Nordeste (SUDENE) and the regional banks operating in Amazonas, the Nordeste, the Extreme Sul and elsewhere. An Agricultural and Industrial Credit Portfolio was specifically established in the Banco do Brasil to strengthen the credit facilities available to the sectors in question.

Direct State promotional activities in *Chile* have been channelled mainly through the Development Corporation (Corporación de Fomento de la Producción — CORFO). Set up in 1939 to stimulate the expansion of the national economy as a whole, during its first ten years in operation CORFO allocated one-third of its resources to the development of manufacturing industry and about 40 per cent to electric power development. Its main sources of financing have consisted in State contributions and external loans, most of the latter having been extended by the Export-Import Bank (EXIM-BANK) and the International Bank for Reconstruction and Development (IBRD). In addition to its general promotional activities, it is authorized to make direct contributions, even amounting to the whole of the capital required, to become a partner or shareholder in enterprises already existing or in process of formation, and to grant and endorse loans. It has been concerned in the development of basic national industries, such as steelmaking — the Compañía de Acero del Pacífico (CAP), established in 1947 and subsequently handed over to private enterprise — petroleum products, and beet sugar. Similarly, it has made contributions, has granted or endorsed loans, and has given direct help through preliminary studies and organizational assistance, in connexion with the establishment or expansion of a wide range of activities, including the metallurgical, metal-transforming and fishing industries, and the manufacture of wood products, textiles, chemicals and pharmaceutical products, cement and asbestos cement, etc.

The Institute of Industrial Development (Instituto de Fomento Industrial) has been the principal agency responsible for the direct promotion of industry in *Colombia*. Established in 1940, entirely on the basis of government funds, it was entrusted with the task of promoting the installation and expansion of basic industries, and primary transforming industries using domestically-produced raw materials, that private capital or enterprise could not have developed satisfactorily on their own account. Since then it has acted as the promotor of about twenty important industrial concerns, through such procedures as subscribing for shares, granting credit and endorsing loans. Its activities were most effective during the period 1940–50, when it launched basic enterprises in such fields as steel-making, soda, tyres and so on, which, with significant exceptions such as the soda plant, were subsequently transferred for the most part to the private sector. In 1963, amendments to the statutes of the Institute authorized it to carry out the operations typically undertaken by financing corporations and augmented its capital, although the additional State contributions did not immediately materialize.

Promotion through public credit has been supplemented by other activities, including those of the Caja de Crédito Agrario, Industrial y Minero, and, in 1963, by the establishment of a Private Investment Fund in the Banco de la República. The interest felt in making access to credit easier for small and medium-scale industries has led to the constitution of a special fund for that purpose in the Banco Popular.

In *Mexico*, direct promotional activities are particularly important in view of the substantial share of public investment in total investment (47 per cent in 1961–63) and the considerable proportion of the former which is channelled into the manufacturing sector (38 per cent in the same period, including electric power investment). The leading promotion agency has been the Nacional Financiera S.A., founded in 1934. The Federal Government's initial contribution to its funds was afterwards reinforced from other sources: for example, in 1941 share certificates were issued which enabled it to channel substantial volumes of savings; since 1942 it has been able to obtain external loans, which have allowed it to conduct its credit operations with greater flexibility and on easier terms as regards repayment deadlines; the ownership of stock has represented yet another in flow of resources; and, lastly, in 1964 it sold part of its equity on the open market, thus becoming a semi-public corporation. Like other promotional agencies, it is authorized to grant credit, subscribe for shares and bonds, provide technical assistance and carry out over-all studies to guide investors. Although investment in infrastructure — electric power, transport, irrigation — accounted for about two-thirds of the resources channelled through the Nacional Financiera up to March 1964, its direct contribution to manufacturing industry has been of great significance. As a shareholder alone, it participates in more than 60 industrial enterprises — to which its contribution exceeds 1,000 million pesos — in addition to a long list of others in whose installation or expansion it co-operated through the various procedures indicated. Only part of this list represents the development of State enterprises proper (particularly in the fields of steel-making, metallurgy, and the metal-transforming and fertilizer industries, etc.), while there are others in which Nacional Financiera has not been concerned (petroleum and petroleum products, food, cement and other branches of industry).

Besides the Nacional Financiera, the Banco de México has also played an important role as a promoter, mainly through industrial loans. The same end has been served by other credit agencies geared to the satisfaction of more specific requirements, as in the

case of credit for small and medium-scale industry (Banco Nacional de Fomento Cooperativo) or for the industrial processing of agricultural commodities (Banco Nacional de Crédito Egidal and Financiera Nacional Azucarera).

In *Peru*'s case, the Banco Industrial, which was established in 1936 but had little operational capacity during its first twenty years of financing, plays a considerable part in promotional activities. Although it was founded as a semi-public company, no contributions of private capital were made to begin with, so that its funds were severely limited until new legislation gave it access to other sources; in 1959 it was authorized to issue bonds, and later it enjoyed the co-operation of the Inter-American Development Bank (IDB) and other financing institutions. A series of amendments to its statutes also broadened its terms of reference, with a view to empowering it to adopt promotional procedures other than those strictly relating to credit. For example, in 1961 it obtained authorization to participate in the formation or expansion of private enterprises by subscribing for shares to an amount not exceeding 50 per cent of their capital, so long as not more than 35 per cent of resources was allocated to direct investment; and in 1963 it absorbed the National Institute of Industrial Promotion (Instituto Nacional de Promoción Industrial), which carries out research and technical assistance activities.

Since the Banco Industrial is primarily concerned with the provision of credit, the promotion of State enterprises proper — apart from the Empresa Petrolera Estatal, the Corporación Nacional de Fertilizantes and the tobacco and salt monopolies — has been undertaken by other bodies. In 1956, for instance, the Corporación Peruana del Santa established the Sociedad Siderúrgica de Chimbote S.A., which by now satisfies about 35 per cent of the country's requirements in respect of rolled steel products; the Department of Industry and Electric Power of the Ministry of Development, with the co-operation of the Reconstruction and Development Corporation of Cuzco (Corporación de Reconstrucción y Fomento del Cuzco), gave assistance in the installation of a plant for the manufacture of synthetic nitrogenous fertilizers; and Arequipa's Rehabilitation and Development Board (Junta de Rehabilitación y Desarrollo de Arequipa) has been promoting the establishment of a new cement factory.

Lastly, in *Venezuela* several of the most significant of the industrial enterprises recently launched are also linked to the promotional work of public agencies. The Venezuelan Corporation for Guiana (Corporación Venezolana de Guayana), set up in 1960, is responsible for the development of a large industrial complex of which the most important components are the iron and steel and the aluminium industries, with other allied to or deriving from these; while it is a function of the Venezuelan Institute of Petrochemistry (Instituto Venezolano de Petroquímica) to foster the industries manufacturing fertilizers, other petroleum products and sodium chloride.

In the field of more general promotion activities, the most outstanding contribution is that of the Venezuelan Development Corporation (Corporación Venezolana de Fomento — CVF), which was set up in 1946 to encourage economic development as a whole. It is empowered, *inter alia*, to carry out direct promotional operations through the organization, development and administration of productive activities on its own account; to underwrite and purchase shares in private undertakings that are entering or expanding production; and to issue stock certificates. As regards direct promotion, however, its activities have been chiefly confined to the establishment and consolidation of sugar mills, the major emphasis having been laid on its credit operations, which, moreover, have been increasingly channelled towards manufacturing industry. In 1948–58, this latter sector benefited by only 26 per cent of the CVF credits granted,

while in 1959–63 its share rose to 86 per cent. In 1962, the credits extended by CVF totalled about 74 million bolivars, whereas only a little over 2 million were allocated to the purchase of stock. Credit operations on favour of industry proper have covered the various branches of manufacturing production, but in recent years have been mainly concentrated in the following industries: chemicals (27 per cent); food and beverages (25 per cent); and textiles (10 per cent).

It is worth while drawing attention to the new credit procedure initiated by CVF in 1962, with the primary aim of backing small and medium-scale industrialists. Under the so-called "plan for the hire of fixed assets with option to purchase", the Corporation, after evaluating and approving the project concerned, finances the fixed assets, and the private entrepreneur contributes only the working capital and his own entrepreneurial capacity, paying a monthly sum for the hire of the fixed capital. These instalments are regarded as amortization payments, after deduction of interest, so that on the expiry of the hire-purchase period, which is usually 96 months, the entrepreneur can buy the equipment by paying a small residual sum. In a little over two years, about 60 credits of this type, representing over 33 million bolivars, have been approved.

Since 1958, CVF has also been providing technical assistance to private industry, in connexion with problems relating to production, organization, financing and other economic questions, technical supervision and so forth, as well as through market reports and studies, engineering studies, inspection and purchase of machinery, etc. Similarly, it has stimulated and participated in the establishment of regional development banks, private financing associations and enterprises for the development of industrial areas — these last in conjunction with certain *municipios* — and has helped to finance exports.

Besides CVF, the Banco Industrial too has played a part. Founded in 1937, it operated to most effect in 1947–56, during which period its annual credits averaged 46.1 million bolivars, as against CVF's 13.4 million. Subsequently, the latter agency became the executing instrument of development policy, and increased its annual operations to 76.5 million bolivars in 1958–62, while those of the Banco Industrial were reduced to a yearly average of 13.8 million. In 1962, the Corporation underwrote an expansion of the Bank's capital which gave it control over 98 per cent of the total capital. Since then, the Bank has operated under the guidance of CVF, and has confined itself, *de facto*, to granting credits for working capital, through promissory notes, discounts and letters of credit, for periods ranging from 90 days to 2 years.

Lastly, to serve more specific ends, the National Commission for the Financing of Small and Medium-Scale Industry (Comisión Nacional de Financiamiento a la Pequeña y Mediana Industria) was established in 1959 as a dependency of the Ministry of Development. During its first three years in operation, this agency granted about 2,000 loans to small-scale industry, amounting in all to about 30 million bolivars, and in 1961 extended its fields of activity to include industries on a medium scale.

From this general background information of the public agencies for industrial promotion in selected Latin American countries, and on their aims, sources of funds and patterns of operation, it can be inferred that the region now possesses a considerable stock of widely-varying experience, whose careful evaluation could be of great use as a means to perfecting future efforts. Such an evaluation would probably lead to conclusions beyond the scope of the present study, although one of them may be indi-

cated mainly for illustrative purposes. It would seem that instruments of direct promotion — understood in the broad sense of the term, as including State enterprises, participation of government agencies in the organization and expansion of private concerns, the allocation of public funds to the purchase of shares in these latter, the provision of State credit for industry, and the channelling of more substantial resources into the manufacturing sector — have had a stronger influence on the intensity and patterns of industrial growth than the instruments of indirect action to which reference was made in earlier sections, with the exception of protectionist measures. The development of many of the so-called "dynamic" industries, in particular, is linked to the direct promotional activities of the State. Steel-making, certain branches of the basic chemical industries, the metal-transforming and motor-vehicle industries, and others of equal importance, have often come into being as State enterprises (in some instances remaining as such, and in others passing into the hands of the private sector), or as a result of promotional activities on the part of public agencies whose scope extends far beyond the mere use of indirect incentives to create a favourable climate for industrial investment.

The importance of these methods of promotion may differ considerably from one country to another, not only on account of certain general characteristics of the economies concerned, but also in accordance with the stage of industrial development they have reached. It seems to have been the phases characterized by the introduction of new enterprises with far-reaching implications in respect of capital requirements or assimilation of technology that have made the most intensive demands on State promotional activities, as a means of facilitating changes in the structure of industry or the fuller and more efficient utilization of natural resources whose industrial processing may call for heavier additional investment in infrastructure than private capital can afford.

It should be noted in passing that alongside inter-country differences, changes in the degree of intensity of State promotion in specific periods can also be deduced, in those countries where the machinery concerned had already acquired a measure of effectiveness by the early forties. In some — especially Brazil and Mexico — direct State promotion seems to have been steadily gaining in importance. In others — among which Argentina and Chile should probably be included — efforts in this direction seem to have slackened, after a burst of activity which was reflected in highly significant industrial progress.

(*d*) *Technical assistance to industry, and other instruments designed to facilitate the assimilation of technology*

The foregoing review of general industrial development measures and direct State promotional activities suggests that a very substantial proportion of the efforts made has been directed towards encouraging the installation of new manufacturing activities. This has been a basic objective; but it would be a mistake to overlook the importance of concurrent action whose primary aim has been to secure the necessary improvement in the productivity and efficiency of existing enterprises.

Hence the need to supplement the observations formulated above with some reference to this other type of responsibility assumed by the competent public bodies, including, in particular, technical assistance to private enterprise, training of skilled personnel, technological research and similar activities.

The story of the technical assistance given by development agencies to private industry varies greatly from one country to another.

In the case of Chile's Development Corporation, for example, direct technical assistance had become fairly important by the end of the forties, when its field of application ranged from the formulation of projects to the financial and technical reorganization of enterprises; but it subsequently declined, and some of the technical experts left the official agency to become directors in the establishments they had helped to consolidate. The much more recently created Venezuelan corporations prepare projects for transmission to private enterprises, and give advisory assistance, on a small scale as yet, in matters relating to management, financing, organization, inventories of equipment, etc. The Brazilian Association for the Development of Basic Industries (Associaçao Brasiliera para o Desenvolvimento da Indústria de Base — ABDIB) co-ordinates industrial activities under joint equipment and installation programmes. The Colombian Institute of Technological Research (Instituto de Investigaciones Tecnológicas), established in 1955, prepares specific projects for various types of industry by contract with the interested parties, and, in addition, provides technical assistance to small and medium-scale industry in respect of organizational problems.

Furthermore, in several of the Latin American countries credit institutions give advice on accounting and legal matters to entrepreneurs requesting their co-operation.

Mention must also be made of a special form of technical assistance — first made available less than ten years ago — provided by certain productivity centres through courses for executive personnel and in other ways. Mexico has an Industrial Productivity Centre (Centro Industrial de Productividad), established in 1955, whose objectives are the organization of courses for supervisors, managers and senior administrative personnel, and the diffusion of the idea of productivity. The National Centre for Action to Increase Productivity (Centro Nacional de Acción para el Incremento de la Productividad), set up in Peru in 1960, also carries out technical assistance activities through its Advisory and Consultative Services (Departamento de Asesoría y Consultas). The Venezuelan Institute of Productivity (Instituto Venezolano de Productividad) and the Colombian Institute of Management (Instituto Colombiano de Administración), both established very lately, are private foundations, under the sponsorship of the Agency for International Development (AID), which offer technical assistance to executive personnel, although on a small scale.

Yet another form of co-operation consists in the guidance given by State agencies concerned with economic and technical research. It ranges from the outlining of a national development programme — in the case of the planning offices in certain countries — to the recommendation of specific articles whose manufacture it would be expedient to undertake.

In this latter connexion, the Central American Research Institute for Industry (Instituto Centroamericano de Investigación y Tecnología Industrial, ICAITI) has embarked upon the study of various branches of industry. In Peru, the National Institute of Industrial Promotion (Instituto Nacional de Promoción Industrial) has likewise carried out studies of industrial activities, accompanying them with recommendations as to the general lines that should be followed. The Industrial Research Department (Departamento de Investigaciones Industriales) of the Banco de México has conducted systematic research on the various branches of industry, and the Ministry of Industry and Trade (Secretaría de Industria y Comercico) and that of Finance and Public Credit (Secretaría de Hacienda y Crédito Publico) undertake surveys

designed to furnish interested parties with the preliminary background data required for the promotion of industrial activities in Mexico. The Mexican Government has issued lists of articles whose manufacture is economically feasible and necessary for the purposes of industrial integration.

No less urgently needed than the technical assistance activities of public bodies is their co-operation in the task of training personnel. The available supply of skilled labour has tended to lag behind the real requirements of industrial development, largely on account of the general bent of the region's educational systems. Admittedly, however, the number of new technical schools has risen considerably in absolute terms. The technical schools run by the Federal Government and the National Industry Services (Servicio Nacional de Industria) in Brazil, the technical schools and institutes of technology dependent upon the Ministry of Education (Secretaría de Educación Pública) in Mexico, and the national and provincial industrial schools in Argentina have all increased in number. But in none of these countries have they sufficed to produce a large enough supply of workers trained in up-to-date production techniques, with the result that other solutions have been put forward in recent years.

One of these expedients has consisted in the establishment of training centres for workers already in employment, who are given short and practical intensive courses. This has been the sort of action initially taken by the National Industrial Apprenticeship Service (Servicio Nacional de Aprendizagem Industrial — SENAI) in Brazil, by the National Industrial Apprenticeship and Employment Service (Servicio Nacional de Aprendizaje y Trabajo Industrial) set up in Peru in 1961, and by Colombia's National Apprenticeship Service (Servicio Nacional de Aprendizaje), established a little earlier. All these institutions display very similar characteristics. Chile has been experimenting for some years in the creation of centres for intensive manpower training, and new labour training centres were established in Mexico in 1963. All these agencies train workers for a number of sectors, with special emphasis on agriculture, industry and trade.

The system of in-service training, supplemented by special courses, has also been tried out. Typical institutions of this kind are the eight industrial centres recently set up by the Venezuelan National Institute of Educational Co-operation (Instituto Nacional de Cooperación Educativa de Venezuela), and, at the level of intermediate personnel, the Institute of Technology (Instituto de Tecnología) of the Universidad Nacional de Ingeniería in Peru.

Lastly, the State enterprises themselves, and some of the leading private firms, have helped to build up the supply of technicians, especially in specific branches of industry, by training their own workers. Cases in point are afforded by PETROBRAS, in Brazil, and by DINFIA, in Argentina. When DINFIA launched Argentina's aircraft and motor-vehicle industries, it trained staff for the original enterprise and then for the new ones that were gradually installed.

With a view to systematizing these efforts on a broader basis, some countries have begun studies on human resources at the national level, as a groundwork for future programmes relating to the training of technical and scientific personnel.

The shortage of activities of the type under discussion is probably most marked in the field of technological research. Tradition has assigned research work mainly to the universities, and its functions have been primarily scientific and geared to the training of professional workers. To meet the need for studies of problems relating to

specific manufactured products or branches of industry, *ad hoc* institutes have been set up, such as the Institute of Technology (Instituto de Tecnología) and the Research Institute (Instituto de Pesquisas) in Brazil, the Textiles Institute (Instituto Textil) — a dependency of the Universidad Nacional de Ingeniería — in Peru, and the Materials Research and Testing Institute (Instituto de Investigaciones y Ensayos de Materiales) of the Universidad de Chile.

Only in the last few years have specialized institutions been established in some of the Latin American countries. Among these, the Mexican Institute of Technological Research (Instituto Mexicano de Investigaciones Tecnológicas), set up in 1950, carries out studies and experiments in respect of domestically-produced raw materials and the possibilities for their use, as well as on the techniques best suited to the country's characteristics. Although the Institute is now a private corporation, it was originally a dependency of the Industrial Research Department of the Banco de México.

The Central American Research Institute for Industry (ICAITI), established in 1955 under the Integration Programme, is concerned, *inter alia*, with research on natural resources, the study of Central American industry with a view to the improvement of production methods, the adaptation of techniques, and the provision of technical services. Although it has been able to cover these ambitious objectives only in part, it has carried out studies on specific branches of industry, including the manufacture of pharmaceutical products, building materials and leather goods.

In Argentina, the National Institute of Industrial Technology (Instituto Nacional de Tecnología Industrial), established in 1960, is responsible for research on industrial processes, studies on standardization, testing of materials for strength, and quality control studies. At the present time, it has over 20 centres in operation, with a coverage ranging from welding and die-stamping to applied mathematics, management techniques and industrial bacteriology.

It is also comparatively recently, in most of the Latin American countries, that the standardization of industrial products and processes has become a matter of interest. One of the first agencies to be created with this end in view was the National Institute of Technological Research and Standardization, established in Chile in or around 1950, and dealing not only with industry but with all technical atcivities. The Brazilian Technical Standards Association (Associaçao Brasileira de Normas Técnicas) lays down specifications for the standardization of equipment and processes of importance to industry. In Venezuela, the Venezuelan Commission on Industrial Standards (Comisión Venezolana de Normas Industriales) attached to the Ministry of Development, was instituted in 1958 to study and formulate industrial standards and supervise their application. A similar responsibility is carried by the National Institute of Industrial Standards and Certification (Instituto Nacional de Normas Técnicas Industriales y Certificación), established in Peru under the 1959 Industrial Promotion Act (Ley de Promoción Industrial).

All these are, in short, fields of activity in which significant efforts are being made whose scope is not weasy to evaluate correctly. An indirect pointer to their inadequacy is the extent to which Latin American enterprises are increasingly resorting to other ways and means of facilitating their technical progress, particularly through agreements or arrangements with foreign firms.

For example, in recent years the use of foreign licences or patents has become a good deal commoner, as a means of obtaining readier access to more efficient tech-

niques and the latest scientific discoveries resulting from research whose costs would be too high for industries in most Latin American countries to afford.

The moves made in this direction have been distinctly successful from the strictly technical standpoint, since old-established firms have been enabled to modernize their procedure and new enterprises to enter production with a high level of efficiency, apart from the fact that the prestige of the trade names they represent gives them easier access to markets.

These advantages, however, bring certain drawbacks in their train. In the first place, the cost of royalties seems quite high, as it varies between 3 and 5 per cent of gross sales values, or even more in the special case of the pharmaceutical industry, and these proportions in turn may represent from 6 to 10 per cent of the fixed capital of the enterprise, which is unquestionably a heavy burden. In 1955 as much as 32.2 per cent of the remittances of United States manufacturing companies operating in Latin America corresponded to royalties, and that between 1961 and 1963 the royalties received by industrial consortia in the United States from their Latin American subsidiaries averaged 46 millions dollars yearly.[8] In addition, there are the royalties paid to European firms, on the amount of which no precise information is to hand.

Secondly, contracts of this kind are usually tied to commitments not only to purchase special parts from the firm granting the licence, but also to finance the expenditure entailed by the periodic visits of inspection of the technical experts who superivse production. In some instances, the licensor enterprise also imposes other conditions; for example, exports to third countries are prohibited, or may be effected only through its own representatives abroad. In other agreements, stipulations are made as to types of advertising, distribution systems, etc., and production under trade names other than that to which the contract relates is almost always forbidden. All these restrictions may, among their other consequences, hamper the expansion of intra-regional trade and militate against Latin America's chances of exporting its manufactures to other parts of the world.

2. The financing of industrial development

A number of the measures and instruments of industrial policy described are mainly concerned with the financing of the sector's development. Such is the case with the general credit regulations, the organization and control of the transactions undertaken by institutions in the capital market, a number of tax provisions — covering depreciation, reserves and reinvestment of profits — and the activities of State agencies responsible for industrial development. Consequently the efficacy of these measures and instruments can only be gauged by analysing the characteristics of industrial financing and the importance of the contribution made by each of the principal sources of funds.

In its broader sense, the problem must be tackled as part of a more general evaluation of economic development financing, in which the level and origin of aggregate investment resources are taken into account and the share of manufacturing industry can be weighed against those of the other sectors of the economy. But a study of this kind does not come within the province of the present section, whose main purpose is to examine the internal structure of industrial financing, and will only

[8] United States Department of Commerce, *Survey of Current Business*, August 1964.

touch very briefly on the basic but more general questions of whether its volume has been consonant with industrialization requirements and whether resources have been satisfactorily distributed among the different economic sectors.

It is of particular interest here to examine the results of what may be regarded as two kinds of industrial policy measures connected with financing: the first designed to strengthen the sources of the external funds used by enterprises — chiefly the stock market and credit policy — and the second to encourage the mobilization of potential domestic resources in the form of depreciation reserves and profit reinvestment. A useful starting-point for this examination would be the studies that have been undertaken on the sources and uses of funds in respect of certain industrial enterprises surveyed in various Latin American countries, although allowance would have to be made in a comparative analysis for the differences in the sample methodologies and period of coverage. It should also be borne in mind that the samples mainly deal with privately-owned national concerns with the legal status of a corporation. Moreover, they cover only those firms that were already established by the time the surveys were launched, and thus reveal the financial characteristics of industrial expansion rather than of the introduction of new manufacturing lines.[9]

Table 35 presents some of the more significant findings of these studies, adjusted to make them more comparable,[10] and adds similar data for France and the United States which help to highlight the nature of the problem in the Latin American countries.

It is apparent from a comparison of the figures that in Latin American industry domestic sources usually accounted for a smaller proportion of the total funds used during the periods in question than in France and the United States. Moreover, the proportions supplied by undistributed profits and depreciation reserves vary widely from one country and period to another, as illustrated by the two countries on which studies for different years are available.

In the United States depreciation reserves constituted an unvarying proportion of the total funds in 1945–56 and 1960, whereas in Latin America they ranged widely from less than 7 per cent in Brazil and 10 per cent in Chile to over 30 per cent in Colombia (1953–58) and Ecuador, and in Argentina expanded from 12 to 26 per cent between the two periods under consideration. The contribution of undistributed profits is equally irregular, but tends to move in the opposite sense. Up to a point, this connexion between the two kinds of domestic funds is traceable to the lack of a clear-cut depreciation policy. In fact, depreciation reserves that are too small to meet real replacement requirements, generally because of the underestimation of net worth, are supplemented by resources that are officially listed as undistributed profits but actually constitute a depreciation fund. If the proportion recorded for depreciation reserves in the United States is taken as the norm, the undistributed profits that are

[9] These limitations will be remedied to some extent by discussing State-owned and foreign enterprises separately and by distinguishing as far as possible between the different strata of a corporation on the assumption that modes of financing suitable to the lower category could be adapted to the requirements of industrial firms with another form of legal status.

[10] One of the problems that cropped up was whether resources that are generally officially classified as capital contributions can be described as internal or external sources when they consist of profits distributed in the form of bonus stock and are thus essentially funds retained for reinvestment. In table 35, the original figures for Brazil, Colombia, Ecuador and Venezuela have been adjusted to allow for this factor, in accordance with the criteria set forth in the statistical annex.

Table 35

COMPOSITION OF FUNDS FOR FINANCING INDUSTRIAL DEVELOPMENT IN SELECTED LATIN AMERICAN (ON THE BASIS OF ENTERPRISE SAMPLES) AND OTHER COUNTRIES

(Percentages)

		Domestic funds			*External funds*		
		Total	*Undistributed*	*Depreciation reserves*	*Total*	*Capital*	*Other*
Argentina	(1960–61) . . .	40.0	14.0	26.0	60.0	9.0	51.0
	(1952–55) . . .	60.0	47.8	12.2	40.0	9.4	30.6
Brazil	(1959–62) . . .	43.2	36.4	6.8	56.8	8.2	48.6
Chile	(1949–61) . . .	52.3	42.3	10.0	47.7	4.5	43.2
Colombia	(1958–62) . . .	49.9	39.2	10.7	50.0	12.1	37.9
	(1953–58) . . .	60.7	23.3	37.3	39.3	13.7	25.6
Ecuador	(1953–57) . . .	56.5	22.7	33.8	43.5	12.6	30.9
Uruguay	(1960)	42.0	...	...	58.0	16.0	42.0
Venezuela	(1961)	50.5	21.3	29.2	49.5	10.6	38.9
United States	(1960)	64.0	34.0	30.0	36.0	2.0	34.0
	(1946–56) . . .	58.3	28.1	30.2	41.7	18.1	23.6
France	(1955) . . .	63.3	...	...	36.7	11.1	25.6

not merely a supplement for inadequate depreciation reserves would supply from 10 to a little over 20 per cent of the total available funds in the Latin American countries as against about 30 per cent in the United States.

In the circumstances, the part played by external funds is naturally larger than it would be in an industrialized economy. The composition of such funds is also very varied, comprising both new capital contributions and other sources in the form of short and long-term loans, suppliers' credits and special funds. In assessing their respective significance, it must be remembered that the figures refer to the percentage composition of the total sources of funds and throw no light on their absolute volume or their relation to other variables such as the industrial product, which could be used as a yardstick. Accordingly, the fact that certain external sources account for a larger share of the total does not necessarily mean that their machinery is particularly effective, but simply that domestic funds are more inadequate than usual.

This applies to some extent to capital contributions, which form a substantial if highly variable proportion of the total amount of funds available. In spite of this some of the typical machinery for drawing upon these resources is still rather rudimentary in Latin America and has even deteriorated in a number of countries as the following analysis indicates.

The information available on the structure of the other external sources is not detailed enough. In the United States, long-term loans accounted for 14 per cent of total funds in 1960, short-term loans and suppliers' credits for a further 14 per cent and special funds for 7 per cent.

The latter are a particularly important source of funds in some Latin American countries, amounting to as much as 11 per cent of the total in Argentina (1960–61) and 20 per cent in Chile, the only countries in which enterprises enter this source of funds as a separate item in their books. Such resources are, however, very uncertain, since they consist of funds earmarked for taxes and social security contributions which, pending payment, are used by the firms for other purposes. This practice is particularly common in times of inflation, since it enables part of the burden to be shifted on to the tax and social insurance systems.

Loans and suppliers' credits received by Argentina and Chile respectively together constituted 40 and 23.2 per cent of the total in comparison with 27 per cent in the United States and 25 per cent in France. However, the data for Argentina indicate that 30 per cent of the total, *i.e.*, three-quarters of the funds deriving from this type of source, consisted of suppliers' credits, short and long-term loans being only 10 per cent. This proportion is much smaller than in the highly industrialized economies of France and the United States. Long-term loans are not classified individually except in Chile and Venezuela, where they account for 1.9 and 23.1 per cent each of the total amount of funds, and thus compare with France and the United States in two entirely different ways: one adverse and the other favourable.[11]

These data may give the impression that bank loans and suppliers' credits are, in general, relatively effective sources for financing industrial enterprises in Latin America. But the same reservations apply to these as to capital contributions, for reasons which will be set forth in some detail later. Moreover, type of resource should be set against the demands for sales credits with which Latin American industry is besieged, so as to determine the net balance available for financing the growth of industrial activities from these two sources.

A comparison on these lines will show that conditions for industrial financing are extremely unfavourable (*see* table 36). While United States industry grants credits equal to half its receipts from suppliers and banking agencies, the proportion is far higher for Latin American industry, and in two cases a net deficit was recorded which had to be supplied from other assets.

It should be pointed out once more that the observations made so far concern industrial corporations as a whole on which information has been obtained through the samples of entreprises. There are, however, some significant differences to be noted.

Corporations represent a relatively small proportion of the actual number of industrial enterprises, although their share of the sector's capital, output and employment is a good deal higher. For instance, in 1959, only 6.8 per cent of all industrial firms in Brazil were corporations, but they accounted for 68.5 per cent of total production. In Colombia, the proportions in terms of number of establishments and industrial value added were a little over 4 per cent and 53 per cent. In Venezuela, 6.5 per cent of the industrial firms in 1963 were corporations and held slightly over 60 per cent of all industrial capital, and in Chile, 8 per cent employed 45.9 per cent of the industrial labour force in 1957.

Despite the dearth of first-hand information, it might be interesting to review the sources from which the smaller corporations obtain their funds since the results would

[11] The corresponding proportion in France was 10.3 per cent in 1955 and in the United States 3.8 per cent in 1945–56 and 14 per cent in 1960.

Table 36

ESTIMATED NET CREDITS USED FOR FINANCING INDUSTRIAL DEVELOPMENT IN SELECTED LATIN AMERICAN COUNTRIES[a] (ON THE BASIS OF ENTERPRISE SAMPLES) AND IN THE UNITED STATES

(Percentages of total funds available)

		Source of funds[b]	*Use*[c]	*Net resources*
Argentina	(1960–61)	40.0	29.7	10.3
	(1952–55)	25.1	30.4	—5.3
Brazil	(1959–62)	48.6[d]	43.8	4.8
Chile	(1949–61)	23.2	28.1	—4.9
Colombia	(1958–62)	37.9[d]	24.9	13.0
Venezuela	(1961)	38.9[d]	19.1	19.8
United States	(1960)	28.0	14.0	14.0

[a] Fewer countries are covered than in table 35 because of deficiencies in the classification of the use of funds.
[b] Short and long-term loans and suppliers' credits received by industry.
[c] Sales credits extended by industry.
[d] Including other funds.

be fairly representative of other forms of industrial organization as well (partnerships, limited liability companies, etc.). However, for the reasons given earlier, this is not feasible except in the case of Chile, where the enterprises included in the sample were classified by size.

The pertinent figures show that small enterprises have a much smaller volume of domestic sources (39 per cent) to draw on than the big enterprises (54.5 per cent), mainly because of the limited nature of the depreciation reserves which are as little as 5.7 per cent of the total (*see* table 37). A fair proportion of external funds amounting to 10.7 per cent is made up of capital contributions. Other sources are of minor importance, accounting for only 6.9 per cent. Bank and suppliers' credits, on the other hand, play a notable part, especially short-term loans (41.9 per cent) although their net effect is largely invalidated by the high proportion of credits granted by industry itself.

If the financing characteristics of small corporations are looked at in the aggregate, it may be concluded, in Chile's case at least, that partnerships and family-type concerns would have even slenderer depreciation reserves and rely more heavily on short-term loans.

Side by side with the features they share in common, the funds used by the individual branches of the manufacturing sector are likely to display marked differences in composition as well, particularly between the slow-growing and the dynamic sectors. Unfortunately only one of the studies available (on Venezuela) supplies data that could be used to classify funds by origin, and the conclusions to be drawn from them are limited in applicability because only one year is dealt with. Some illuminating

Table 37

CHILE: SOURCES AND USES OF FUNDS BY SIZE OF ENTERPRISE, 1949–61

(Percentages)

	Large-scale industry	*Medium-scale industry*	*Small industry*
Sources			
Domestic	54.5	46.5	39.0
Undistributed profits	43.7	38.6	33.3
Depreciation reserves	10.8	7.9	5.7
External	45.5	53.5	61.0
Capital	3.9	5.5	10.7
Long-term loans	1.5	3.4	1.5
Short-term loans	16.6	34.2	41.9
Other	23.5	10.4	6.9
Uses			
Fixed capital	25.6	20.1	21.5
Working capital	71.1	78.2	77.4
Inventories	41.1	33.8	38.7
Credits	24.8	38.3	34.8
Cash and bank deposits	3.1	4.6	3.4
Securities	2.1	1.5	0.5
Other assets	3.3	1.7	1.1

Source: *El financiamiento de la industria en Chile*, INSORA, University of Chile, 1962.

information has been collected from another source altogether with respect to the financing of the development of some Latin American steel mills (*see* table 38). They show that although, the over-all structure of domestic and foreign sources of funds has remained much the same in proportional distribution, two distinctive features can be observed in the composition of external sources: a much greater contribution by long-term loans, which, in four out of the five mills, varies from one-third to half the total amount of funds available; and the special case of Acerías Paz del Río, whose main contribution takes the form of increases in capital stock owing to the particular policy adopted by the Colombian Government for financing steel development.[12]

The relatively important part played by long-term loans is a fairly common feature of financing by State enterprises or undertakings set up under the ægis of public agencies. The reasons are twofold. First, certain public agencies have easier

[12] Under the terms of a tax law, natural persons, unliquidated successions, corporations and limited liability companies are subject to a special 3 per cent tax on their net taxable income, the revenue accruing therefrom being earmarked for developing electric energy and steel-making. Taxpayers can pay by buying stocks and bonds issued by the Empresa Acerías Paz del Río, S.A. Neither the securities, nor the dividends and interest, are liable either to income tax or to the supplementary net wealth tax (Act 81 of 1960 reorganizing income tax).

Table 38

ESTIMATED SOURCES AND USES OF FUNDS IN RESPECT OF SELECTED LATIN AMERICAN STEEL ENTERPRISES[a]

(Percentage)

	Compañía Fundidora de Fierro y Acero Monterrey S.A. (Mexico) 1955-62	*Altos Hornos de México S.A. (Mexico) 1957-62*	*Compañía Siderúrgica Nacional Volta Redonda (Brazil) 1955-62*	*Acerías Paz del Río (Colombia) 1958-62*	*Compañía de Acero del Pacífico (Chile) 1955-63*
Sources	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Domestic	24.5	54.2	62.6	51.5	56.5
Undistributed profits	11.0	8.3	48.0	15.9	19.8
Depreciation reserves	11.2	41.6	14.6	29.5	36.7
Other	2.3	4.4	—	6.1	—
External	75.5	45.8	37.4	49.5	43.5
Long-term loans	50.8[b]	31.0[b]	34.0[b]	—	38.6[b]
Increases in capital stock	12.8	14.8	0.7	49.5	3.3
Other	11.9	—	2.7	—	1.6
Uses	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Fixed capital	83.5	72.4	63.8	40.4	104.0
Increases in working capital	14.4	17.7	29.1	47.0	—4.0
Amortization of long-term debts	—	—	—	12.6	—
Financial investment and other	2.1	9.9	7.1	—	—

[a] Estimates based on data supplied by the companies themselves.
[b] Net funds available from long-term loans.

access to funds of this kind that are mainly drawn from foreign sources and international organizations; secondly, the very nature of the industrial activities promoted by the State, usually involving heavy investment that is slow to mature (steel-making, basic chemical industries).

The information available on the financing practices of foreign enterprises operating in Latin America relates to 1955 and to United States firms only. From the data that can be pieced together it will be seen that 32.1 per cent of the funds used by manufacturing firms consisted of undistributed profits, 13.5 per cent of drawings on sinking funds, 33.2 per cent of net inflows from the United States and 21.2 per cent from other sources. Thus, 45.6 per cent was of domestic origin and 54.4 per cent foreign, the latter including net United States funds.

It should be added that this proportion for domestic funds is smaller than the figures recorded by manufacturing firms in the United States, France and even in India, which are all close to 60 per cent. But as the share of undistributied profits is much the same, the difference must be attributed to the low proportion of depreciation funds, since retained profits represent 30 to 35 per cent of the total in those three countries against only 13.5 per cent for United States concerns in Latin America.

The differences are equally substantial in the case of United States firms operating in Latin America outside the province of the manufacturing sector, since only 10.9 per cent of their funds comes from reinvested profits and 56 per cent from depreciation reserves.[13]

In 1955 the allocation of funds by these same enterprises displayed certain striking characteristics, including the very low proportion of 29 per cent for investment in fixed capital as against 62 to 64 per cent in the three countries named above and 75.7 per cent in other United States firms active in Latin America.

The aggregate ratios quoted for foreign firms vary appreciably from one country to another. In Argentina, Brazil and Mexico, where nearly 70 per cent of these enterprises' funds are concentrated, the relation of undistributed profits to the total is rather larger, and in Brazil domestic funds account for as much as 75 per cent of the over-all sum.

From other pieces of information it can be estimated that between 1950 and 1962 reinvested profits financed 40 to 56 per cent of the industrial investment of United States concerns in Latin America, and are tending to account for an even larger share.

Although incomplete, these data do give a general picture of the composition of the funds used to finance the expansion of industrial enterprises in Latin America. A rather more detailed examination should now be made of some of the main components, in order to relate them to other significant orders of magnitude which would help to indicate the amount of influence wielded by the specific industrial policy measures and instruments that the Latin American countries have been introducing and strengthening.

(*a*) *Domestic sources*

The information that has been reviewed shows that the contribution of domestic sources to the supply of funds for financing the development of industrial enterprises

[13] These ratios are a result of the special privileges enjoyed by the petroleum and mining companies as regards depreciation.

in Latin America has generally been rather limited. The two main components of such sources — depreciation reserves and profit reinvestment rates — vary extensively from one country and period to another. Their movements also show that they are closely inter-related in the sense that an increase in profit reinvestment may in certain circumstances be used to make up for a shortage of depreciation funds.

Despite their interdependence, there are differences in both the structural and institutional factors of industrial policy underlying the movements of domestic sources of financing, depending on whether depreciation reserves or reinvestment rates are being considered. It has therefore been thought best to deal with these two individually.

(i) *Sinking funds.* The depreciation rates authorized by tax legislation in the Latin American countries are usually much the same as those in force in the developed countries. As a rule, they imply the replacement of real estate in a period of 20 years, of machinery and equipment in 10 years and of vehicles in 5 years.

Thus, the legal rates do not seem to be one of the factors determining the relatively weak role played by sinking funds, as indicated above. On the contrary, if it is taken into account that in Latin America the operation of industrial assets is usually less intensive in terms of working hours or days, and that they are generally kept in use for longer periods, the rates incorporated in Latin American industrial legislation might well be regarded as on the easy side, and might therefore be expected to boost the contribution made by sinking funds to industrial financing. The same end would appear to be served by other provisions more recently established in several countries — including Colombia, Mexico and Peru — under the terms of which depreciation can be speeded up in proportion to the degree of intensity with which the capital is used, as an incentive to more efficient utilization of installed capacity.

On the other hand, legal provisions do not seem to have been equally efficacious with respect to what may be considered the root problem underlying the insignificance of the part played by sinking funds, namely, the valuation of industrial assets. The rapid inflationary processes and the successive devaluations of the currency that have taken place in many of the Latin American countries give rise to a progressive undervaluation of assets, so that depreciation rates are applied to a book capital which becomes more and more meaningless in relation to the real or replacement value of the assets in question.

As this problem has grown increasingly serious, attempts have been made to tackle it through the instruments of industrial policy themselves, in which special provisions relating to the revaluation of assets are incorporated in many cases. In Argentina, for example, measures combining exceptional amortization schedules with reassessment of the book value of fixed assets were adopted one after another. As from 1952, a specific percentage increase in sinking funks was authorized; a subsequent amendment established a scale varying in accordance with the age of the equipment, and among later provisions, Act No. 15272, passed in 1960, allowed the value of fixed assets to be brought up to date, 50 per cent of the amount resulting from the re-assessment being subject to special taxation at a relatively low rate. Similarly, in Brazil a series of decrees were issued, culminating in the Income Tax Act (No. 4357) of July 1964, which made it compulsory for assets to be periodically revalued in accordance with the coefficients determined by the National Economic Council. In Colombia, Act No. 81 (1960) grants special exemptions increasing depreciation rates for assets purchased prior to the 1957 currency devaluation, within given limits; but similar

provisions were not adopted in relation to the further devaluation that took place on December 1962. In Chile, Act No. 13305, promulgated in April 1959, amended previous legislation on the same subject, and authorized the annual revaluation of capital including movable assets, in conformity with the variations in the cost-of-living index or in stock exchange quotations, according to the nature of the assets concerned. The Industrial Promotion Act (No. 13270) passed in Peru in 1959 provides for the application of depreciation rates to the re-assessed value of machinery, spare parts and fixtures, if and when there has been a fluctuation of more than 5 per cent in the ratio between the national currency and the dollar.

In some cases, legislation of this kind has exerted a significant influence as a short-term corrective factor. In Chile, for instance, amortization had barely accounted for about 8 per cent of the total sources of funds of industrial enterprises in 1955–59, whereas in 1960, immediately after the revaluation of assets had been authorized, this proportion rose to 27 per cent. But since the measures in question were occasional in character and not part of a continuing policy, they seem to have been much less efficacious over the long term. Hence, the relative importance of sinking funds as a source of financing is still closely linked to the degree of general stability prevailing in price levels and exchange policy.

This interdependence can be appreciated from figure XIV, in which (with reference to the same countries and periods as are included in table 35) the proportions of total sources of financing represented by sinking funds are related to the fluctuations in internal price levels and the variations in exchange rates.

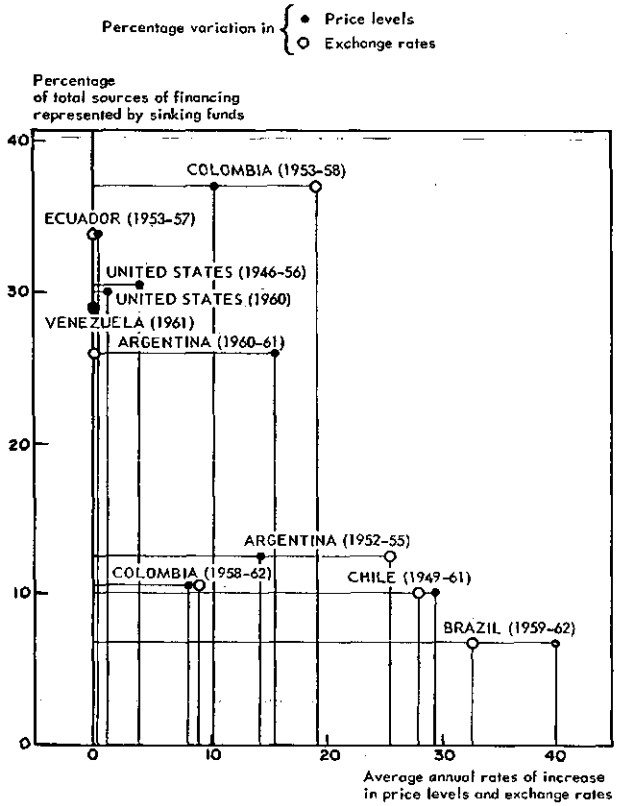
To sum up, it may be concluded that the relative smallness of the contribution made by sinking funds to the financing of the expansion of manufacturing activity is attributable mainly to the undervaluation generally implicit in the book value of industrial capital. The corrective measures adopted do not seem to have been sufficiently efficacious, for the following reasons: they have, as a rule, lacked continuity, being mainly in the nature of sporadic expedients, whereas the problem is perennial; in some cases, they have been linked exclusively to devaluations in the exchange rate, taking no account of fluctuations in internal price levels; and they have sometimes evaded overt recognition of a *de facto* situation, merely mitigating its adverse effects by authorizing the constitution of special sinking funds.

(ii) *Reinvestment of profits.* In so far as factors like these conduce to the establishment of sinking funds that are not large enough to meet real replacement needs, the rates of reinvestment of profits reflected in the estimates of sources and uses of funds to which reference has been made have not the same significance as is commonly ascribed to them. In more than one instance they become up to a point an indirect instrument for the provision of sufficient financing capacity to cover the replacement of equipment at the proper time. Thus, they only partly represent an effort directed towards the actual expansion of production capacity. Accordingly, apart from the fact that their contribution is relatively small in proportion to total sources of funds, their real significance from the standpoint of expansion still has to be assessed in each individual case, with simultaneous reference to the size of sinking funds.

The evaluation of the contribution made to industrial financing is a much more complex matter in the case of reinvestment of profits than with respect to sinking funds, since a number of structural and institutional factors come into play on which it is difficult to obtain sufficient quantitative data. This applies, in the first place, to the

Figure XIV

COMPARISON BETWEEN PARTICIPATION OF SINKING FUNDS RESERVES AND TOTAL SOURCE OF FINANCING FOR INDUSTRIAL GROWTH, AND VARIATIONS BETWEEN PRICE LEVELS AND EXCHANGE RATES IN THE UNITED STATES AND CERTAIN LATIN AMERICAN COUNTRIES



ratio between reinvested profits and total profits, which is it indispensable to take into consideration in order to envisage the problem not only in terms of the share of non-distributed profits in total available funds, but also from the angle of real reinvestment possibilities.

Broadly speaking, unless rates of return in industry were to be much lower than in other sectors of the economy — which is highly unlikely, to say the least — the possibilities of increasing the savings of manufacturing enterprises are substantial. This assumption is borne out by two other considerations.

Firstly, the preponderant role that external sources of funds have been shown to play in the financing of industrial enterprises signifies, *de facto*, a transfer of funds from other sectors, which contribute resources for this purpose other than those generated in manufacturing activity itself. Secondly, the fact that the share of wages and salaries in value added in industry is relatively low constitutes yet another indication of the availability of domestic financial resources for the financing of enterprises.

Broadly speaking, such scanty statistiacal data as are available tend to confirm the foregoing postulates at least in the case of estimates relating to the fifties. For example, it has been noted that while undistributed profits constituted 60 per cent of total industrial profits in the United Kingdom, and 40 per cent in the United States, in Chile the corresponding proportion was only 14 per cent.[14] The statistics for Colombia presented by the Office of the Superintendent of Joint Stock Companies (Superintendencia de Sociedades Anónimas) set the figure at a little below 39 per cent for 1953, and other estimates relating to Argentina in 1950–55 place it at about 30 per cent.

With regard to its subsequent evolution, the data to hand are still more fragmentary and frequently contradict one another. According to the source quoted above, the proportion of profits reinvested in Colombian enterprises would seem to have reached 58.5 per cent by 1962, a development which coincides in its general direction with the increase registered between 1953–58 and 1959–62 in the relative importance of reinvestment within total sources of funds (*see* again table 35). In Argentina's case, it is estimated that in 1960–63 the proportion in question climbed to about 60 per cent, a figure which is clearly hard to reconcile with the decrease that took place between 1952–55 and 1960–61 in the contribution of undistributed profits to total available funds (*see* table 35).

Other evaluations of a similar nature suggest that in manufacturing concerns in Mexico and Peru, likewise, the ratio between undistributed and total profits is rising.

In so far as this upward movement, which would help to remedy what seems to be a significant weakness in the patterns of industrial development financing, is in fact taking place, it may be partly ascribed to the relevant legislation that industrial policy has been introducing or strengthening. In Argentina, for example, upon the expiry of certain provisions which allowed a limited proportion of reinvested profits to be deducted from taxable income, a special régime was established in 1966, authorizing deduction of 50 per cent of any sums invested in the expansion of produc-

[14] Estimates formulated by Nicholas Kaldor, "*Problemas económicos de Chile*", *El Trimestre Económico*, No. 102, Mexico, April–June 1959, pp. 179 (footnote 8) and 189 (table 10). Probably the exceptionally low percentage given for Chilean enterprises does not take into account the "ploughing-back" of profits in the form of issues of bonus stock, an operation which is generally registered as an external capital contribution.

tion capacity, irrespective of the amount represented by total profits. The scope of this legislation, which was at first confined to agricultural enterprises, was extended in 1956 to cover industrial and other undertakings, and it was later the object of frequent derogations, additions and amendments. In Colombia, under Act No. 81 (1960) referred to above, joint stock companies can constitute, tax-free, a special economic development reserve, up to an annual limit of 5 per cent of liquid profits, with the aim of increasing production of raw materials and goods to replace imports. In Ecuador, the Industrial Development Act (Ley de Fomento Industrial) of 1964 authorizes, for the purposes of determining income tax liabilities, the deduction of sums reinvested, or of new investment financed by loans or new capital contribution, when the objective is the expansion and improvement of industrial plant. Under the industrial development legislation referred to in the case of Peru, annual profits can be invested tax-free in the expansion or diversification of production capacity, or to serve other ends, in proportions which vary according to the location of the industries concerned: 30 per cent in the Lima-Callao area, 50 per cent in other coastal districts, 80 per cent in the Sierra and 100 per cent in the Selva or jungle areas. In Venezuela, the Income Tax Act (Ley de Impuestos sobre la Renta) of 1961 establishes progressive reductions — up to 25 per cent — of the so-called complementary tax (impuesto complementario) for the benefit of taxpayers who invest in specific activities, in accordance with a scale based on the ratio between investment and net income.

In any event, it has not been possible to collect enough quantitative data for conclusions to be drawn as to the levels and variations of the proportions of profits reinvested, or as regards the effects that may be ascribed to the specific provisions for the encouragement of reinvestment that have been incorporated in the industrial legislation of many Latin American countries.

In the last analysis, the question of reinvestment is one aspect of the basic and more general problem of stepping up the mobilization of internal resources in order to expedite the development of the Latin American economies. Accordingly, it is subject to the influence of widely varying factors, and can hardly be approached from the standpoint of a specific instrument of industrial policy although this does not mean that the latter's importance should be under-estimated. On the contrary, supreme importance must be attached to the improvement of its efficacy; and to that end, consideration of the set of circumstances in which it is to be applied is an indispensable requisite.

In this as in other contexts, it seems essential to introduce highly flexible criteria in the design and application of the relevant instruments of industrial policy. It should be noted in this connexion that what matters is not only the amount reinvested in absolute terms or its relation, in the aggregate, to total profits, but also how the funds accruing from the profits in question are turned to account. For example, indiscriminate encouragement might in the upshot widen the margins of idle capacity displayed in specific sectors of Latin American industry, its sole effect being to divert real resources from other possible uses. Nor would the channelling of such resources be very efficacious if the result were an intensification of Latin American industry's characteristic tendency, pointed out in other chapters, to horizontal expansion at the expense of increased consolidation and integration. On the other hand, it may be a powerful instrument for the gradual establishment of a more rational and efficient industrial base, if and when more selective criteria can be introduced to ensure wiser application of the incentives provided.

Consequently, the aim of such incentives must not merely be to promote reinvestment of profits in the actual enterprises concerned, since it may often be more important to deflect the new resources into other manufacturing activities. Hence the effectiveness of measures designed to encourage reinvestment comes to depend upon the efficacy of other instruments whereby the transfer of savings is facilitated, a case in point being that of the capital market. In this sense, the distinction between internal and external sources of funds is of value only for specific analytical purposes; final results depend upon the progress concurrently achieved by instruments intended to stimulate and channel both external and internal financing.

(*b*) *External sources*

The weakness shown in many instances by industrial enterprises' own internal sources of financing for expansion purposes, together with the fact that as, has just been shown, the ability of such sources to play a more effective role is contingent upon the efficacy of other machinery, enhances the importance of external sources of financing as a basic factor in industrial development.

In earlier paragraphs, some attention was devoted to quantitative data illustrating the share of external sources in the total sources of funds available to specific samples of manufacturing enterprises in different Latin American countries and at different times. It was pointed out that the relatively high proportion for which they generally seem to account must be viewed with a measure of caution, since by itself it would not warrant the conclusion that external sources of financing for Latin American industry offer particularly favourable conditions. It is worth while pausing here to make a more detailed examination of the part played by the two instruments through which such resources are principally channelled: the banking system and the stock exchange.

(i) *Part played by the banking system in the financing of industry.* The channelling of loan and credit resources constitutes one of the leading instruments whereby economic policy can encourage the development of specific sectors. In the particular case of manufacturing industry in Latin America, incentives of this kind have derived both from general provisions governing the allocation of bank credit and from the establishment of public bodies for the special purpose of offering industry more credit on better terms.

An evaluation of the results achieved by such measures and instruments, over and above those indications of the proportion of total funds for industrial expansion represented by loans to which reference has been made, in general terms, entails the consideration of several pertinent factors.

In the first place, the over-all contribution that credit resources have been making to the economic development of Latin America as a whole must be borne in mind in order to assess the share in it that has fallen to manufacturing industry. In this connexion, it is enlightening to collect a few data on the relations between total credit volumes and the corresponding domestic product levels, although in interpreting them the structural differences between the economies concerned must be taken into account.

During the period 1961–62, in countries such as Denmark, the Federal Republic of Germany, Japan, Norway, Sweden and the United States, the percentage relations between internal credit and the gross national product ranged from over 100 per cent in Japan's case to 43.8 per cent in that of the United States. In the same years, the corresponding figures registered in Latin American countries like Bolivia, Haiti,

Honduras, Paraguay and even Venezuela fluctuated between a mere 10 and 20 per cent. In another group of Latin American countries, including some at a relatively more advanced stage of industrial development — such as Chile, Colombia and Peru — they reached 20 to 30 per cent, and only in four countries — Argentina, Brazil, Mexico and Uruguay — were they comparable to those noted in the industrialized countries. Outstanding in this last group is Brazil, where the proportion was 61.8 per cent, as against 48.6 per cent in Uruguay and under 40 per cent in Argentina and Mexico. This shortage of bank credit seems to have been even more serious in earlier years, as only a decade previously the percentage relations in the same countries were lower as a rule, Argentina being among the few exceptions.

Within the general framework of this relative scarcity of bank credit, the position with regard to loans specifically channelled towards the manufacturing sector shows variations which, up to a point, can be linked with the degree of industrial development attained by the countries concerned.

In some of these, the situation seems to be more unfavourable in industry than in the economy as a whole. For example, in Panama in 1958–60 the loans received by manufacturing industry represented a lower percentage in relation to the gross product in that sector (18.5 per cent) than did total credit in relation to the total product. In Costa Rica (1957), industrial credit was equivalent to 22.2 per cent of the product of the sector, while 23.4 per cent was the corresponding figure for the economy as a whole. Industrial credit in Ecuador, between 1950 and 1961, did not amount to more than 20 per cent of the product of the manufacturing sector, whereas total credit approached 35 per cent of the national product. Much the same happened in Peru, and a similar situation probably prevails in other countries of the region.[15]

The position is different, apparently, in countries at a more advanced stage of industrialization. In Argentina, the relation between total credits and the domestic product fluctuated between 9.4 and 21.9 per cent in 1943–53, while in industry credit was equivalent to proportions of the product varying between 12.5 and 28.7 per cent; in the following decade, the corresponding coefficients were 12.7 and 17.9 per cent, respectively. In Brazil, total credit during the ten-year period 1952–62 represented between 22.4 and 29.3 per cent of the total product, as against levels ranging from 45 to 50 per cent for the relation between loans to industry and the product in the manufacturing sector.

In Mexico, prior to 1940, the relation of credit to product was much the same in the industrial sector as in the economy as a whole — about 20 per cent — but from 1940 onwards, it gradually increased, and by 1960 had reached 61.3 per cent in the case of industry, as against only 28.5 per cent for the total; what is more, after 1960 both relations seems to have continued rising, at a still more rapid rate, until proportions amounting to 83 per cent and 34 per cent, respectively, were registered for industry and for the economy as a whole. On a lesser scale, the same process is observable in Colombia, where in 1945–60 total credits corresponded to 19.7 per cent of the gross domestic product, in comparison with an average figure of 28.9 per cent in the industrial sector.

---

[15] It will be noted that these percentage relations are not expressed in terms of the contribution of industrial credit to total credit resources, which would be largely determined by the relative importance of the manufacturing sector within the economy as a whole, but in each instance relate the amount of credit to the product concerned.

These data support two conclusions. Firstly, the amount of credit allocated to the industrial sector is generally smaller, in relative terms, in countries at less advanced stages of industrialization, although it is precisely in these that the greatest importance would seem to attach to the transfer of savings from other sectors of the economy to underprop the expansion of manufacturing industry, in view of the industrial sector's more limited capacity to generate internal resources. Secondly, a fairly general trend can be noted, at the different levels corresponding to different countries, towards an increase in the share of credit resources applied in the sector in question.

In contrast to what might be supposed, in many instances there does not seem to be much connexion between these two facts and the degree of intensity and efficacy with which public industrial credit institutions have been operating. Their percentage contribution to the total amounts lent to manufacturing enterprises varies widely from one country to another, but is is not necessarily correlative with each country's level of industrial development or with the proportions of the product to which credit resources correspond in the industrial sector and in the economy as a whole. Similarly, the relative improvement in the supply of credit for industry to which reference has been made is seldom attributable to a more rapid expansion of the industrial financing granted by public bodies. In other words, the proportions and trends in question are mainly determined by the behaviour of the banking system as a whole, rather than by the specific influence of State credit.

It will be useful to check this observation against developments in selected countries, so that its scope may be more accurately evaluated, and, in addition, attention may be drawn to the differences between individual situations among which there are significant exceptions to the foregoing general rule.

In *Argentina*, the role played by the Banco Industrial, especially since 1957, seems to have consisted in supplementing the activities of the private banks rather than in the continuing promotion of industrial credit. Its share in total loans to industry granted by the banking system in the aggregate was as much as 78 per cent in 1949, reached 50 per cent in 1951–55, and in subsequent years declined appreciably, until by 1963 it had dropped to 13.6 per cent.

Brazil is one of the countries in which the proportion of total loans represented by industrial credit is highest. But at the same time, this proportion does not seem to differ significantly as between loans granted by the monetary authorities and those extended by commercial banks, since during the past decade the evolution of both types of credit has been similar, in the sense that parallel increases have taken place in the share falling to industry.

In *Ecuador*, the central bank and the development banks were allocating about 20 per cent of their loans to industrial purposes in the early fifties, whereas in 1960–61 the corresponding proportion did not exceed 12 or 13 per cent. Over the same period, the private banks increased their loans to industry from approximately 5 per cent to a little over 10 per cent, which has brought their distribution almost level with that of the credits issued by public institutions. In addition, particular importance attaches to the policy of direct allocation of funds pursued by the latter since even after the changes indicated above, they still contribute more than half of total loans to industry.

Among the countries at a relatively less advanced stage of industrial development, *Panama* and *Nicaragua* exemplify two situations that differ widely as regards the part played by public institutions in supplying credit to the manufacturing sector.

The proportion of total loans constituted by such credits is less than 10 per cent in Panama, whereas in Nicaragua it is over two-thirds. In Panama, moreover, loans to industry decreased in recent years in both absolute and relative terms, so that by 1961 they represented 5 per cent as against over 14 per cent in 1958; while in Nicaragua's case their relative importance increased slightly, and their aggregate volume substantially, between 1958 and 1963.

Mexico and *Peru* register situations and trends different from those mentioned in connexion with most of the countries cited. In Mexico, the high proportion of total credits allocated to manufacturing industry — more than 50 per cent in recent years — comes largely from the public institutions, which account for over 65 per cent of industrial loans, although this proportion is not much bigger than their contribution to credit granted for other purposes (57 per cent in 1963). As regards Peru, where the share of industry in total credits is smaller, the Banco Industrial has been steadily increasing its contribution to industrial financing, especially since 1957, so that by 1963 it accounted for almost 24 per cent of total loans to industry, in comparison with under 10 per cent in 1950.

Such cases as these last should not distract attention from others in which public institutions do not seem to be playing a particularly dynamic role in the process of strengthening industrial credit. It must be pointed out in this connexion that few Latin American countries possess special credit institutions for industry, since in many instances State development and credit agencies are likewise responsible for helping to finance other sectors of the economy, including agriculture, housing and basic social capital. Cases in point are those of CORFO in Chile, the Nacional Financiera, S.A. in Mexico, or the Venezuelan Development Corporation (Corporación Venezolana de Fomento).[16]

What is relevant here is not to grade the advantages offered by channelling funds through public or through private institutions, but to establish certain facts which may help to shed light on the efficacy of the measures and instruments of industrial policy that have been in current use. It must be recognized, moreover, that the distinction in question becomes much more meaningful as soon as consideration of the problem on an over-all and quantitative basis gives place to analysis of the terms on which the two types of loan are generally granted.

In this context, amortization periods are of the first importance. Long-term credits have traditionally constituted a low proportion of the total, and their recent expansion has been largely linked to the operations of public institutions. In Mexico, for example, whereas in the year 1935 only 20 per cent of the credits granted by the banking system as a whole were medium and long-term loans, these afterwards came to constitute more than 40 per cent of the total; but in 1962–63 only 30 per cent of the loans extended by private institutions were issued for periods of more than 360 days, and the proportion of this percentage that fell to the industrial sector was very small. In the case of the operations of development institutions, on the other hand, longer-term loans accounted for 60 per cent of the total, and industry's share in them was much

[16] The last-named may serve to illustrate the changes in the general criteria for the allocation of resources to which this aggregation of responsibilities may give rise, since the distribution of the Corporation's long-term credits has altered in such a way as appreciably to strengthen the supply of credit resources available to industry, whose share in loan operations increased from a little over 26 per cent in 1948–58 to nearly 86 per cent in 1959–63.

larger. In other Latin American countries, the average proportion of total loans represented by long and medium-term credits does not seem to exceed 30 per cent, and in some cases is almost nil.

The responsiblity assumed by public institutions in respect of long-term credit is enhanced in certain countries by the fact that commercial banks are forbidden by law to concert operations of this type. When they are negotiated, they take the form of periodic renewals of short-term loans or overdrafts, with the corresponding surcharges on the cost of the loan concerned, and the elements of uncertainty involved in the successive renewals.

The widespread shortage of bank credit also means that its cost is high. For example, the rate of interest charged by commercial banks in Caracas was 7 per cent in 1959 and had risen to 9 per cent by 1963, although Venezuela is one of the countries where the credit shortage is least acute. In Chile's case, the ordinary bank interest rate was 9 per cent in 1945, and climbed to 10.4 per cent in 1950, 13.5 per cent in 1955 and 16.6 per cent in 1960. In Colombia, the rate of interest on loans extended for more than 150 days, inclusive of commissions and other charges, is about 14 per cent, and the rate payable on loans granted by insurance companies for periods of one to two years is 15 per cent.

The rate of interest charged by the banking system in Argentina was approximately 7.5 per cent in 1951, increased to 10.1 per cent in 1960 and is estimated at 14 per cent for 1963.

In countries where the commercial banks are not authorized to grant medium and long-term loans, the banking institutions themselves usually operate through subsidiary financing enterprises which are not subject to such strict regulations and controls. Loans extended in this way may entail interest and other charges which substantially raise the cost of credit.

Agina, save in exceptional cases or periods, the shortage of bank credit is most serious in respect of loans in foreign currency. Although the relative importance of suppliers' credits has been increasing, their higher cost and short-term character are unsuited to the requirements of Latin American industrialists. The foreign currency credit lines at the disposal of the commercial banks are limited. In Peru, for example, the loans issued by commercial banks in foreign currency accounted for 10 per cent of total loan operations in 1938–39, a proportion which gradually declined, until by 1950–51 it had sunk to 0.2 per cent; it subsequently increased, and by 1962 had regained a level of 9 per cent.

Both the problem of amortization periods and that of the proportion needed in foreign currency have been gradually relieved by means of external credits, channelled mainly through the Export-Import Bank (EXIMBANK), the Inter-American Development Bank (IDB), the International Bank for Reconstruction and Development (IBRD) and other international agencies, as will be shown in greater detail in a separate section.

The inadequacy of the available statistical data precludes analysis of other important aspects of the influence exerted on the industrial development of the Latin American countries by the volume and distribution of bank credit. Certain fragmentary data would seem to suggest, for example, that in many cases the allocation of loans to the various branches of industry shows a somewhat conservative bias in favour of those already consolidated, one reason being the scarcity of new investment projects

Table 39

INDICATORS OF STOCK EXCHANGE ACTIVITY IN EIGHT LATIN AMERICAN COUNTRIES, 1962

	Argentina	*Brazil*	*Chile*	*Colombia*	*Mexico*	*Peru*	*Uruguay*	*Venezuela*
1. *Number of stock exchanges*	3	21	2	2	3	1	1	1
2. *Number of registered companies*								
(*a*) Total	552		372	107	350	115	...	91
(*b*) Industrial	351		150	63	138	20	...	30
3. *Relative importance of volume of transactions (percentages)*								
(*a*) Ratio between total transactions and gross domestic product	1.5	1.2	0.8	1.1	10.9	0.7	1.3	1.1
(*b*) Ratio between transaction in shares and gross domestic product	1.4	0.4	0.7	0.6	0.1	0.4	0.1	0.1
(*c*) Ratio between transaction in industrial shares and the industrial product		0.9	1.9	2.6	0.2	0.1		0.3
4. *Ratio between transactions in industrial shares and total transactions (percentages)*	30	15[a]	35	40	0.5[b]	10	6.5	6

[a] In 1960 the corresponding ratio was 50 per cent.
[b] In 1961 the corresponding ratio was 6.3 per cent.

and another the higher proportion of long-term credit required for the development of new industrial enterprises. Similarly, the work and worry entailed in the constant renewal of short-term credits induces producers to locate industries in the neighbourhood of the chief urban centres, where financial facilities are greater; and this procedure contributes to aggravate the process of increasing industrial concentration that has been discussed in other sections.

Lastly, it should be recalled that the accessibility of credit resources to manufacturing industry, as determined by this group of factors, must be evaluated in the light of the financing requirements which industry in its turn has to meet in order to sell its products. These requirements are ultimately reflected in a considerable reduction of the net contribution made by credit resources to the actual expansion of industrial activities.

(ii) *The organization and operation of the stock market.* The other external source of funds for industrial expansion — new capital — usually takes the form of funds obtained through the stock market. Hence it is relevant to study the stage of development attained by this machinery in Latin America, and the role it has played in directing further funds to the industrial sector.

Table 39 gives some indicators of the recent activity of the stock markets in Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay and Venezuela.[17] Broadly speaking these are the Latin American countries in which the capital market is relatively more developed, since of the remaining countries some have not yet established any stock exchange, and in others the stock exchange is not very active, or the regulations governing its operation are somewhat ineffective.

Although the data given are consequently confined to the most favourable situations, they indicate the lack of development thus far of stock markets in Latin America. In fact it is clear that relatively few of the companies are registered on the stock exchanges concerned, and the stock exchange operations are not significant in volume in relation to such general indicators as the total gross domestic product. Except for Mexico, the ratio between the two is less than 2 per cent, whereas in 1962 and 1963 the levels in countries like the United States and Japan were over 11 and approximately 20 per cent, respectively, and at least 3 per cent in others, such as Canada and Spain. In the Latin American countries these over-all ratios are largely determined by the negotiation of government bonds and securities, and consequently transactions in shares in the strict sense constitute an even lower proportion.

Against this general picture of the weak stock market, the transactions in industrial shares show a relatively more favourable trend, in many cases surpassing 30 per cent of the total number of shares subject to transactions, although they too are of only minor significance in absolute terms, or in comparison with the levels of the industrial product.

Furthermore, the small scale of the stock market in Latin America does not usually reflect an initial stage of development of such markets, which, although the level is low, development is satisfactory. On the contrary, some of the institutions governing these operations are old-established (the stock exchanges of Buenos Aires

[17] The information given here is included merely for the purpose of illustrating general stock market activity in Latin America, and does not provide any basis for comparison between the various countries included, because the transactions covered vary widely.

Figure XV

TRENDS OF VALUES AT CONSTANT PRICES OF STOCK EXCHANGE OPERATIONS IN CERTAIN LATIN AMERICAN COUNTRIES, 1935–1963

(In millions of each country's monetary unit)

Semi-logarithmic scale

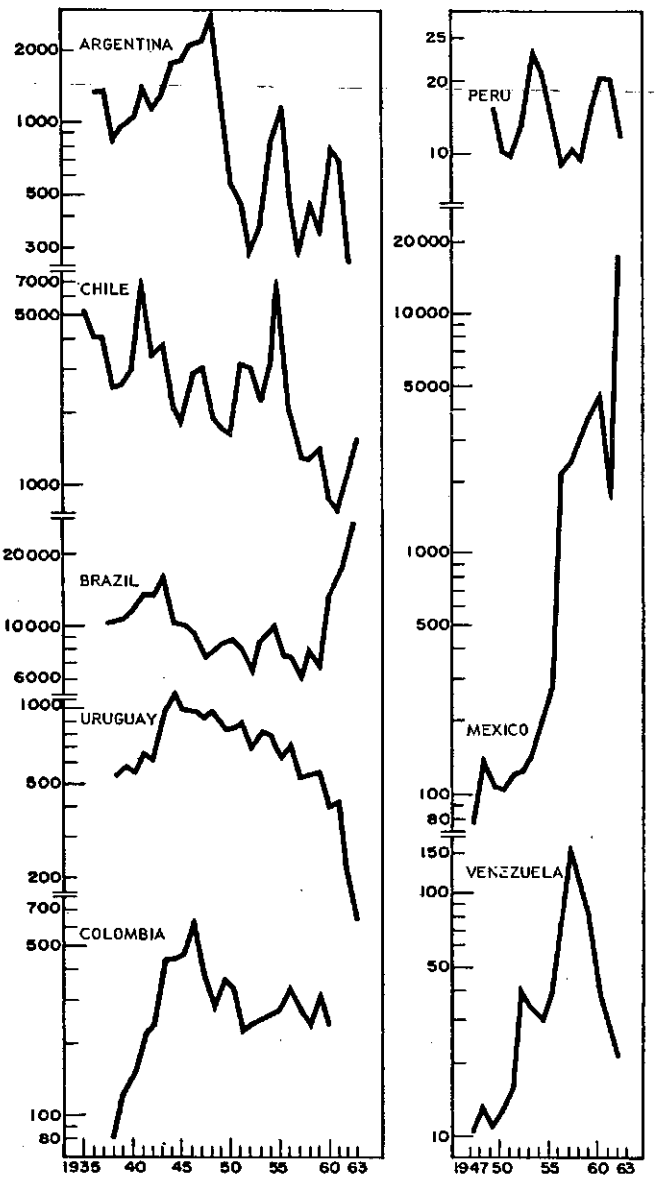


Figure XVI

EVOLUTION OF THE STOCK MARKET (INDUSTRIAL SHARES) IN CERTAIN LATIN AMERICAN COUNTRIES, 1945–1963

(At constant values, in the monetary unit of each country)

Semi-logarithmic scale

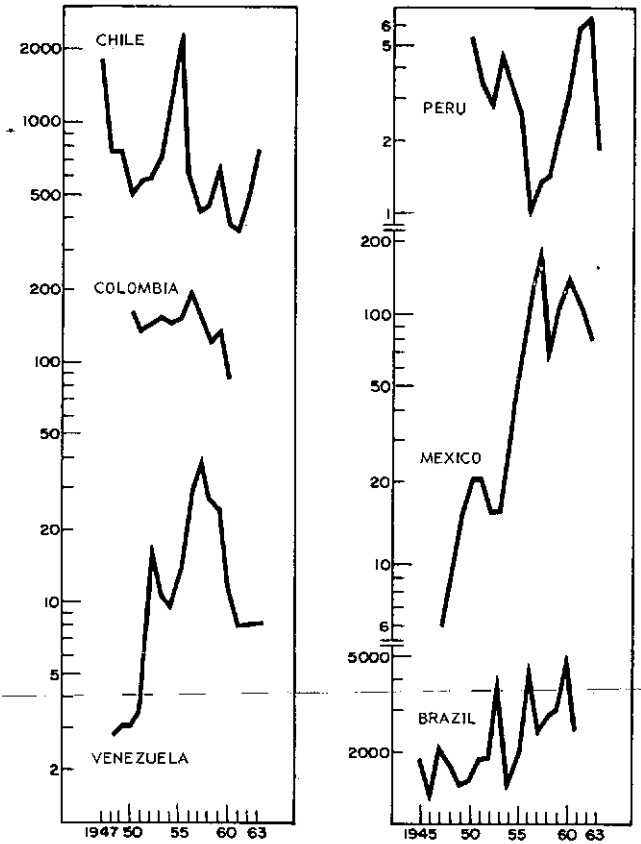


Figure XVII

RATIO TRENDS BETWEEN STOCK EXCHANGE TRANSACTIONS AND GROSS INTERNAL PRODUCT IN CERTAIN LATIN AMERICAN COUNTRIES, 1938–1963

(Percentages)

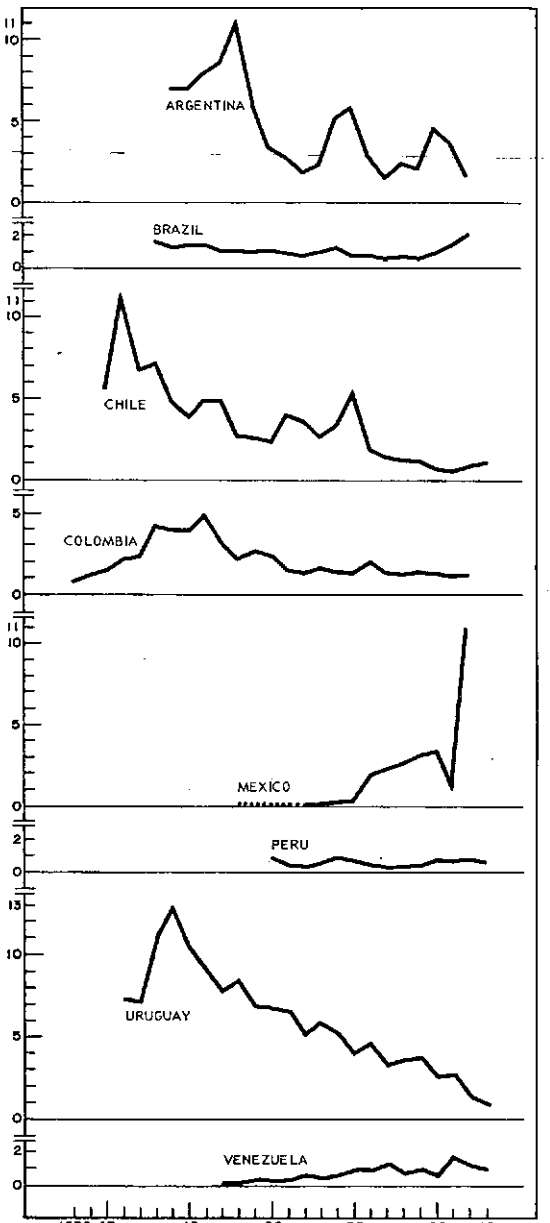
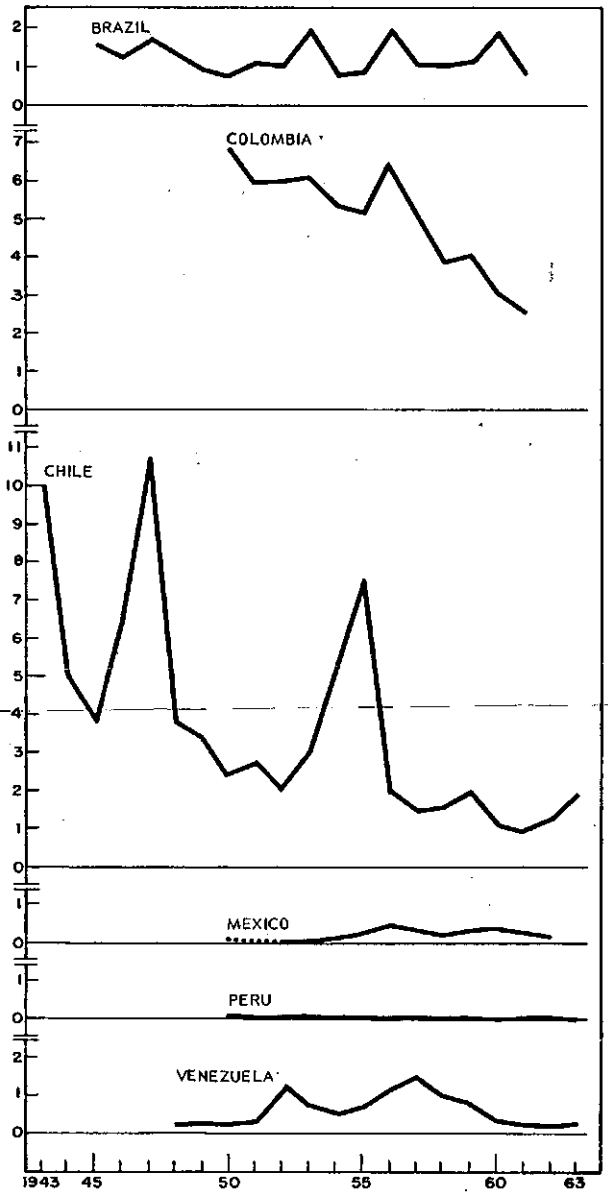


Figure XVIII

RATIO TRENDS BETWEEN TRANSACTIONS IN INDUSTRIAL SHARES AND MANUFACTURING IN CERTAIN LATIN-AMERICAN COUNTRIES, 1943–1963

(Percentages)



and Rio de Janeiro, for example, officially began operating in 1854 and 1876, respectively), and in many cases achieved substantially higher volume of transactions in earlier periods. Thus their present levels are the result of a steady contraction of their activities in real terms.

In this respect it is revealing to note the trends shown in figure XV relating to the evolution of the values of stock exchange operations deflated by the respective domestic price levels.[18] The stagnation or decline of operations in real terms seems to be a fairly general feature in Latin America, except in Mexico, where the trends since 1956 suggest that a really significant stock market has been developed. In this respect it should be pointed out that in many cases the reductions shown in figure XV are largely due to government bonds and securities. Part of the reason for this is the gradual replacement of bond issues abroad by the securing of loans directly from banking institutions. Transactions in private securities have not declined so sharply. Nevertheless, the information available does not always permit operations to be classified so that trends in the latter type of transaction can be studied separately, whereas this can be done for at least six of the eight countries included in the earlier comparison by confining attention to transactions in industrial shares.

The figures for these shares follow a somewhat more satisfactory trend than those for total operations, but even so there is no significant long-term progress (*see* figure XVI). However, in addition to the particularly rapid growth of the transactions in industrial shares in Mexico (although they started from very low initial levels) the development in Brazil and Venezuela is also relatively satisfactory.

These comments are supplemented by figures XVII and XVIII, which illustrate the changes in the ratios between the transactions in shares and the domestic product (in relation both to the economy as a whole and to the industrial sector in particular) during the last twenty years. These trends are more unfavourable than those in the absolute volume of transactions. Even when the latter does not show any sharp decline, its behaviour appears rather more unsatisfactory if account is taken of the increases that have occurred during the period in the levels of economic activity in general and industry in particular. In several countries there has been a strikingly sharp decline, which in nearly all (except for Mexico for total transactions, though not for industrial transactions alone) has led to ratios that reflect a notably low level in relation to the product.

The indicators referred to cover only transactions made through the organized stock market. In some countries, as in most of the Central American countries, there are no specialized institutions for the purpose, and even in the others they appear to act as the channel for only a fraction of the total volume of transactions. The shares issued by new enterprises generally have to be sold directly to the public, since they cannot be quoted on the stock exchange until they meet certain requirements. In fact many transactions in the shares of existing enterprises take place through other media, or through direct contacts between enterprises and individuals. Most of the negotiations thus represent free market operations, to such an extent that it is estimated that in Brazil, although it is compulsory by law to register shares on the stock exchange, the number of those actually traded on the organized market probably amounts to

[18] Although pre-1950 data were available for a few countries only, the trends shown in figure XVI seem to be the same in all of them.

no more than fifty. In Mexico it is estimated that the stock exchange in 1963 dealt with only 13 per cent of the total volume of transactions, the remaining 87 per cent, which includes the operations of Nacional Financiera, the Bank of Mexico and private credit institutions, being handled in the free market.

In brief, the decline or slow growth of the transactions reflect, in the last analysis, a transfer from a market that is organized but weak to a free market where the promotional machinery is more dynamic. In some cases the change has affected industrial shares less than other securities, and this has resulted in an increase in the share of the former in the total volume of transactions. This applies, for example, to Argentina, where industrial shares represented 4 per cent of total transactions in 1930–39, 10 per cent in 1940–49 and about 30 per cent in 1960, and also to Chile, where the corresponding figures were less than 30 per cent in 1941–47 and over 35 per cent in 1959–63. On the other hand the proportion declined in Colombia (from an annual average of 50 per cent in 1950–59 to less than 40 per cent in 1960–63), Uruguay (from 12 per cent in 1943–50 to 6.5 per cent in 1961–63), and, to a notable extent, in Mexico where, despite the general strengthening of the stock market, the result of the development and efficiency of other machinery has been to reduce the proportion of transactions in industrial shares, in relation to all the operations taking place through the stock exchanges, from about 20 per cent in 1950 to less than 1 per cent in 1962–63.

The above-described trends, taken as a whole, raise some doubt as to the validity of the importance usually attached to the role of the traditional stock market machinery as a means of increasing the flow of funds to the industrial sector. This is a subject that in itself would repay a number of special studies; here comment will be confined to a few general remarks relating to the inconsistency between these trends and the undoubted progress that has been made in industrialization and general economic development in Latin America.

The factors underlying this long-term behaviour probably include the absence of any regulations governing the operation of the stock market, or, where such regulations exist, their failure to adapt to a changing situation. It has been pointed out,[19] for example, that despite certain subsequent amendments, the organization and operational system of the Rio de Janeiro stock exchange are in essence based on a law adopted in 1895, and to date there is no public institution that can certify the integrity of enterprises whose shares are in the hands of the public, even though all such companies must register their shares on the stock exchange.

However, even more important than the effectiveness of the regulations concerned seem to be the factors relating to the actual structure of Latin American industry, which necessarily gives the regional capital market certain characteristics.

In the first place, most enterprises are so largely family-owned that there is little incentive to place them on the market, except for a proportion sufficiently small to ensure that the family's control is not affected. Hence transactions tend to be mainly in shares of companies that are not family-owned, and in practice this is usually a small proportion. Thus, for example, of the total of 20 industrial enterprises registered on the Lima Stock Exchange, the shares of only 7 were traded in 1963, and of these total transactions, 93 per cent were in the shares of only 4 enterprises. On the Caracas Stock Exchange, the shares of 30 industrial enterprises were traded, but 90 per cent of

[19] Roberto Teixeira de Costa, "Bolsa, açoes e o mercado de capitais", in *Jornal do Brasil* (Revista Economica), 30 January 1965.

the transactions related to only 5 enterprises. In Chile, out of the 150 enterprises registered, 20 account for 70 per cent of the total transactions in industrial shares. In Colombia, out of 63 enterprises registered, shares are traded for only 48, and of these 6 account for 82 per cent of all transactions and 3 for 71 per cent.

For the same reason, the dividend rate of industrial limited companies is not always closely related to their actual expansion. Then, again, the family basis of ownership makes it easy to distribute profits in practice by means other than the distribution of dividends, in the form of emoluments paid to the Board of Directors and the management, with the result that the price of the shares, linked to the dividend rate rather than to actual total assets on which it is based, has no real meaning, in that they are not regarded essentially as negotiable shares, but rather as a mere reflection of the ownership of the enterprise.

This last point may help to explain another of the more surprising trends in the trading in securities on the Latin American stock exchanges. There has been a long-term decline in the index of share prices in relation to the variations in the level of domestic prices, that is, a reduction in share prices in real terms. These trends are clearly shown in figures XIX and XX, dealing respectively with the total number of shares and the industrial shares alone.

Whatever reservations are called for from the statistical standpoint with respect to the share price indexes, in view of the complexity of this type of measurement, the trends are sufficiently clear to warrant the conclusion that, apart from Venezuela, in most American countries the unit prices of the shares quoted on the stock exchange have been declining in terms of constant prices. The same is true of the industrial shares in particular, although fewer countries have separate information available on these shares. Nor can it be assumed that these trends, instead of reflecting what has happened over the period to the real value of the assets of the enterprises behind these shares, are an example of the lack of relation between the company's real assets and the dividends distributed.

Be that as it may, the situation is one that must necessarily discourage the flow of savings into ownership of shares and securities that do not provide a fixed yield, in the absence of any significant measure of participation in the basic decisions taken by the enterprise. From this standpoint the sharing out of profits by channels other than dividend distribution, and limited to a few persons, discourages the small shareholders, who are sometimes unable even to get back the current value of their investment.

In addition there is another basic structural factor, relating to the actual level and type of income distribution in Latin America: the result of the heavy concentration of income is that a very high proportion of the population have little or no savings capacity. Consequently, the opportunity of buying shares is restricted to the very small section with high incomes.

Although there is also some savings potential in certain middle-class groups, investment in industrial shares has to compete with other aims and ambitions for a higher standard of living, which often means that a fairly substantial share of income is spent on durable consumer goods. Housing financing is another channel that drains off a considerable share of the savings capacity of these sectors. Moreover changes in economic policy often lead to opportunities, largely of a speculative nature, which offer much greater incentives than those offered by the regular stock market.

Figure XIX

DECLINING TREND OF TRADING IN ALL SECURITIES IN CERTAIN LATIN-AMERICAN COUNTRIES, 1935–1963

(1950 = 100)

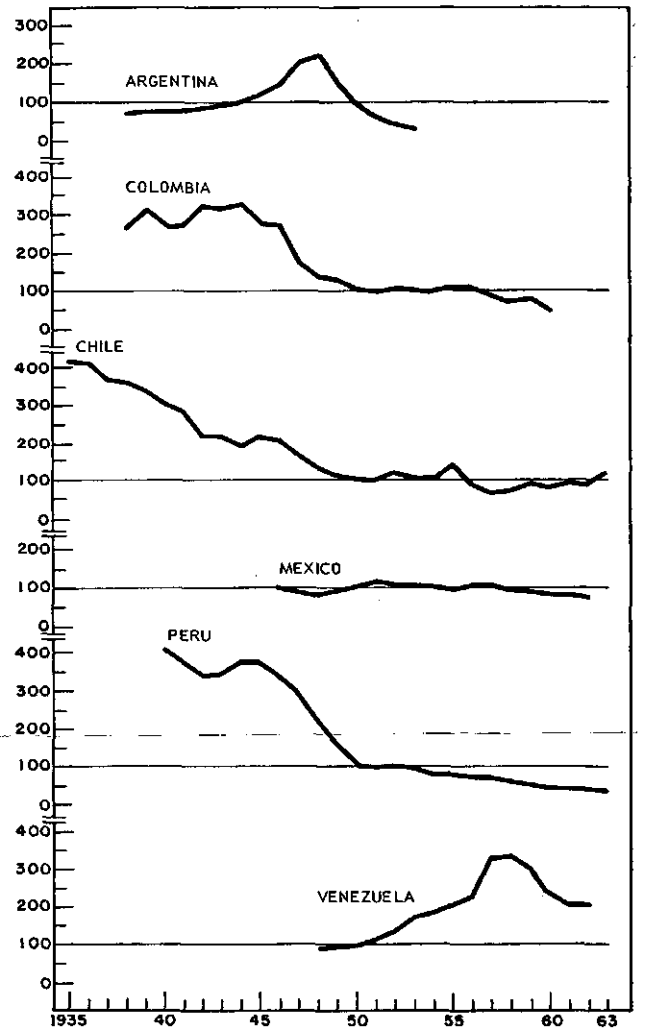
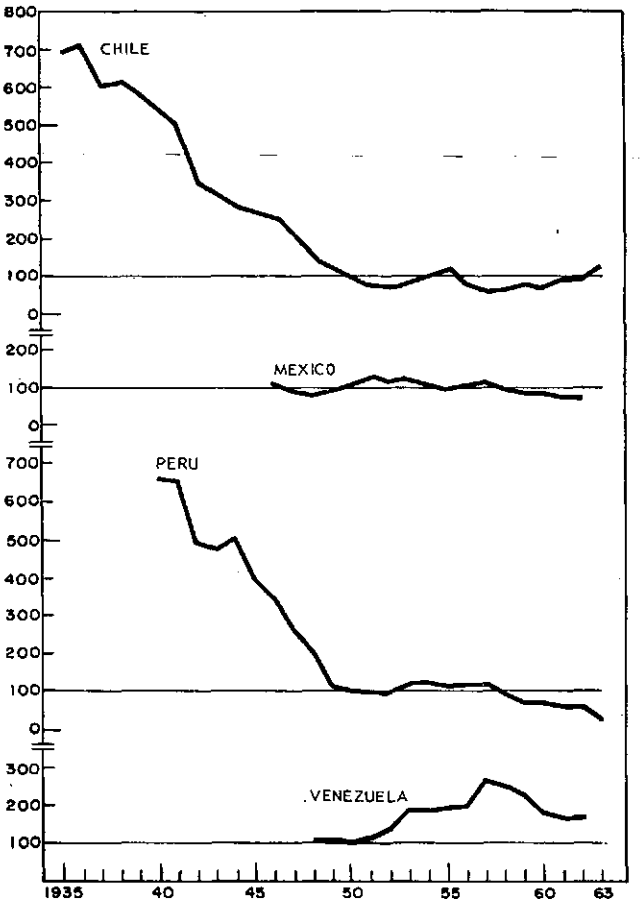


Figure XX

CHILE, MEXICO, PERU AND VENEZUELA: DECLINING TREND OF INDUSTRIAL SHARES, 1935-1963

(1950 = 100)



Even the purchase of gold and foreign currency was often a very attractive form of investment for those who might have been potential holders of industrial shares.[20]

The inevitable results of these factors is that even though in many cases the total number of shareholders is relatively large there is a high degree of concentration of shares in the hands of small groups. In Colombia, for example, it is estimated that 1 per cent of shareholders account for 70 per cent of the total value of shares, whereas 90 per cent of shareholders account for only 10 per cent. Similarly, in Chile it is estimated that 5 per cent of shareholders own 69 per cent of all shares, whereas 50 per cent own only 1.4 per cent of the total.

Hence it is easy to see why most enterprises prefer to place their shares with small groups of people, often members of a family, on a direct basis, and refrain from operating on an established stock exchange that offers no great prospect of obtaining additional funds, and in fact requires a greater promotional effort and a more complex organization. Moreover these conditions encourage enterprises to adopt the type of profit-distribution policy referred to, which further reduces the attractions for potential share purchasers.

In recent years better results have been obtained through the introduction of other systems of indirect channelling of savings into the purchase of shares, in the form of savings and loan associations and mutual investment funds. The Crecinco funds are of this type, the first and most substantial having been established in Brazil in 1957, after certain not very successful attempts at underwriting. Later, companies of this type were introduced in other Latin American countries, including Argentina, Brazil, Chile, Colombia, Mexico and Venezuela. These bodies employ more flexible methods of mobilizing savings, but in any case their recent development is not wholly unconnected with the progress and improvement of the stock market as a whole.

Another approach that deserves special attention is that used in Mexico, where the financing of industry through the stock market has been carried out in an indirect form. In the first place, the Nacional Financiera has issued its own shares to obtain funds from the capital market, and then subsequently passed on a large share of these funds to the industrial sector. Secondly, the government and private banking system itself has been converted by the direct intervention of the Bank of Mexico onto one of the main promoters of the stock market, through the increase in its portfolio of holdings of government and private securities, consisting partly of industrial mortgages. Thus it has been possible to some extent to offset the small participation by the saving public in the direct market of industrial shares.

The foregoing comments indicate the need to study in depth the information gathered regarding the operation of the stock market in the Latin American countries, from the standpoint both of the institutional framework and legal provisions in force, and of the structural factors that must necessarily affect the workings of the market. In relation to the structural factors, it would seem necessary also to consider what is

---

[20] This trend has been observed even in a country like Venezuela, where prices and exchange policy are much more stable than in other Latin American countries, and where personal savings have traditionally been channelled into the savings accounts of the commercial banks. Between 1947–50 (the first years of operation of the stock exchange) and 1956–60, stock exchange operations increased tenfold. But in 1960 exchange control was introduced and the bolivar was devalued, with the result that the movement of foreign exchange on the commercial exchange rapidly rose to levels much higher than those for share operations, which fell to a level barely twice that of the first years of operation.

the basic role that the market machinery can play in the particular conditions found in the Latin American economies. Thus, for example, in view of the limited possibilities of personal savings because of the level and distribution of income, the most important measure might well be to facilitate the transfer of funds between enterprises, in order to achieve a more rational and effective use of the potential reinvestment of profits. In any case, in recent times such transfers of funds seem to have been effected more successfully, through new methods such as those referred to; the traditional instruments, on the other hand, do not appear to be effective enough in view of the basic importance of the question of reinvestment of profits. Thus, there is apparently an institutional gap in financing that needs detailed study, including a full analysis of any developments in the region that might offer promising possibilities such as those in Mexico.

(c) *Loans from foreign entities and international agencies*

The points made in earlier sections justify the conclusion that there are broad possibilities of increasing the availability of domestic financial resources for industrial expansion derived from both within and without the enterprises themselves. But even so, the economic policy measures aimed at realizing such opportunities are likely to come up against difficulties that are due partly to the actual levels of *per capita* income in the region, and partly to the capacity to import that appears essential if domestic funds are to be transformed into machinery and other goods that have to be bought abroad. In this connexion the obtaining of foreign loans to supplement domestic savings and provide a temporary increase in the capacity to import has become increasingly important in the financing of general economic development in general and of Latin American industry in particular. Consequently, it is useful to study certain data relating to the relative importance of foreign borrowing, and the extent to which external funds have been channelled into the industrial sector as against other sectors.

Use has always been made of external funds to relieve the shortage of working capital, in the form of deferred import payments and short-term commercial credits. The degree to which this has been done has varied widely from country to country, in line with the level of industrialization and the availability of domestic funds. Thus, for example, in Argentina deferred import payments represented 3 per cent of the value of all imports during 1951–63, whereas in 1960–62 they represented 10 per cent of the total (an average of 145 million dollars a year), and commercial short-term credit represented a net deficit. In other Latin American countries, deferred import payments represented from 5 to 15 per cent of the total value of imports.

Only in 1950 did external long-term borrowing begin to be of permanent significance, as a result of the lending activities of a number of international financial agencies and foreign banks that had formerly provided credit only sporadically.

The oldest of the foreign agencies to support industrial activities in Latin America is the United States Export-Import Bank (Eximbank), which has been the main source of United States loans for non-military purposes since the Second World War. Up to the end of 1963, the total number of loans authorized for Latin American countries for use in manufacturing amounted to over 900 million dollars, which represented about 26 per cent of all Eximbank loans to the region.

The International Bank for Reconstruction and Development (IBRD) has contributed much less to the financing of Latin American industry, in both absolute and relative terms, since only 3.9 per cent of the loans authorized during 1950–61 were for this purpose. This is due mainly to the principles governing its activities, since the aim is to avoid granting loans that might compete with the private capital of the member countries. One of its subsidiary agencies, on the other hand, the International Finance Corporation, set up only a few years ago, concentrates largely on financing industrial projects, and is empowered to invest in share capital and grant loans to private enterprises without government guarantee.

Apart from Eximbank, United States financial co-operation has been administered successively by a number of agencies: the Economic Co-operation Administration, the Mutual Security Agency, the International Co-operation Administration, the Foreign Operations Administration (which administered most of the Public Law 480 funds) and lastly the Agency for International Development. The last-named, in addition to carrying out the activities of its predecessors, absorbed the Development Loan Fund, and is now responsible for co-ordinating the action of all the United States Government agencies concerned with the Alliance for Progress. Thus far industrial activities have not been the main object of the work of these bodies, but their contribution in this respect has been appreciable.

The aims of the Inter-American Development Bank (IDB), established more recently, include the financing of specific development projects and the encouragement of private investment. Thus far it has allocated 18 per cent of the loans authorized to industrial projects, although the percentage is considerably higher if account is taken only of the regular funds and the special operations fund.

In recent years other external financial bodies have begun to participate in the financing of Latin American industry. These include such institutions as the German Kreditanstalt, the Japanese Export and Import Bank, the French bank pool headed by the Crédit Lyonnais, and the Italian Banca di Crédito per il Lavoro a l'Estero. This list should also include the recently created Atlantic Community Development Group for Latin America (ADELA) which has just begun to operate.

The total amount of the external loans approved by this group of agencies for the financing of industrial activities in Latin America between 1940 and 1963 was about 1,300 million dollars, the proportions granted by each being: Eximbank 71.5 per cent, IDB 11.9 per cent, IBRD and its subsidiary bodies 9.8 per cent, the Mutual Security Programme 5.8 per cent, and other agencies 1 per cent.

The growth of the operations of these bodies is demonstrated by the fact that the annual averages were 6.5 million dollars in 1940–49, 36 million in 1950–54, 73.6 million in 1955–59, and 165.9 million in 1960–63.

In relation only to 1951–60, the total volume of loans for industrial purposes paid by these bodies represented 20 per cent of all long-term loans received by the Latin American countries, and 10 per cent of domestic long-term loans for the industrial sector.[21]

The proportions differ widely from country to country. In some countries, generally the smaller and less industrialized, where long-term domestic loans are particularly hard to come by, external loans, however small their volume in absolute terms,

[21] Attention is drawn to the provisional nature of the figures presented here, which in many cases are based on estimates not supported by well-grounded basic data.

represent a large proportion of the total credits, even though the tendency has been for external loans to go mainly to the most industrialized Latin American countries, which also have the largest domestic markets and a more ample supply of long-term domestic credit.

Thus, for example, 88.7 per cent of the loans authorized by Eximbank and 89.5 per cent of its actual disbursements have gone to four countries, Argentina, Brazil, Chile and Mexico, while three others, Colombia, Peru and Venezuela, received another 7.6 per cent, leaving only 2.9 per cent for the remaining countries. The distribution of IDB loans between the same three groups of countries was 64.9, 14.7 and 20.4 per cent, and of International Finance Corporation loans 64, 34.6 and 1.4 per cent.

As to distribution within the industrial sector, funds have gone mainly to such highly capital-intensive industries as iron and steel, pulp and paper, chemicals, and cement, especially in the countries that have received the highest share of external loans. Medium-size industry, on the other hand, appears to have received less than 10 per cent of the total, through industrial banks and other similar national agencies.

The allocation of loans to given industries has been due mainly to the availability of projects that meet the requirements of the lending agencies. Consequently the possibility of channelling a higher proportion into the smaller-scale industries depends to some extent on the capacity of national planning offices in Latin America to draw up plans for the development of the industrial sector that will permit a more flexible type of operation, and also on the efficiency of the specialized State agencies concerned with the granting of external loans to medium-scale and small industries.

With respect to the form in which foreign loans are granted, one of the most important features for Latin American industrialists is the period of repayment. Thus far, even though the periods have not been particularly long (rarely over eight or ten years), they are at least much longer than those for loans from domestic sources. Similarly, the interest rates are much lower, normally between 5.5 and 6 per cent, as against the very high rates for long-term domestic loans, or for the constant renewal of short-term or medium-term loans from the national bank. However, this is not always true of supplier's credits from abroad, which often involve surcharges on the basic prices, as well as the interest charged by the supplier or the insurance agency acting for him, and the commission charged for the bank guarantee in the purchasing country which is always required.

Against the encouraging aspects indicated above, there are often a number of difficulties associated with the use of foreign loans for industrial purposes. These include such problems as the lag between the authorization and disbursement of the loan, and the obligation, often attached as condition to the loan, to buy imported goods in the country granting the loan, usually on less favourable terms than could be obtained if the borrower were free to dispose of the funds as he wished.

(d) Direct foreign capital contributions

The same factors that have enhanced the importance of external loans — the inadequacy of domestic savings and the difficulty of converting them into terms of imports of production machinery and equipment — have also made the provision of incentives to direct foreign investment one of the primary objectives of financing policy in the Latin American countries. Furthermore, what is involved is the channel-

ling not only of additional funds but also of foreign investment's traditional potentialities as a vehicle for the transmission of technology and the assimilation of more advanced organization and management patterns. These positive contributions must be weighed against the disadvantages that may attach to direct capital investment as compared with external loans, from the standpoint of its long-term cost (since it gives rise to a permanent flow of remittance abroad) and the competition with domestic enterprises to which in many cases it may lead. Thus, it is not only the nature of such investment but its *modus operandi* that is important: whether it contributes to the development of new undertakings entailing more exigent requirements in respect of capital and technique, or is channelled towards manufactures which would be within the immediate reach of domestic production capacity; whether it really represents higher levels of efficiency and productivity, or adapts itself more or less passively to the general conditions prevailing.

In most cases, the policy pursued by the Latin American countries with respect to foreign investment in the manufacturing sector has differed little from that applied in relation to foreign investment in general, and does not seem to have embodied many selective criteria directing such investment towards those branches of industry which are more highly capital-intensive and more exacting in their technological demands.

Interest in attracting a bigger flow of direct foreign investment has been particularly manifest since the mid-fifties. It has found concrete expression largely through over-all economic policy measures which have also served other ends, as in the case of the reduction or abolition of exchange controls on financial operations and the removal of obstacles to capital movements, as well as in that of internal stabilization efforts. These general measures have been supplemented by a wide variety of special provisions, relating to tax concessions and other incentives, guarantees respecting the remittance of profits and repatriation of capital for investment in specific activities, special systems of accelerated depreciation, etc. Broadly speaking, however, no organic body of regulations exists, and the series of measures adopted seems to have been the outcome not so much of a clearly-defined policy as of unwillingness to offer fewer inducements than other countries competing for foreign capital from the same sources.

Nor are there any important legal restrictions or provisions implying preferential treatment for domestic enterprises. Over-all industrial development legislation and other incentives and privileges are thus, with few exceptions, automatically extended to foreign firms. Moreover, encouragement has been given to the establishment of mixed enterprises in which domestic capital is associated with foreign private capital, the idea being that such a combination offers some advantages over foreign investment proper.

It will be useful, therefore, to present some systematized data on the effects of this policy, both as regards the amount of foreign investment that has been successfully channelled into the industrial sector — in absolute terms and in relation to total direct contributions from abroad — and with respect to the distribution of such investment by countries and its allocation to specific industrial branches and activities. Other special features of the policy's operation will also be touched upon.

Once again, considerable limitations are imposed by the statistical data available. *Inter alia*, such information is generally confirmed to United States investments, and does not give the same details on those of other countries. Admittedly, however, the

United States accounts for the major share of aggregate foreign investment in Latin America.

Over the long term, United States direct capital investment in Latin America does not seem to have grown particularly fast in relation to pre-depression levels or to the part it plays in other areas. According to estimates, by 1929 it had reached a cumulative total of about 7,220 million dollars (at 1959 prices), but after the depression an abrupt decline took place, followed by a relatively slow recovery, until levels similar to that of 1929 were once more attained in 1954-55. In 1962, total direct investment exceeded that 1929 figure by only 12 per cent. This evolution is in contrast with that of United States direct investment in other regions of the world. Starting from similar levels in 1929 — 7,820 million dollars (at 1959 prices) —, which it regained in about 1940, it pursued an uninterrupted upward trend that sharpened after 1955, so that by 1962 its volume was two-and-a-half times greater than in 1929. As a result, the relative importance of the United States' investments in Latin America, which in 1929 had represented nearly half of its foreign investment throughout the world, steadily dwindled from 40 per cent in 1940 and 1950 to 34 per cent in 1955 and under 23 per cent in 1962.

Within this general picture, significant differences are observable in the share corresponding to investment in manufacturing industry. In other regions, the evolution of investment in this sector keeps parallel to that of total investment, so that the proportion it represents continues to hover, with very slight fluctuations, around 40 per cent. This does not apply to Latin America, where the relative importance of investment in manufacturing industry within total United States investment increased from 6.6 per cent in 1929 to 7.6 per cent in 1940, 16.5 per cent in 1950, 20.8 per cent in 1955 and 22.3 per cent in 1962. Thus, despite significant increments, it did not reach levels comparable with those steadily maintained in the rest of the world.

The direct investment placed in Latin America by other countries (in particular, the Federal Republic of Germany, France, Italy, Sweden, the United Kingdom, etc.) has followed different trends, since the two world wars, with their shattering impact on these countries' economies, virtually called a halt to its expansion throughout the period 1915–50. During the second half of the fifties, European investment steadily gained in importance, but even so, by 1962 it did not total as much as one-fifth of the amount corresponding to United States investment. On the other hand, the share of investment in manufacturing industry would seem to have been relatively greater, although the quantitative data available are insufficient to provide exact evidence.[22]

The basic data relating to the distribution of United States investment among the Latin American countries are presented in table 40, from which at least two major inferences can be drawn. Firstly, industrial investment is relatively highly concentrated in a limited number of countries; and secondly, the proportion of the total constituted by direct investment in manufacturing industry varies very considerably from one country to another.

As will be noted, three countries — Argentina, Brazil and Mexico — absorb nearly 80 per cent of all direct United States investment in Latin American industry;

---

[22] In Venezuela, for example (excluding the petroleum and mining sectors), at the end of 1964 allocations to industrial activities constitutes about 45 per cent of the total direct investment placed by eight European countries, whereas in the case of United States investment the corresponding proportion was a little under 40 per cent.

and this proportion rises to nearly 90 per cent if Venezuela is included. In the three countries first mentioned, industrial investment accounts for over 50 per cent of their respective direct investment totals. This share is much bigger than in the other countries (39 per cent in Uruguay, where, however, the sums involved are relatively small in absolute terms; 26 per cent in Colombia; 14 per cent in Peru; and less than 10 per cent in all the remaining countries, including some in which industry is at a relatively advanced stage of development — for example, Chile, where the proportion in question is barely 4 per cent).

It is easy to see that a correlation exists between this geographical channelling of investment and the size of the domestic markets concerned, whose effects do not seem to be mitigated by the relative uniformity of the foreign investment policy pursued by almost all the countries of the region, which might have been expected to result in a more balanced distribution of investment resources. One explanation lies in the fact that such investment is directed as a rule towards import substitution activities geared to the domestic market, and only in exceptional instances, as will be seen later, towards the development of manufactures that might ultimately become export lines, in which case the size of the home market would not matter so much.

As regards the distribution of foreign investment by branches of industry, the categories given in the available statistics are usually too broad to be described with

Table 40

AMOUNT AND RELATIVE IMPORTANCE OF UNITED STATES DIRECT INVESTMENT IN MANUFACTURING INDUSTRY IN LATIN AMERICA, 1963

Country	*Total direct investment*[a]	*Direct investment in industry*[a]	*Proportion of total direct investment represented by investment in industry*
	(Millions of dollars)		*(percentages)*
Argentina	828	454	55
Brazil	1 128	663	59
Chile	768	27	4
Colombia	465	120	26
Mexico	907	503	55
Panama	620	12	2
Peru	448	64	14
Uruguay	51	20	39
Venezuela	2 807	202	7
Other Latin American countries	635	29	5
Total	*8 657*	*2 103*[b]	*24*

Source: United States Department of Commerce, *Survey of Current Business*, August 1964.

[a] Book values, generally at original depreciated cost, and not necessarily reflecting current replacement values.

[b] The break-down by country does not add to total in the source (because of rounding).

relative accuracy as dynamic or slow-growing, or classified with reference to the degrees of technological assimilation and capital-intensity involved in their development. In the particular case of United States direct investment, its distribution seems to have gradually altered in conformity with the general changes undergone by industry in Latin America. For example, in 1929 investment in "food" was equivalent to more than half of manufacturing investment, while the addition of "chemicals and allied products" and "motor vehicles and equipment" brings this proportion up to over three-fourths.[23] Subsequently, the share of "food" progressively declined (to 20.2 per cent in 1950 and 14.4 per cent in 1955); that of "motor vehicles and equipment" also decreased slightly (13.4 per cent in 1929 and 11.2 per cent in 1955),[24] whereas there was an increase in the proportions corresponding to "chemicals and allied products" (from 10.4 to 29.8 per cent), "rubber" (to 11.4 per cent), "primary and fabricated metals" (from 1.3 to 3.8 per cent) and "electrical machinery" (from 3.0 to 9.4 per cent). The share of the other branches of industry remained practically constant, at about 17 per cent. The outcome of this process was that by 1955 almost one-third of United States investment in manufacturing was concentrated in "chemicals and allied products", and a somewhat larger proportion in "food", "rubber", and "motor vehicles and equipment". The industries manufacturing "chemicals and allied products" are located mainly in Mexico and Argentina, those processing "food" in Argentina and Brazil, and those producing "motor-vehicles and equipment" in Mexico, Brazil and Venezuela.

Other data, from national sources, afford a few additional indications of the patterns of direct foreign investment in manufacturing activities in specific countries. In Peru's case, for example, it is estimated that 86 per cent of the total was concentrated in petroleum refining and the working of non-ferrous metals, while the remaining 14 per cent was distributed over a wide range of activities, including food processing (wheat flour and edible fats and oils), textile, footwear and clothing industries, tanneries, manufacture of chemical and pharmaceutical products, the cement industry and the metal-transforming industries. In Argentina, rather more than 40 per cent was channelled into the activities manufacturing or processing medicinal products, food and beverages, textiles, simple electrical appliances, tobacco, rubber, paints and varnishes, perfumery and toilet articles; 10 per cent was attracted to agricultural and forest industries, packing plants and by-products of animal origin; and less than 40 per cent was invested in the metallurgical, machinery and allied industries, industrial chemical products, building materials, glass and plastics.

Taken as a whole, these fragmentary indications suggest the absence of any clearly-defined criteria such as might have guided foreign investment into specific manufacturing activities that were more difficult to develop through the recruitment of domestic resources. Rather it would appear to have been distributed over a complete cross-section of Latin America's industrial structure, joining with domestic enterprise in various fields. The recent development of the motor-vehicle industry, on the other

---

[23] *See* United States Department of Commerce, *U.S. Investments in the Latin American Economy*, Washington, 1957, p. 140, table 39.

[24] New United States investment in the motor-vehicle industry must certainly have increased this proportion since 1955. European investment has also shown a tendency towards concentration in this activity. No data are available, however, that afford more accurate evidence of these changes.

hand, seems to constitute an exception, as in several countries it is primarily in the hands of foreign firms.

These are, of course, broad generalizations, and it must not be forgotten that the situation may differ substantially from one country to another. This is indirectly attested by data on the input of capital per person employed in United States industrial enterprises operating in Latin America, although the figures are somewhat out of date (they relate to the year 1955) and may have been considerably modified in recent periods. According to them, while the average amount of capital investment per worker was about 8,100 dollars, levels approaching or exceeding 12,000 dollars were registered in Brazil, Mexico, Peru and Venezuela, as against 3,800 dollars in Argentina and 5,300 in Chile.

Just as the distribution of foreign direct investment by branches of industry seems on the whole to have followed the pattern prevailing in domestic industry, no very different policy was pursued with regard to the markets of destination of the corresponding production. It is estimated, for example, that in the case of manufacturing enterprises based on United States capital over 94 per cent of the sales registered in 1955 were effected in the internal markets concerned, this proportion dropping to 91 per cent in 1963. In the course of those eight years, therefore, the share of exports only represented from 6 to 9 per cent of the sales of such enterprises, despite the fact that they included some goods which represent a low level of processing of primary products; whereas exports accounted for about 60 per cent of the United States' aggregate direct investment in non-manufacturing activities.

Some attention should also be devoted to a few data on the percentage relationships between foreign investment and domestic capital. In this connexion, a study by the United States Department of Commerce[25] reached the conclusion that in 1957 the capital of United States firms — industrial and non-industrial — operating in Latin America was distributed as follows: 85 per cent in enterprises with more than 95 per cent of United States ownership; 12 per cent in enterprises in which the corresponding proportion ranged from 50 to 95 per cent; and only 2 per cent in undertakings in which the United States owned less than a half-share. This structure was virtually the same as it had been in 1946; according to estimates, however, the tendency to operate in association with local capital has been growing more marked since 1957, partly, it would seem, on account of the higher proportion of investment allocated to manufacturing industry, where the procedure in question is commoner.

Research on investment in industry carried out in 1957[26] in 115 industrial corporations, with 411 affiliates in Latin America, reveals that 82 per cent of the latter were "subsidiaries" (*i.e.*, 51 per cent or more of the voting stock was owned by the United States corporation), 4 per cent were "branches" (wholly owned by the corporation) and only 14 per cent were "associated companies" (50 per cent or less owned by the corporation). Similar proportions are recorded for affiliates of the same corporations in other regions of the world. Considerable differences are observable, however, among the various countries. Thus, for example, the proportion of the total number of affiliates represented by associate companies is 23 per cent in Chile and 21 per cent

[25] United States Department of Commerce, *U.S. Business Investments in Foreign Countries*, Washington, 1960, p. 101, table 13.

[26] *See* Raymond F. Mikesell (ed.), *U.S. Private and Government Investment Abroad*, University of Oregon, Eugene, 1962, pp. 80–81, table IV-1.

in Argentina, remains very close to the average (14 per cent) in Brazil, Colombia, Mexico and Venezuela, and stands a good deal lower in other countries, including Peru, where it is 5 per cent.

To sum up, the Latin American countries do not seem to have succeeded in attracting an increasing proportion of international movements of private capital towards their respective economies, at least in relation to the United States direct investment channelled into other areas. In contrast, the average share of such investment allocated to manufacturing industry has increased, although with striking differences from one country to another. In this connexion, the relative uniformity of the incentives and terms usually offered to foreign direct investment has not made for wider geographical distribution of investment in industry. On the contrary, such investment is intensively concentrated in those three or four Latin American countries where the domestic market is largest in absolute terms. This state of affairs is linked in turn to the fact that foreign enterprise has directed its activities on much the same lines as domestic industry, giving priority to import substitution activity and making no major effort to develop new manufacturing export lines. The distribution of investment by branches of industry has also been very similar, with the result that its potential contribution to the expansion of the basic structure of Latin American industry and to the more rapid absorption of technology has not fully materialized. Again, most of the enterprises in which investment has been placed have retained the status of subsidiaries of corporations with their head offices abroad, the real share of associated domestic capital being very modest.

The foregoing observations, of which the principal aim is to evaluate the scope and efficacy of the domestic policy instruments bearing on foreign investment, must not be interpreted as underrating the latter's contribution to Latin America's industrial growth. Some of the trends indicated — for example, the proportion of sales represented by exports, or the degree of association with domestic capital — have become more markedly favourable of late, and at all events their significance in absolute terms is by no means negligible.[27]

3. Agencies concerned with the formulation, application and control of industrial policy

The inference to be drawn from all that has been said in the present chapter, and particularly in its first section, is fairly obvious. Broadly speaking, industrial policy in the Latin American countries is deficient in co-ordination and continuity. The lack of continuity would be still more in evidence if, instead of the references to the past that have been rather sporadically made when specific topics have given occasion to do so, a systematic study of the changes of policy recorded during a significant period in any of the countries of the region were to reveal how frequent and far-reaching they have been.

[27] It is estimated, for example, that foreign companies accounted for about 3.5 per cent of the industrial product in 1955 and nearly 6 per cent in 1963. Moreover, in recent years they contributed approximately 10 per cent of total investment in manufacturing industry in such countries as Colombia and Peru, while in the case of Argentina their share rose from 3 per cent in 1953 to 7 per cent in 1957 and to a peak of 13 per cent in 1959, standing at around 10 per cent in 1960 and 1961.

Several factors seem to have been responsible for the want of continuity. As has been pointed out, industrial policy has been, up to a point, a mere by-product of the pursuit of more general objectives, and has therefore tended to alter its course with every change in the circumstances by which these objectives have been determined, often without due consideration of the potential effects of such changes on the specific conditions attending industrial development. For the same reason, the incentives accorded through particular instruments are usually weakened or cancelled out by other provisions or measures whose motivation has nothing to do with industrial development aims. Nor has it always been possible for industrial policy to look sufficiently far ahead. For this the indispensable requisite would be a long-term frame of reference. Only by its means could immediate needs be evaluated in relation to objectives broad enough to evoke, as criteria on which to base decisions, considerations of future expediency and desirability bearing on the very structure of industry and on the guidelines it should follow. Hence it is that as a rule the incentives provided have been of an over-all and not very selective type, directed towards the manufacturing sector as a whole, and making little distinction between specific industrial branches or activities.

It is for this reason, too, that in some basic respects what might be considered the determinant of a Latin American industrialization "strategy" stem from the cumulative effects of relatively spontaneous trends rather than from rationally matured decisions. The possibilities of combining import substitution efforts with endeavours to promote and diversify exports of manufactured products; the relative importance of looking towards the market for final goods or towards the integrated industrialization of domestic resources; the location of industrial activity within each country and in the region as a whole; the most recommendable form of absorption of technology: all these questions, and as many more, are being settled in practice, it would appear, without the guidance of a clear-cut and continuing industrial policy.

The relative importance of the various instruments has also undergone changes, in the course of time, which create the impression, in some instances, of an attempt to amend or reorientate those formerly preponderant rather than steadily to broaden and improve industrial policy as a whole. The background information outlined in preceding sections suggests that throughout a whole phase, which culminated in the early forties, the encouragement given was chiefly confined to protectionist expedients; thenceforward, the State undertook direct promotional activities, which did not bear their most important fruit until the beginning of the fifties; and subsequently emphasis was laid on indirect incentives provided through over-all development measures. In some countries, the last-named were supplementary to the continuance of an energetic State promotion policy, but in others they seem rather to have superseded it, although there was no reason why the two lines of action should have been incompatible.

The importance of these aspects of the problem would be more readily grasped if they were illustrated with a classified list of the various public bodies that, in the last analysis, are concerned with the formulation and application of industrial policy in some of the Latin American countries. It would be necessary to begin with those that exert an indirect influence, through over-all economic policy measures: the Ministries of Finance, monetary authorities, boards of foreign trade and similar machinery, and the rest of the instruments relating to monetary, tax, credit, exchange and tariff policies or to import and export controls; the Ministries of Labour and Social Security, and other agencies having to do with wage policy; the Ministries of

Economic Affairs, or agencies more specifically responsible for price policy; the *ad hoc* committees or boards empowered to decide on questions of foreign investment, etc.

A second category would include those bodies which share in the work or responsibility of formulating specific aspects of industrial policy. In contrast with the lengthy list in the preceding paragraph, what is likely to be noted here is a shortage of efficacious machinery. More often than not, over-all industrial development measures are nothing but a heap of successive laws and resolutions that can hardly be traced to any over-all criterion. In cases where they have been assembled into a more organic whole, the necessary move has frequently been made by the Industrial Divisions or similar departments of the Ministries of Ecomomic Affairs or of Development, which are responsible for seeing that certain requisites are complied with. Industrial credit policy proper, and measures to promote the installation of new industries, have often been left in the hands of the executing agencies themselves, which are handicapped by the lack of clearly-defined guiding principles. Consequently, the industrial activities that are absorbed or undertaken by the State are usually the product of a mere process of aggregation, and come to constitute veritable watertight compartments; they have no proper lines of policy, no central authority to set up standards of productivity and efficiency, and no appropriate auditing systems. The same factors undermine the effects of State promotion of private enterprises and of the industrial credit supplied by public bodies, which are thus more exposed to the influence of pressure groups.

In the field of application of industrial policy, there is once again a multiplicity of agencies, with the resulting duplication of functions, and the more nebulous are the general guidelines laid down, the more detrimental do these characteristics prove. Except for a few organizations which adopt an integrated approach to the various aspects of development in the areas they specifically cover, a proliferation of local instruments is superimposed, in some instances, on a large number of agencies operating at the national level, and the existing problems are thus aggravated. Lastly, institutions responsible for supervising the results of industrial policy, with a view to evaluating its efficacy and making timely suggestions as to the reforms or changes of course that experience seems to advocate, are few and far between, or limited in their terms of reference.

In this institutional framework, private enterprise cannot respond with full vigour to the incentives offered. It is seldom consulted in connexion with the formulation of industrial policy, whose lack of continuity drives it to base its decisions on short-term objectives, rather than on more lasting and far-reaching prospects.

Some measure of institutional dispersion is inevitable, and to a great extent necessary so that different functions can be fulfilled by different specialized agencies. But this does not obviate the need for a central organization to formulate industrial policy at the appropriate level, or for the concurrent availability of suitable co-ordination machinery.

The work involved will be facilitated as Latin America perfects its development planning efforts and overhauls its administrative organization accordingly. Planned industrial development may help to ensure that industrial policy has the requisite cohesion and continuity; to increase the efficacy of promotional activities on the part of the State; and to provide opportunities, through the planning machinery itself, for the private sector to play an active part in the formulation and periodic revision of the policy in question.

Chapter IV

INDUSTRIALIZATION PROSPECTS IN LATIN AMERICA

1. New industrial development requirements

The foregoing analysis of Latin American industry, covering its past history, its main characteristics at the present time, and the industrial policy that has influenced i s development, suggests a few general conclusions which, in their turn, are useful indications of what are likely to be important aspects of the sector's future evolution.

In brief, the study of previous growth trends highlights the following points: through the operation of various factors, the Latin American countries — some of them for a long time past — have found themselves faced with particularly exigent industrialization requirements; these requirements are only partly satisfied by the industrial development actually achieved, which in recent periods has been betraying manifest symptoms of weakness, at least in relative terms; at the stage now reached, very considerable differences are to be found among the various countries of the region as regards their industrial growth. Lastly, despite these divergent situations, nearly all of them are passing — more or less at the same time, although for different reasons — through crucial phases of their respective industrialization processes, whose way ahead is beset by formidable obstacles.

The study of the industrial sector's present characteristics, in its turn, helps to define the scale of other basic problems, such as the marked geographical concentration of industry; its high costs and prices; and its structural and institutional disequilibria, deriving from insufficient internal integration, from the superimposition of widely differing types of enterprise and patterns of organization, and, therefore, from great disparities in the levels of productivity attained.

Finally, an attempt to evaluate the industrial policy pursued in the past shows that although it has made valuable contributions, it has lacked cohesion and continuity. These and other weaknesses, in the last analysis, can hardly be remedied otherwise than within the framework of effective industrial planning.

In more than one respect, projections indicate that the industrialization requirements noted in the past will be intensified in the future, while it is easy to foresee that in order to meet them development patterns different from those previously followed will have to be worked out, as has been shown in earlier chapters. The weaknesses referred to above affect even the dynamic factors that speed up the industrialization process, including import substitution activities, which will no longer be able to play the leading role, and will have to give place to new driving forces, linked rather to the expansion of internal demand. But in addition, the stages through which industrial

development has passed — given the special conditions peculiar to each country — have brought it to a point at which it must be recast in new moulds, with particular regard to the requirements stemming from the gradual integration of Latin American industry.

Discussion of the requisites and probable implications attaching to these changes in industrialization patterns must be preceded by somewhat more detailed consideration of the new demands — as well as the new opportunities — with which industrial development in the region as a whole and in each of its individual countries seems to be confronted. It might also be appropriate to add a few remarks of a more general character, relating to the actual direction that should be taken by the industrialization effort in Latin America.

It would be a mistake to interpret the process from the restricted angle of the expansion of production capacity and of output of manufactured goods without viewing it in the broader perspective of the social and cultural change with which it must of necessity go hand in hand. In this context, the industrial process, in the strict sense of the term, is only the means to the end that consists in building an "industrial society", characterized by the features commonly attributed to it: a rational organization of production, both in manufacturing and in the other sectors of the economy, which in turn implies the extensive application of science and technology throughout the whole field of production of goods and services; an equally extensive participation of the population in consumption, so that the benefits of technical progress reach all social groups; and an "open" social stratification system, supported by modern methods of education capable of forming the necessary talent and equipping the whole population to understand and take part in the industrialization process.

This entails the combined operation of several factors: firstly, social aspirations, in terms of better levels of living for the individual and for the community, equality of opportunities, and social and economic security, including security of tenure in employment; secondly, scientific absorption of technology, and ability to adapt it to the specific conditions of the environment, so that it may provide new stimuli to growth, and, lastly, an economic organization consonant with these aspirations on the part of society and meeting the requirements for the efficacious application of technical advances.

In the light of the typical qualities of an industrial society, some of the limitations of Latin America's industrialization effort up to the present time may be recognized, and this in turn may help to ensure that future endeavours are directed along more satisfactory lines.

For example, some of the data presented in earlier chapters would seem to suggest that, up to a point, industrial development has represented a sort of enclave within the traditional organization, not as sharply defined and certainly much broader than that sometimes constituted by specific activities based on foreign capital and geared solely to primary exports, but none the less significant for that. In other words, the industrialization process has not been accompanied by sufficiently radical changes in the structure of society or in the economic structure of other sectors, to which, on the contrary, industrial growth patterns have had to be adapted. This is partly because in many instances the industrialization process was set going less by internal factors than by the impact of external events, and the subsequent development of industry,

from the economic, cultural and technological standpoints, has been equally dependent upon foreign influence.

In essence, the assimilation of technology has been a passive process, consisting mainly in training in the operation of new production equipment, but not affording sufficient mastery to provide a basis for creative activities that might have been reflected at least in the adaptation of technical progress at the world level to the special conditions of the Latin American environment. Even this passive absorption is concentrated in specific sections of the production system — in the economy as a whole and within the manufacturing sector itself — so that veritable strata of technology have been formed, with strongly-marked differences between them. It would thus be more appropriate to speak of the superimposition than of the assimilation of technology and of training in the use of techniques transplanted from abroad, rather than of technical know-how. Obviously, there is no question of underrating the tremendous source of benefit represented for the developing economies by the technical advances achieved through the efforts of more highly developed countries; the matter at issue is the ability to understand them and turn them to account in situations with special characteristics of their own that sometimes include a different set of available resources, whose economically efficient exploitation by virtue of science and technology is another essential long-term development requisite.

Nor has Latin America succeeded — as can be deduced from evidence to which reference has been made in previous chapters, and will be made again later — in buttressing its industrial development by extensive popular participation in consumption. The real markets for several categories of manufactured goods have been constituted by relatively small sectors of the region's population, while other groups, especially in the rural areas, take little or no share in consumption of the goods in question, using only a few essential industrial products. The possibilities opened up by mass production, and the opportunities for rapid expansion, have thus been thrown away. Hence, too, the frequent tendency for import substitution activities to be much more dynamic in character than the growth of domestic demand.

The persistence of archaic patterns of land tenure and use is perhaps the most eloquent testimony to the fact that industrial development has not been accompanied by a simultaneous metamorphosis of the traditional structure of society. To this is linked the aforesaid total or partial exclusion of the rural population from participation in modern patterns of consumption, as well as the failure of technical assimilation to reach a high proportion of the agricultural sector, which thus has no chance of applying new methods of farming that in their turn signify additional markets for expanded manufacturing production.

In short, it must be recognized that in existing conditions there is a marked dephasing between those social aspirations that can be summed up in the desire to establish an industrial society, and the corresponding reforms in the traditional social structure, including provision of the training required if science and technology are to be used as basic instruments of development. These are factors bearing on fundamental aspects of industrialization in Latin America; but to analyse them in detail is beyond the scope of the present study, in which they are merely mentioned by way of acknowledgement that a productive interpretation of the process calls for a broader perspective than is afforded by economic considerations proper, although further allusion to some of them may be made in a more specific context.

It is also worth while to bear them in mind for the purposes of defining what are described throughout the following pages as new "industrialization requirements". The application of this term to the factors of which mention will be made might give the impression that the responsibilities concerned are incumbent solely on the manufacturing sector, when as a matter of fact their discharge depends upon much broader decisions and lines of action. A dephasing of the kind mentioned above cannot go beyond certain limits since the archaic patterns of a few sectors hamper possible changes in others. Thus in default of other basic reforms industry could not be expected to develop at a particularly rapid rate, nor would significant changes be likely to occur spontaneously in its growth patterns, which in the last analysis are determined by characteristics of the social structure that the industrial sector alone is powerless to alter.

Thus, it is in the context of this interdependence between economic factors and those of a social and cultural nature that a place may be found for the more specific considerations formulated below, in relation to possible determinants of change in the over-all economic framework within which the region's industry has been developing.

(a) The general economic setting for future industrial development

With this last end in view, it may be useful, in the first place, to review the over-all development policy that has been taking shape in Latin America during recent years. An attempt will be made to pick out those of its characteristics which may exert a significant influence on the rate and patterns of industrial growth.

In very general terms, attention may be drawn to a few salient features of this new development policy. The first of these is the decision to organize systematic efforts aimed at ensuring the attainment of minimum growth targets for *per capita* income, and to use planning as a basic means to that end. Secondly, it is recognized that such a policy must incorporate specific income redistribution objectives, which implies, *inter alia*, acknowledgement of the need for agrarian reforms. Thirdly, the condition in which such efforts and decisions are undertaken or adopted will be likely to include progressive modifications of the structure of international trade, with the result that developing areas will enjoy opportunities of expanding their trade more rapidly and will see an improvement in the stability of their external income, as well as changes in the composition of their trade that will make for the incorporation of manufactured products into the traditional export flows of the less developed countries. Lastly, essential elements in this new policy are the instruments already created to promote the progressive integration of the Latin American economy, and the conviction that these instruments must be amplified and perfected if the proposed objective is to be more rapidly and efficaciously achieved. Clearly, such a set of decisions, as it gradually finds expression in practical action, is destined to exert a powerful influence on over-all development conditions, and therefore to determine industrialization requirements and patterns which may differ considerably from those prevailing in the past.

For example, in the future manufacturing industry will presumably develop in the context of higher over-all economic growth rates than in earlier periods, and will also have to play a leading part in accelerating the upward trend of *per capita* income. In all likelihood, moreover, industrial development requirements will increase more than proportionally as a result, since at the present stage of Latin America's development, the

faster income increases, the higher the elasticity of demand for manufactured goods is liable to become. The analysis of past experience contained in chapter I of the present study led, as will be recalled, to the conclusion that over the long term the ratio between the growth rate of industry and that of other sectors of the economy has not been as high as might have been expected in Latin America, partly, no doubt, on account of the rapid rate of increase of the population and the consequently very modest growth rate of the *per capita* product. In these circumstances, a considerable proportion of the income increment has to be used for basic subsistence needs, and the diversification of demand is necessarily a slow process, except in those small population groups in whose favour the regressiveness of income distribution has operated. In contrast, not only might a more rapid rate of increase of *per capita* income be reflected in a proportional expansion of demand for manufactured goods, but also its effects in that direction might be strengthened as the demand in question acquired a higher degree of elasticity.

The discharge of the heavier responsibility which would thus be laid upon industrial development would in its turn be facilitated by the fact that a planned economic and social development policy would provide incentives and guiding principles conducive to the expansion of industry. As has been shown, hitherto industrial policy has not always followed clearly-defined and consistent lines, and the lack of proper co-ordination has often caused piecemeal measures or activities to produce contradictory effects, thus frustrating all endeavours to encourage more rapid and more organic industrial development. The same shortsightedness with regard to expansion requirements in respect of each sector, within the framework of balanced development, has sometimes created severe competition for the allocation of financial resources, the issue of which has more than once been decided in favour of primarily speculative activities, to the detriment of the manufacturing sector's chances of expanding its production capacity faster. These and other difficulties which were discussed in detail in chapter III of the present study, are at least mitigated with the progress of planning efforts, by means of which it will be easier to evaluate in advance the real magnitude of requirements in respect of industrial development and changes in the structure of industry.

The extent to which considerations of this kind are beginning to have some practical effect on the industrialization process can be assessed from the content of the first over-all development plans formulated by some of the Latin American countries. For example, the aggregate domestic product growth rates postulated in the plans of seven countries of the region, although relating to different periods, and time limits, reach about 5 per cent in the case of Paraguay, between 5 and 6 per cent in that of Argentina, Chile, Colombia and Mexico, a little over 6 per cent in Ecuador and nearly 8 per cent in Venezuela. Furthermore, while in these initial plans the emphasis is placed on the need to give priority to social investment and services that have been comparatively neglected in the past, forecasts of the requirements that would derive from a properly balanced development process have led to the postulation of industrial growth rates considerably higher than the over-all rates of increase assumed for the product: about 7 per cent per annum in the plans drawn up by Chile and Mexico, between 7 and 8 per cent in those of Argentina and Ecuador, between 8 and 9 per cent in those of Colombia and Paraguay, and 12 per cent in Venezuela's.

Accordingly, the industrial development implications attaching to the over-all objective of accelerating the growth of *per capita* income, as reflected in national plans like those mentioned, are plain to be seen. On the other hand, equally explicit proposals

have not been formulated with respect to the redistribution of the fruits of development.

In any case, although plans do not so far reflect, as a rule, very radical decisions in respect to income redistribution, this aspect of the problem will probably come to the fore in the future. Hence it is worth while to consider how far additional and more ambitious redistribution aims would affect the foregoing projections of industrial development rates in the next few years.[1] To this end, it is enlightening to review the estimates of the differences in the structure of consumption as between different social sectors, or between categories of consumers grouped by income steps, which are available for some of the countries of the region, and were presented in chapter II of this study. An attempt will later be made to generalize data of this type in the form of a few hypothetical calculations showing the probable effects of redistribution policy on the volume and composition of demand for consumer manufactures. For the moment, suffice it to recall that the data in question clearly reveal how high a proportion of the family budget in the lower income sectors is represented by necessary expenditure on food, and how tiny are the margins available for the purchase of manufactured goods other than foodstuffs. A considerable proportion of the expenditure of the higher income groups, on the other hand, is devoted to services and luxury goods, and these consumption patterns too are unlikely to generate any very strong incentives to domestic industrial production. Hence it is that income redistribution, linked with over-all income growth, involves a potential increase of demand for manufactured goods which may be reflected in a large-scale expansion of individual country markets. Furthermore, it would have a particularly marked effect on manufactures for mass consumption, thus giving a new dynamic impetus to branches of industry whose characteristics in the past have relegated them to the category of "slow-growing industries". Such a development would be of special importance, inasmuch as industries of this kind, which at present register the widest margins of idle capacity, are usually less capital-intensive and afford relatively greater opportunities of absorbing manpower.

It should also be borne in mind that the remarks formulated in the context of income distribution related only to urban populations groups, and that the problem becomes still more serious when rural income is taken into account as well. For in the rural areas is to be found a substantial proportion of the Latin American population which is virtually excluded from consumption of manufactured goods, except for a minimum of clothing and other indispensable items. Although the income of this rural population is determined primarily by the low levels of productivity prevalent in agriculture, it is also largely influenced by an income distribution pattern that is even more regressive than in the urban sectors. With the probable exception of those rural population groups engaged in production for export under land tenure systems in which small and medium-sized holdings predominate, the regressiveness of rural income distribution is in its turn closely linked to institutional factors. Agrarian reform thus emerges as one of the requisites for industrial development, in so far as it represents the possibility of a considerable expansion of domestic markets for consumer manufactures. Furthermore, its potential effects on demand are not confined to industrial consumer goods, but also extend to those intermediate products which constitute agricultural inputs, as well as to agricultural machinery and equipment, of

[1] For quantitative data on the characteristics of income distribution at present, both in Latin America as a whole and in specific countries of the region, see *The economic development of Latin America in the post-war period, op. cit.*

which far more use will be made as new patterns of agricultural development are introduced.

A few illustrative data may be cited in this connexion. For example, in several countries of the region the figures for application of fertilizers in 1962–63 were in the neighbourhood of 15 to 20 kilogrammes of plant nutrients per hectare of arable land, as against about 50 kilogrammes in the United States and Italy, 85 in Israel, over 100 in France and 270 in Japan. Consumption of pesticides and other important inputs was also very low. As regards the level of mechanization, the number of tractors per thousand hectares of arable land, in the same period, was about 4 in Argentina, Chile and Colombia, as against 20 in Israel and Italy, 25 in the United States and some 40 in France.[2]

Thus it is easy enough to anticipate how future industrial development rates and patterns may be affected by the gradual reorientation of Latin America's over-all development policy, as regards factors connected with internal demand. In addition, there are others more closely linked to external demand, and relating both to extra-regional and to inter-Latin American trade.

As regards the former, the United Nations Conference on Trade and Development constituted a first step towards the ultimate remodelling of the structure of world trade in such a way as to open up new prospects for the developing countries. Over and above the discussion of questions relating to the removal of obstacles and restrictions that impede the expansion of primary exports, to the stabilization and improvement of primary commodity prices, to the establishment of efficacious compensatory financing machinery to offset the deterioration in the terms of trade, and to revision of the principles and scope of international financing co-operation, special attention was devoted at the Conference to the possibilities of remedying the inadequacy of primary exports even under conditions more favourable than those existing at present, through the development of new lines of industrial exports from the developing countries to the industrialized countries' markets. This objective in its turn entails an international effort covering not only facilities for the access of manufactured and semi-manufactured goods to the markets in question, but also co-operation in the task of improving the industrial production capacity of the less developed countries.

The wishes and aims of these latter were mainly concerned with obtaining, on a basis of non-reciprocity, preferential treatment in the industrialized countries for manufactures and semi-manufactures from the developing countries; with the reduction of tariff duties; and with the elimination of quantitative and other non-tariff restrictions. In the proposals emanating from the Conference it was recognized, however, that the less developed countries must take steps to prepare themselves for exporting significant volumes of industrial products, since the advantages in respect of access to world markets that they might secure through the elimination of restrictions or under a preferential system could not materialize unless they substantially improved their existing production conditions, marketing systems and administrative organization. In more specific terms, attention was drawn to the need for the developing countries to

[2] The areas taken into account for the purposes of these estimates represented about 30 million hectares in Argentina, 10 million in Brazil, a little over 5 million in Chile and Colombia, 20 million in Mexico, 21 million in France, 15.5 million in Italy, 185 million in the United States, 6 million in Japan and approximately 400,000 hectares in Israel.

gear their industrialization policies to the reduction of manufacturing costs, so that they would be able to offer their products in the world market at competitive prices. One of the possible means to this end would be the revision of their protectionist policies with a view to more careful selection of the industries eligible for protection, and to the allocation of sufficient resources to those branches of industry which hold out the best export prospects. Trade policy and administrative organization, as was likewise pointed out, would have to be adapted to the new circumstances, and it was recognized that the export effort would call for the parallel adoption of monetary and fiscal policies calculated to provide incentives and facilities for export industries in an atmosphere of stability.[3]

Thus, from this angle too there are new opportunities in prospect which may come to constitute very important determinants of the future rates and patterns of Latin America's industrialization process. No preferential agreements are under discussion as yet, but at least certain basic principles have been laid down and instruments for the prosecution of the task in hand have been established. Furthermore, it can be inferred that however favourable conditions may become for the Latin American countries' increased participation in world trade in manufactured products, major efforts will have to be made to ensure that these new export flows acquire significance from the standpoint of the region's total capacity to import. Clearly, too, such efforts, far from being incompatible with another objective which is considered of basic importance for the development of the region — the economic integration of Latin America — would be facilitated by its attainment. A later section of the present chapter will be devoted to careful consideration of integration from the angle of its implications in respect of the subsequent industrialization process; for the moment, therefore, it will be sufficient to formulate a few general conclusions.

As was noted in earlier chapters, in existing conditions integration tends to reveal itself not merely as an instrument for securing certain immediate benefits that will facilitate the region's development, but as an increasingly imperative necessity, if that development is to take place. The progressive exhaustion of import substitution opportunities within the strictly national economic frontiers plays a major part in determining this need, for the twofold reason that the obstacles originating in the external sector have not been overcome and that substitution has hitherto constituted the mainspring of Latin America's industrial development. Another of the conclusions suggested was that despite the marked disparities in the levels of industrialization attained by the various Latin American countries, the need for effective trade and complementarity agreements is arising in all of them at more or less the same time, although for different reasons: in some, because their import coefficients have sunk to extremely low levels; in others, because the smallness of their domestic markets makes continued industrial growth difficult, even though their import coefficients are still relatively high. Accordingly, the effect of the disparities is to intensify the need for integration instruments that will efficaciously equalize opportunities of obtaining benefits, rather than to make integration a more urgent necessity for some countries and a less immediate objective for others.

[3] For a detailed account of these and other subjects of discussion, see *United Nations Conference on Trade and Development: analysis of the results and prospects for Latin America* (E/CN.12/714).

The nature of the instruments used is of fundamental importance if due allowance is to be made not only for the existing disparities in the levels of development of the various countries, but also for those other factors which have been pointed out as potentially significant determinants of the future course of industrial development, and which include planning, income redistribution and other structural reforms.

(b) Quantitative assessments of future industrial development requirements

These are, in mainly qualitative terms, some of the possible characteristics of the over-all economic development situation within which the industrialization process will be taking place during the next few years. They represent factors of basic importance, destined to exert a decisive influence on the rates and patterns of industrial growth, and at the same time constitute objectives whose attainment will largely depend upon the manufacturing sector.

It would be very useful if the industrialization requirements that might be generated by the factors in question could also be evaluated in quantitative terms, even if only very roughly. But there are not enough data available for an attempt to formulate relatively accurate estimates. As could be seen in the relevant section of chapter II, even in the preparation of a systematic table of the current volume and composition of supplies of manufactured goods, formidable methodological and statistical stumbling-blocks are encountered.[4]

With regard to projections of future development, the difficulties are still greater, despite the availability of the plans already drawn up by a fair number of Latin American countries. These plans vary widely in character, and even in the amount of detail they include and the periods they cover, and, moreover, are not usually explicit enough as to how far they incorporate and take into account the effects of such important factors as regional integration prospects and possible changes in internal income distribution.

Notwithstanding these obstacles, the possibilities of attempting to quantify the most significant orders of magnitude must be explored, even if at a purely conjectural level. By this means it will be possible to analyse industrial development prospects somewhat more thoroughly in the light of the new trends in over-all development policy to which reference has been made.

A useful starting-point may be the rough estimate of the region's total available supply of manufactured goods in 1960 which was presented in chapter II, including the indications given as to sources of supply and the break-down by major categories of manufactures.

As will be recalled, in 1960 the total supply of manufactured products available in sixteen Latin American countries for domestic use (excluding exports) would

[4] For example, at the purely theoretical level important questions of definition arise, as in the case of valuation criteria. The comparison or aggregation of figures relating to the different countries entails selecting exchange rates to convert data expressed in terms of the corresponding national currencies into terms of common units; and the addition of domestic production values to import values presents yet another problem, inasmuch as gross ex-factory production values — sometimes subject to indirect taxation whose incidence is considerable — have to be the c.i.f. taken in conjunction with values of imported goods.

seem to have amounted to about 51,600 million dollars, of which some 44,500 million represented domestic production and a little over 7,100 million corresponded to imports. This aggregate supply can in turn be broken down as follows: intermediate products, approximately 18,100 million dollars; final consumer goods, about2 6,700 million dollars; and capital goods, 6,850 million dollars.

In order to evaluate future supply requirements, a period of reference would have to be selected and certain hypotheses of the probable growth rate of *per capita* income would have to be postulated. This in turn might give rise to a set of alternative projections, in line with various assumptions as to rates of growth and relating to different years. In view of the purely illustrative character of the estimates to be presented, the analysis should be simplified as far as possible, for example, by relating all projections to the year (not predetermined) in with the total product for Latin America as a whole doubles that registered in 1960. On the assumption of a cumulative annual population growth rate of 3 per cent, this situation would materialize in about 16 years if the annual rate of increase of the *per capita* product were 1.5 per cent, in about 13 years if it were 2.5 per cent and in 11 years if it reached 3.5 per cent.[5]

Thus, the problem may be stated as follows: What forecasts of the rate of development can reasonably be formulated, and what changes in the composition of manufacturing industry would have to accompany the doubling of the total Latin American product? Although a very rough first approximation might be obtained by the application of over-all coefficients deduced from international experience, to which allusion has been made in earlier chapters,[6] this proceeding seems inadvisable in so far as the conditions peculiar to the region's probable development in the next few years would not be taken into account. Nor would the coefficients in question afford means of estimating possible changes in the structure of the manufacturing sector, an equally fundamental requisite for the reconsideration of industrial policy. Thus, at the risk of over-elaborating calculations which are none the less purely hypothetical, it is worth while to attempt a more detailed presentation, differentiating as far as possible between categories of manufactures or branches of industry.

Since one of the major objectives of the development policy that is being advocated is to secure more rapid growth than in the past, it seems logical to assume that the effort involved will have to be reflected in an increase in investment coefficients, *i.e.*, a higher proportion of the total product than hitherto will be allocated to capital formation. As a result, the growth rates of demand for consumer manufactures and for capital goods will necessarily differ.

Accordingly, as an additional hypothesis, it may be assumed that the coefficient in question will gradually rise from its average level of 17.5 per cent to one 20 per cent

---

[5] These simplification hypotheses do not in fact completely solve the problem of selecting a given rate of increase of the *per capita* product as a benchmark, since from the standpoint of the evolution of demand for manufactured goods, it is not a matter of indifference whether the total product is doubled within a relatively short period or in a longer space of time. Whenever an assumption as to the growth rate of income must inevitably be included, even though implicitly, the intermediate hypothesis will be adopted. It may thus be concluded that the projections will relate approximately to the year 1973, since the basic data correspond to 1960.

[6] Various analyses have coincided in deducing that the average elasticity of the industrial product in relation to the total product is about 1.4. Given this ratio for the whole period of the projection — thirteen years — the cumulative annual rate of industrial development would have to average 6.9 per cent if the total product were to be doubled in a period of 13 years.

higher in the approximate future period to which these projections relate, an assumption which would imply an over-all coefficient of 21 per cent.[7] Were this to happen, it would mean that the consumption increment that could be achieved through doubling the total product would be in the neighbourhood of 90 per cent.[8] The possible significance of this increase in terms of an expansion of demand for consumer manufactures would in turn depend upon several factors, of which the most strongly operative would be the average elasticity of consumption of manufactured goods in relation to total consumption. Influence would also be exerted by the latter's composition in terms of private and public consumption, which is sure to undergo considerable change in the future as a result of the importance that is being attached to the expansion of public services, especially those of a "social" character. For the purposes of a first approximation, however, this distinction could be shelved, and consumption as a whole could be considered as a homogeneous variable. The same may be said of the possible effects of income redistribution on the average elasticity of demand for consumer manufactures, a question which will be discussed later with special reference to its influence on the composition of that demand by types of product.

Given these simplifications, the increase in demand for consumer manufactures would be determined by the above-mentioned total consumption increment and an average elasticity with respect to total consumption which, according to the more detailed hypotheses formulated in subsequent paragraphs, should be approximately 1.2 in future conditions. In other words, the doubling of the total product would be accompanied by an increase of about 110 percent in supply requirements in respect of consumer manufactures. In absolute terms, this would mean raising the level of demand for industrial consumer goods from the 1960 figure of some 26,700 million dollars to 56,000 million (also at 1960 prices) during the future period under consideration.

In relation to capital goods, an equally rough evaluation could be worked out from the gross investment figures referred to in earlier paragraphs. With the exception of the value added in building and construction activities, which attains fairly high levels in existing conditions in Latin America, virtually all the remaining gross investment corresponds to manufactures, particularly production machinery and equipment and building materials. Many of the existing development plans lay marked emphasis on housing targets, the provision of other public services and the expansion of infrastructure projects (irrigation, highways, etc.), with the resulting tendency for the relative importance of building activities and public works to be enhanced and for the share of industrial products in total gross investment to diminish. It is doubtful, however, whether a general investment allocation strategy of this kind could be of a lasting

[7] This last figure implies the assumption that the product-capital ratio would remain approximately constant at much the same level as at present, while the growth rate of the product would be higher. In reality, the changes in the structure of the economy that would have to accompany such an increase in the product would probably call for a higher average degree of capital intensity, and that would reduce the aggregate product-capital ratio. On the other hand, more efficient utilization of the available capital might counteract and conceivably more than offset such a trend.

[8] On the assumption of a break-even between exports and imports of goods and services. It should be pointed out that in 1960 total figures under these two heads were similar, but if Venezuela is excluded, the excess of imports over exports, is equivalent to about 1 per cent of the total domestic product.

character, since it will probably not be long before the more rapid development of the sectors of production becomes a decisive factor in the expansion and maintenance of the social services themselves. Hence it may be estimated that for a reasonable length of time the capital-goods/total-investment coefficient will remain much the same as at present. In that event, given the higher total gross investment levels postulated, demand for this type of manufactured goods would increase from the 6,800 million dollars registered in 1960 to 15,700 million, during the period within which the absolute level of the product was doubled.

To the consumer manufactures and capital goods categories must be added that of intermediate products. Rough as the present calculations are, an estimate of the growth of intermediate demand is a much more complex matter, for two principal reasons. In the first place, the evolution of the demand in question is strongly influenced by the pattern of participation of domestic production and imports in supplies of final consumer manufactures; the larger the share of the former, the greater will be the relative importance of demand for the intermediate manufactures needed for producing such goods. Imports of final manufactured goods, on the other hand, "transfer" the effects of intermediate demand to their country of origin. Secondly, the changes that take place in the structure of the economy itself, and particularly in its level of industrialization, create proportionally increasing supply requirements in respect of intermediate products, because of the greater diversification, specialization and complexity of the production processes to which they give rise. To simplify the problem drastically, judging from the data presented in chapter II on the structural characteristics of economies at widely differing stages of development, it may reasonably be assumed that the existing relation between intermediate and final demand for manufactured goods would increase by 15 per cent.

Accordingly, the total expansion of demand for manufactured goods may be estimated as in table 41, in which the total supply of manufactured goods available for domestic use is shown to increase by 125 per cent by virtue of increments of 146 per cent in intermediate products and 114 per cent in final manufactured goods, the latter increase being in its turn determined by others amounting to 110 per cent and 131 per cent in requirements of consumer goods and capital goods, respectively.

From the standpoint of the domestic production requirements that would derive from expansions of demand on such a scale, two important and closely interrelated factors remain to be considered: exports prospects in respect of manufactured goods, and the extent to which the additional domestic demand could be satisfied by means of imports, *i.e.*, the possiblities for the continuance of the import substitution process. Their significance can be evaluated on the basis of the studies carried out on the possible evolution of the Latin American countries' capacity to import as determined by their traditional exports, and the size of the "gap" that would tend to appear in their balances of payments, in default of significant changes in the structure of world trade or of new import substitution efforts either at the national level or at that of the region as a whole.

Among these studies, one of the preparatory documents for the United Nations Conference on Trade and Development relates specifically to prospects in the Latin American economies.[9] According to the projections for 1970 formulated in this study,

---

[9] *See Latin America and the United Nations Conference on Trade and Development* (E/CN.12/693).

Table 41

LATIN AMERICA: ESTIMATES OF INCREASES IN DEMAND FOR MANUFACTURED GOODS, ASSUMING DUPLICATION OF THE DOMESTIC PRODUCT

(Values in millions of dollars at 1960 prices)

Categories of goods	*Year 1960*	*Projection*
Final manufactured goods for domestic use	*33 500*	*71 700*
Consumer goods	26 700	56 000
Capital goods	6 800	15 700
Intermediate manufactures	*18 100*	*44 500*
Total	*51 600*	*116 200*

the region's traditional exports might attain a value of about 11,900 million dollars, which, over against import requirements estimated at approximately 15,200 million dollars and the need to finance other outgoings that might represent a further 1,700 million, foreshadows a potential Latin American trade "gap" on current account equivalent to some 5,000 million dollars per annum. Again, if it is assumed that the share of non-manufactured goods in total imports — currently about 15 per cent — would remain roughly constant, the foregoing projections of the capacity to import would imply that out of the 116,200 million dollars at which future demand for manufactured goods for domestic use is estimated, no less than 106,700 million would have to be covered by the region's own production, plus another 2,750 million dollars of manufactures for export. In other words, in order to supply internal requirements Latin America's industrial output would have to expand — in terms of gross production values — by 138 per cent during the time it would take for the region's total gross domestic product to be doubled. The increase in terms of value added would probably be greater still, in view of the structural changes that would simultaneously take place in the composition of industrial production.

In short, the conclusion is reached that during the next few years, given as benchmark a minimum annual growth rate of 2.5 per cent for *per capita* income, Latin American industry would have to develop at a cumulative average annual rate of around 7 per cent. This is a much faster tempo than has actually been achieved in Latin America as a whole, at least during the post-war period, but some of the countries of the region have outstripped it. Furthermore, its attainment would mean that Latin America's industrialization process regained a more dynamic character, reflected in new increases in the industrial product's contribution to the total product.

It will be noted that for the purposes of estimating total supply requirements and the capacity to import that can be generated by traditional exports, it does not matter whether the corresponding proportion of the increase in industrial production is directed towards exports of manufactured goods or towards import substitution. This is no longer true when it comes to projecting expansion requirements in the various branches of industry, or, in other words, forecasting the changes that would be entailed in the composition of manufacturing output, nor does it apply to the evaluation of the feasibility of achieving expansion on such a scale. In default of new import

substitution efforts, closing the "gap" referred to above would imply developing a flow of exports of manufactured goods equivalent in value to the 5,000 million dollars per annum of which mention was made, *i.e.*, channelling towards external demand an additional output of about 10 per cent of the total increase in the region's industrial production for its own internal use. Although this amount would still represent a negligible proportion (not more than 1 per cent) of the total market for manufactured goods in the industrialized countries, it would imply spectacular development on the part of those branches of Latin American industry that were specially fitted to compete on international markets. It would also presuppose efforts in the promotional and organizational fields, and even in relation to the installation of many new industries, which would probably far exceed what could in practice be achieved within a reasonable space of time.

On the other hand, if systematic efforts to create a substantial flow of industrial exports to extra-regional markets were shelved altogether, additional import substitution requirements would be sharply intensified. For the region as a whole, such a policy would imply reducing the import coefficient from its present level (about 9 per cent) to just 6 per cent. In so far as the substitution process continues to operate within the frontiers of each individual country, it is easy to foresee the consequences of so marked a decrease. Even if the countries whose import coefficients are still relatively high (over 15 per cent, for example) were able to reduce them by one-half without a drastic sacrifice of economic expediency — a doubtful possibility, since this situation is generally found where the population and domestic market are smaller in absolute terms — in other cases the position reached would hardly be tenable. For instance, Argentina, Brazil and Mexico would have to bring their coefficients down to less than 5 per cent.

On the other hand, if substitution is viewed from the standpoint of the region as a whole, the sacrifices involved would undoubtedly be much less. This implies the efficacious operation of a Latin common market, or specific industrial complementarity agreements on a really remarkable scale, whereby the present national import coefficients could be maintained and even increased. How thoroughgoing Latin America's economic integration process would need to be in such conditions is illustrated by the fact that unless simultaneous efforts were made to promote exports of industrial products to other parts of the world, intra-regional trade in manufactured goods would have to amount to over 4,000 million dollars yearly.

Thus, the development of industrial exports and that of import substitution at the regional and national levels are not incompatible objectives, provided that steps are taken to rectify those aspects of industrial policy which in practice have brought them into conflict in the past. Both these things can be done, and in all likelihood must be done simultaneously. But is is difficult to imagine the role which would probably be incumbent on each, especially as to a large extent they depend not merely upon unilateral decisions on Latin America's part, but also upon how far the commitments tentatively envisaged by the more developed countries at the United Nations Conference on Trade and Development are actually assumed and implemented. Despite these difficulties, some long-term basic guidelines are essential as groundwork for the new conceptions of industrial policy — and, in a broader sense, of over-all development policy — to which the countries of the region are gradually facing up.

Hypothetically, as in the case of the preceding estimates, it may be assumed that in the course of the next twelve or fifteen years exports of manufactured goods to

countries outside the region might amount to 25 per cent of total industrial export requirements, that is, to approximately 1,250 million dollars per annum. Thus, total import substitution requirements would represent about 3,750 million dollars per annum, of which 750 million would correspond to primary commodities and 3,000 million to manufactured goods. It may be further assumed, equally hypothetically, that one-half of these substitution lines would be produced as the result of efforts solely directed towards each individual Latin American country's domestic market. In these circumstances, regional economic integration agreements would have to be efficacious enough to generate an additional intra-regional trade in manufactured goods equivalent to about 1,500 million dollars yearly.[10]

The whole of this set of purely speculative hypotheses is summed up in table 42.

Although they are not explicit, these hypothetical projections presuppose considerable changes in the future composition of industrial production which it is also of interest to forecast if industrial policy is to more precisely defined. They will probably be more far-reaching than might normally be expected in an ordinary industrialization process, as was shown when the historical evolution of Latin America's industrial sector was reviewed. The consolidation of a significant flow of extra-regional exports of manufactured goods, for example, may be reflected in the rapid expansion of industries whose prospects in the light of internal demand increments or import substitution may not be equally promising. On the other hand, the two last-named factors will still be the determinants of structural change in manufacturing activity directed towards the satisfaction of domestic demand, either at the national level or in the framework of the region's progressive economic integration; in the latter case particularly, the removal of the obstacles deriving from the dimensions of the individual country markets might also facilitate a rechannelling of effort towards a greater measure of vertical integration of industry, as against the "horizontal development" or "development in breadth" which has characterized it in the past.

Table 42

LATIN AMERICA: HYPOTHETICAL SUPPLY AND DEMAND PROJECTIONS FOR MANUFACTURED GOODS, ASSUMING DUPLICATION OF THE DOMESTIC PRODUCT

(Millions of dollars at 1960 prices)

Total demand	*117 450*	*Total supply*	*117 450*
Domestic demand	*116 200*	*Domestic production*	*106 100*
Consumer goods	56 000		
Capital goods	15 700	*Extra-regional imports*	*11 350*
Intermediate products	44 500		
Extra-regional demand	*1 250*		
(Additional intra-regional trade)	(1 500)	(Additional intra-regional trade)	(1 500)

[10] For the purposes of these hypothetical calculations, account was not taken of exports of manufactures appearing as such in current statistics and relating, as a rule, to products in the earliest stages of processing such as roasted coffee, ginned cotton, etc.

Moreover, as soon as an attempt is made to differentiate between the growth prospects of the various branches of manufacturing activity, attention is drawn to the other factor already pointed out as one of those with which the new development policy emergent in Latin America is closely concerned: the progressive redistribution of income.

Although it may not have so much effect on the structure of industry in terms of the major categories of consumer manufactures, capital goods and intermediate products, income redistribution, in so far as it materializes, will exert a powerful influence on the internal composition of these categories and particularly on those branches of industry which used to be called "slow-growing". The potential significance of the redistribution effort from this point of view can perhaps be more accurately evaluated with the help of a few more hypothetical calculations.

The section of chapter II that dealt with supply of manufactured goods afforded an opportunity of presenting some of the available data on the composition of consumption in sectors of the Latin American population at different income levels, although as a rule the statistics related only to urban consumers. On the basis of this and other fragmentary information, a broader hypothesis was formulated with respect to the level and composition of private consumption, by income groups, in the year 1960.

It will be useful to cast a rapid glance over the main results of the calculations referred to, in order to facilitate the discussion which will follow below. In the first place, surveys of consumer income and expenditure carried out in several Latin American countries reveal how high a proportion of total consumption is usually absorbed by expenditure on food: 60 per cent in the lower income groups in Argentina, and 23 per cent in the higher income brackets; upper and lower limits of 59 and 32 per cent in workers' households in Chile; corresponding limits of 45 and 36 per cent in the case of employees' households, and 60 and 40 per cent in that of workers' households in Colombia, etc. Secondly, these and other piecemeal data were taken in conjunction with the estimates of the available supply of manufactured goods in order to formulate a hypothesis as to the level and structure of consumption, differentiating between three population sectors: a lower stratum, comprising one-half of the population of Latin America, to which 16 per cent of total income and 19 per cent of total consumption would correspond; an intermediate group, including 45 per cent of the population and absorbing 50 per cent of income and 52 per cent of consumption; and an upper stratum formed by 5 per cent of the population and accounting for 34 per cent of income and 29 per cent of consumption.

In accordance with this hypothesis, total *per capita* consumption in the first stratum would be equivalent to about 126 dollars per annum, of which 94 would be spent on food and barely 17 on manufactured goods other than food products (7 dollars on textiles and clothing and 10 on other current consumer manufactures). In the second group, out of a total *per capita* consumption amounting to 376 dollars yearly, 183 dollars would be allocated to food and 92 to manufactured goods other than food products (36 to cloting, 45 to other current consumer manufactures and 11 to durable consumer goods). Lastly, annual *per capita* consumption at the third level would reach the sum of about 2,000 dollars, of which a high proportion would be represented by consumption of manufactured goods other than food products — 820 dollars per annum, as against 280 dollars for processed and non-processed foods, and 900 for services of various kinds. The total amount spent on industrial products

could be further broken down as follows: 200 dollars on clothing, 335 on manufactured goods other than food products and 285 on durable consumer goods.

Similar evidence of how small a share in consumption of manufactured goods is within the reach of large sectors of the Latin American population, given the existing levels and distribution of income, is afforded by average consumption figures in terms of physical units of some staple industrial products, selected as typical examples of manufactured goods for mass consumption. For instance, to recall some of the data that were also presented, in fuller detail, in chapter II, in the region as a whole apparent annual *per capita* consumption of textile fibres of all kinds was shown to average 4.1 kilogrammes, and that of newsprint 3.2 kilogrammes.

Although these are goods for which the income-elasticity of demand is low as a rule, a redistribution of income in favour of the less privileged population sectors would obviously have a very powerful effect, at least during a transitional period, on the expansion of the demand in question. Once again on the basis of fragmentary data relating to the elasticity of demand for specific groups of goods, for purely illustrative purposes a few hypotheses might be formulated as to possible changes in the existing structure of consumption, and as to the absolute levels that might be reached if the domestic product were doubled, due allowance being made for the other assumptions postulated.

The results of these formulations are shown in table 43. The projections shown in the first part of this table merely represent the application of elasticity coefficients (for each income stratum) to each of the main components of consumption, on the assumption that in all three strata total consumption will increase in the same proportion, *i.e.*, that income distribution characteristics will remain unchanged. The second part incorporates, in addition to the similar effects deriving from the varying demand elasticities of the different groups of goods (for the income stratum concerned), the hypothesis of a significant redistribution of income. In view of the purely illustrative character of these hypotheses. it would be pointless to embark upon a detailed analysis of the possible rates and patterns of redistribution in the context of the social, economic and political conditions in which the process might take place; irrespective, therefore, of the question of "realism", it is assumed to be carried so far as to keep absolute *per capita* consumption levels constant in the higher income groups, while the middle and lower income strata would enjoy equal shares in the total consumption increment, which in practice means that the rise in income in the last-named population group would be much greater in relation to present levels.

As can be inferred from the comparisons presented in table 43, the average elasticity of consumption of manufactured goods in relation to total consumption would not be fundamentally different whether an income redistribution process did or did not take place; in either case, consumption of industrial products would come to represent about one-third of total consumption in the future period considered (as against a little over 27 per cent in 1960), in consequence of the higher average elasticity of demand for manufactured goods as compared with demand for other types of goods and services, and as the result of an element of compensation in the effects of income redistribution. This can be explained as follows: on the one hand, income redistribution would adversely affect the sector whose consumption of manufactured goods represents the highest proportion of its total consumption, while on the other hand it would permit a substantial increase in the lower income groups' consumption of industrial products, which at present stands at minimal levels. The proportion of

Table 43

LATIN AMERICA: HYPOTHETICAL PROJECTION OF COMPOSITION OF CONSUMPTION, BY INCOME GROUPS

(Millions of dollars at 1960 prices)

	Lower income groups	*Middle income groups*	*Higher income groups*	*Total*
A. *On the assumption that existing income distribution characteristics remain unchanged*				
Total assumption	*24 500*	*66 000*	*37 500*	*128 000*
Food products	*16 000*	*26 000*	*4 200*	*46 200*
Non-processed				31 200
Processed				15 000
Manufactured goods other than food products	*4 300*	*19 600*	*16 000*	*39 900*
Textiles, footwear and clothing	1 800	6 600	3 000	11 400
Other current consumer manufactures	2 500	9 500	5 500	17 500
Durable consumer goods	—	3 500	7 500	11 000
Services	*4 200*	*20 400*	*17 300*	*41 900*
Total manufactured goods				(54 900)
(*a*) Food products				(15 000)
(*b*) Manufactured goods other than food products				(39 900)
B. *On the basis of an income redistribution hypothesis*				
Total consumption	*39 000*	*61 000*	*28 000*	*128 000*
Food products	*19 500*	*25 000*	*3 900*	*48 400*
Non-processed				32 400
Processed				16 000
Manufactured goods other than food products	*10 600*	*17 500*	*11 500*	*40 100*
Textiles, footwear and clothing	3 900	6 100	2 800	12 800
Other current consumer manufactures	5 700	8 700	4 700	19 600
Durable consumer goods	1 000	2 700	4 000	7 700
Services	*8 900*	*18 500*	*12 600*	*39 500*
Total manufactured goods				(56 100)
(*a*) Food products				(16 000)
(*b*) Manufactured goods other than food products				(40 100)

total consumption in this population stratum represented by manufactures other than food products would expand from 13 per cent in 1960 to about 18 per cent in the period covered by the projections, while absolute levels of total *per capita* consumption in the same groups would rise from 126 dollars to over 270 dollars per annum.

But although the aggregate levels of consumption of manufactured goods would be much the same on both hypotheses, its composition by types of products would differ greatly according to whether the redistribution process did or did not take place. In the one case, the major emphasis would fall on the expansion of demand for durable consumer goods, whereas in the other the dynamic repercussions of demand would also have a powerful impact on processed foods, textiles, footwear and clothing, and other current consumer manufactures, as shown in the table under discussion.

The primarily mechanical character of these estimates might give the impression that there is actually a choice between subsequent development possibilities connected or unconnected with income redistribution. In all likelihood, however, other considerations would lead to the conclusion that in the conditions at present prevailing at least in several of the Latin American countries, no such choice exists, and that some measure of redistribution, however remote from these purely hypothetical examples, is an essential requisite for future development.

In short, all the factors to which allusion has been made are potential determinants not only of aggregate industrial development requirements but also of the structural modifications that would have to be introduced in manufacturing industry. It is no easy matter to translate the foregoing hypotheses into terms of the expansion requirements with which each of the main branches of industry would be faced, especially in respect of the sectoral origin of intermediate products, the fields in which import substitution would be primarily concentrated and the lines of production that might be developed with a view to exporting manufactured goods to other regions.

In this connexion, a hypothesis is presented in table 44, although its bases are even less solid than those on which the previous hypothetical estimates are grounded. The structure of manufacturing production in 1960, in terms of the percentage composition of its gross value, is compared with the corresponding figures that would be shown by this sector in the conditions postulated by the various hypotheses set forth, and indications are given of the growth that would have to be achieved by the major groups of industrial activities.

This rough forecast of possible development requirements in respect of industry as a whole and its main branches could also be expressed, although only in part, in terms of the expansion that may be entailed in certain specific sectors. If some idea could thus be formed of the rates of development that would probably have to be attained, for example, by the iron and steel industry, and by certain important branches of the chemical, metal-transforming and other industries, it would do much to facilitate the adoption of decisions at the national and regional levels — with due regards to the advantages of economies of scale, especialization, and productivity and efficiency in general — as between alternative procedures for their installation or expansion.

The foregoing discussion seems sufficient to illustrate the magnitude and nature of the new demands that will apparently be made on manufacturing industry under the over-all development policy that is gradually taking shape in Latin America. As has already been pointed out, the responsibility of the industrial sector cannot be confined to a passive response to these demands. For example, the acceleration of the growth

Table 44

LATIN AMERICA: GROWTH HYPOTHESIS FOR MAIN BRANCHES OF INDUSTRY[a] LINKED TO THE DUPLICATION OF THE DOMESTIC PRODUCT

Branch of industry	*Gross value of production (millions of dollars at 1960 prices)*		*Percentage composition*		*Growth (1960 = 100)*
	1960	*Projection*	*1960*	*Projection*	
Food, beverages and tobacco	13 900	22 400	29	21	161
Textiles, footwear and clothing	7 700	16 700	16	16	217
Wood and wood products, including furniture	1 600	3 400	3	3	213
Paper and printed matter	2 250	5 900	5	6	262
Chemicals and petroleum products	6 850	19 670	14	19	287
Non-metallic ores	1 800	3 800	4	3	211
Metallurgical and metal-transforming industries	10 500	28 070	22	27	267
Miscellaneous	3 300	5 600	7	5	170
Total or averagess	*47 900*	*105 550*	*100*	*100*	*220*

[a] Excluding exports of industrial products to other regions; including projections of intra-regional trade.

rate of *per capita* income is not merely a "datum" to be taken into account in industrial development projections, but an objective in whose attainment industry will have to play a decisive part, particularly in view of the weakening of other factors that formerly constituted important dynamic stimuli. The same applies to the redistribution of income which is not only important from the standpoint of its effects on the composition of demand for manufactured goods, but also raises the question of how industry's contribution is to be made, through changes in the internal distribution of the income generated in manufacturing activities or through transfer to other sectors by such means as a progressive modification of the structure of relative prices.

Again, rates and patterns of industrial growth such as those indicated above seem indispensable requisites if industry is also to be able to play a positive role in relation to the other major responsibility incumbent upon development in Latin America: that of offering sufficient opportunities for productive employment to the rapidly increasing labour force. In the course of the approximate period to which the foregoing hypothetical projections relate, the active population in the region as a whole will increase by about 25 million persons, of whom in all probability no fewer than 18 million will go to augment the labour force available in the urban centres. Consequently, a minimum objective — the maintenance of the present share of industrial employment in aggregate urban employment (27.2 per cent) — would mean that the manufacturing sector would have to absorb about 4.9 million additional workers. This would imply a 52 per cent increase in relation to current levels of employment in industry.

Even if preference were deliberately given — provided that the alternative possibilities were reasonably comparable — to the more labour-intensive production techniques, many of the new lines of development would inevitably comprise activities whose manpower absorption capacity is low. Cases in point would include a number of the industries geared to extra-regional exports or playing an active part in the regional integration process. Moreover, a general weakening of the absorption capacity in question is a characteristic result of an increase in the relative importance of industries manufacturing capital goods and intermediate products, at the expense of those producing mainly non-durable consumer goods.

It is easy to foresee, in the light of these observations, that the marked tendency registered in the past for artisan employment to be superseded, in relative terms, by employment in manufacturing industry proper will still be strongly in evidence in the near future. This might mean that during the next 10 or 15 years the share of factory employment in total industrial employment might reach about 60 per cent, which in turn would imply that of the 4.9 million additional workers joining the industrial labour force, only 1.2 million would go to increase the numbers employed in artisan industry, while employment in manufacturing activities proper would have to expand by 3.7 million, *i.e.*, by 76 per cent in relation to present levels. Given the great differences in productivity between these two forms of industrial employment, it will readily be understood that only a rate of industrial expansion such as that envisaged in the hypothetical projections set forth would suffice to reconcile aggregate manpower absorption requirements with a reasonable improvement in levels of productivity per employed person.

Attention must be drawn to the key role incumbent in this connexion on those branches of industrial activity which are directed mainly towards production of non-durable consumer manufactures, always provided that an income redistribution process

took place in Latin America. Unless the growth of these activities becomes more dynamic, industry's share in urban employment will probably continue to decline, with the resultant aggravation of the problems of overt and disguised unemployment in respect of a substantial proportion of the labour force. In the activities in question, together with a more favourable product-capital ratio, relatively wide margins of idle capacity are currently registered, and both these factors should facilitate the financing of industrial expansion as a whole, in so far as a higher proportion of the resources to be mobilized were earmarked for the more capital-intensive lines of production in which investment requirements per employed person are heavier.

Very broadly speaking, these are some of the principal functions which industrial development will apparently have to take upon itself in the coming years. It may be useful to forecast them, even though in extremely hypothetical terms, with a view to promoting the instruments and defining the policies that may most effectively make for their fulfilment.

2. Regional integration as a requisite of future industrial development

In the light of the requirements noted in regard to the probable rate and some of the patterns of Latin America's industrial development in the next few years, an increasing measure of regional economic integration seems desirable, not only as an objective, but also as a basic instrument. If no effective arrangements are concluded in this connexion, the continuance of the industrialization process and its acceleration in consonance with new needs would meet with almost insuperable obstacles. Although the bases for such a conclusion have been outlined previously, it is interesting to single out once again at least two of the essential factors. The first of these concerns the consequences of a further reduction of domestic import coefficients. Such a reduction, to judge from the hypothetical calculations presented, would carry many countries of the region to levels scarcely compatible with the size of their respective markets, with the stage of industrialization reached so far, and even with their particular natural resources. The expansion of new export lines — primarily of manufactured products — to other areas would be an important contribution. However, on the one hand it is contingent upon the decision of the more advanced countries to provide real access to their markets and, on the other hand, it constitutes an aim which is not entirely unrelated to integration, to the extent that the latter is an important requisite if Latin American industry is to be more efficient and better able to compete on world markets.

The second point which might be repeated here is that all the countries of the region, with a few temporary exceptions, have been more of less simultaneously encountering growing obstacles to industrialization which are likely to loom even larger in the future. This means that, in spite of the disparities in their present general industrial and economic development levels, integration is a matter of equal urgency for them all.

Past events have shown, however, that the road towards that objective is not free from obstacles either. To take industrial products alone, experience gained thus far seems to point to at least two basic sources of concern which hinder the adoption of more far-reaching decisions: in the first place, the uncertainty regarding the effect

which the establishment in the relatively near future of a real regional common market or other integration scheme of similar scope might have on existing industry; secondly, the uncertainty as to the consequences that might stem from the marked disparities in the industrial development levels of the different countries, and therefore from their varying aptitude to turn to account the advantages deriving from integration. Although the present study cannot go into a systematic analysis of integration problems, it seems useful to review some of the data examined in previous sections which might help to determine the scope of such sources of concern, whose repercussions on future industrial development are of fundamental importance.

The prospects of existing industry within the framework of regional integration would logically depend on the nature of the specific integration schemes likely to be implemented and on the magnitude of the differences between the costs and prices of manufactured products in the various countries.

The latter point has been illustrated, at least in part, in previous chapters. The comparative analyses presented lead to the conclusion, in the first place, that there are marked discrepancies between the different countries in the price structure of manufactured products. Although such discrepancies may be partly attributable to factors other than actual costs (tariffs, indirect taxes, levels of return), they do probably also reflect appreciable differences in costs. Secondly, as might be expected, rates of exchange play a decisive part in the general price levels of manufacturing; at the exchange rates in force for foreign trade, there are some countries in which prices are lower as a whole, since at parity exchange rates they would appear at an advantage in certain categories of products and at a disadvantage in others. Lastly, the disparities often seem wide enough to exceed even the existing fairly high transport costs for reciprocal trade.

These general indications need to be supplemented by other more specific remarks about particular sectors of industry. In the case of steel-making, for example, it has been pointed out that the favourable conditions of several countries of the region would not represent for any one of them the necessary advantages in location to compensate for the transport costs involved, but that in existing enterprises there are other factors — plant size, economies of scale, level of specialization and operational efficiency — which greatly accentuate the disparities in production costs.[11] Similar examples might be found in connexion with other manufacturing industries.

Under the conditions described above, a broader liberalization of reciprocal trade in manufactured products is apparently a factor that would lead to a major reorganization of existing industry. Such reorganization might take more than one form, and in particular might be channelled in two main directions, always provided that the exchange distortions were duly rectified: towards specialization in each country's industrial output, while those industries appearing at a disadvantage would be sacrificed or their growth would be limited, and reciprocal trade in a wide range of manufactures, or towards systematic efforts to improve the efficiency and productivity of those lines which are most vulnerable to competition from industries in other countries of the region.

The two lines of action are embodied — albeit more as an additional policy measure than as alternatives to be decided on — in the oft-formulated definitions of integration aims. Thus, it has been asserted that integration would introduce an element

[11] *See A contribution to economic integration policy in Latin America* (E/CN.12/728).

of competition which has been largely lacking in Latin America's industrial development, owing to the high level of protectionism and the intensive concentration of manufacturing enterprises, and would therefore require a drive to improve industrial efficiency, organization and techniques. Attention has also been drawn to the advantage of integration from the standpoint of economies of scale and the possibilities for industrial specialization in the various countries. The former implies that integration would be assigned a role whereby in some degree it replaced other internal policies which might have the same ends, but whose efficacy in that sense would not necessarily have resulted in a larger flow of regional trade; the latter, on the other hand, is clearly aimed at increasing reciprocal trade in manufactures.

Those objectives might, to some extent, be associated with the two categories which are usually referred to as "traditional" and "dynamic" industries. In the first group, which is usually characterized by a relatively small minimum economic size and is virtually untouched by economies of scale, the present cost and price situation would appear to derive from institutional factors rather than from the inherent technical and economic features connected with the limited size of the domestic markets; accordingly, it would suffice for integration to have an indirect influence on them, or a sort of catalytic effect which would help to remove the adverse institutional factors.[12] In the dynamic industries, on the other hand, a genuine attempt would be made to promote specialization and trade on a regional scale.

Although there is no reason why the two objectives should conflict, the fact that they are pursued simultaneously is likely to give rise to greater difficulties in attempting to express them in terms of the specific arrangements and schemes chosen for achieving integration. The more they affect existing industry, the greater reluctance there will be to adopt the political decisions required by those arrangements, and the greater pressure will be brought to bear to introduce exemption and saving clauses which might do much to undermine their efficacy, even in those industries which are genuinely important from the standpoint of real trade possibilities.

Be that as it may, the breadth and scope of the effect which industrial integration might have on existing enterprises should not be exaggerated. To go a little more deeply into the question, the document referred to above[13] suggests a distinction between five

---

[12] Admittedly, this is a sweeping generalization and over-simplification, since integration is usually assigned a broader role even in relation to this type of industry. "Lack of specialization substantially increases production costs and prevents the Latin American countries from making the best of their industries' possible advantages in respects of comparative cost, besides depriving them of the benefits that might accrue from trade based on a broader and more rational division of labour . . . This is evidenced in the low level of imports of manufactured consumer goods effected by the more highly industrialized of the Latin American countries; for example, registered imports (*i.e.*, excluding contraband) of cotton textiles are practically non-existent, owing to the prohibitively high duties and other restrictions. As a result, the domestic textile industries have indulged in over-diversification and have foregone specialization with the consequent adverse effects on their efficiency and export possibilities; cotton textiles, besides not being imported, are not exported either, except in marginal quantities. In contrast, the industrialized countries, whose textile industry is more highly developed and more efficient, not only export but also import large quantities of cotton textiles. For instance, the aggregate cotton textile exports of the countries members of the Organization for Economic Co-operation and Development (OECD) represented 19.2 per cent of their output in 1959, and imports 17.2 per cent. In the case of the United Kingdom, the corresponding proportions were 22.8 and 39.2 per cent, respectively". (Santiago Macario, "Protectionism and Industrialization in Latin America", *loc. cit.*, p. 79–80 and footnote 47).

[13] *A contribution to economic integration policy in Latin America, op. cit.*

types of enterprises which would suffer the consequences of integration under widely differing conditions: (*i*) inefficient enterprises which, however, are immune from competition because they supply a local market or because demand is sporadic; (*ii*) inefficient enterprises, which, if prodded by competition, would be capable of revising their methods or switching to different products on their own initiative and through their own efforts; (*iii*) inefficient enterprises which are incapable of reacting to competition themselves, but could be salvaged by means of special technical and financial assistance programmes; (*iv*) inefficient and unsalvageable enterprises, some of which must be tolerated as long as "national security", "industrial stability" or other non-economic considerations persist; (*v*) inefficient and unsalvageable enterprises which should be replaced.

The conclusion to be drawn from the above considerations is that there might well be few sacrifices to be made in terms of installed enterprises and production capacity; in fact, the broader the proposed action of specific integration mechanisms in relation to concrete programmes of financial and technical assistance to those enterprises, the fewer the sacrifices.

Under these circumstances, careful attention would probably have to be paid to the possible effects of such programmes from the standpoint of the criteria for allocating future resources, in terms of the proportion to be channelled towards modernizing and improving the competitive position of existing industry compared with that earmarked for broadening the industrial base through the establishment of new industries.

Available sectoral studies show that a good many of the problems concerning the efficiency of existing industry lie in questions of organization and administration, which could be remedied without investing too large a proportion of real funds that could be channelled into other activities. The large-scale replacement of equipment is a different matter and could, moreover, seriously aggravate the already acute employment problems, unless it took place within the context of broader plans which included fresh incentives to industrial growth through the local production of such equipment. This consideration seems to be consistent with the fact that among the "bases for the formulation of a regional industrial development policy", as approved by the Advisory Committee on Industrial Development set up under the Latin American Free-Trade Association (ALALC), there was included a specific provision to the effect that the more intensive rationalization of production should be reconciled with the level of employment reached, as well as with the utilization of capital goods and available technological capacity.

These and other difficulties arising in the study of existing industry point to the usefulness of taking a somewhat broader view of the question. The hypothetical estimates presented earlier in this study provides some criteria in this respect which might serve to illustrate that longer-term view. Thus, for example, it can be inferred from those estimates that within a period of not more than fifteen years the increase in the industrial product would exceed its present level; in other words, a new and larger flow of manufacturing production than that now representing the whole of existing industry (130 per cent more in terms of value added) would have to be created in less than fifteen years. In certain sectors, this expansion would entail the addition of production capacity on an even greater scale than at present, or the launching of completely new projects, either throughout the region or in specific countries.

Viewed from the angle of what the expansion of Latin American industry is expected to signify within a relatively short time with respect to present production levels, the adverse effects which integration might have on existing industry will no doubt be attenuated, or it will be made more readily adaptable to the new conditions. For this reason, special priority should be attributed to integration instruments and arrangements which will effectively promote the rational development of future additions and progressively shape the new structure of Latin America's industry implied, in the last analysis, by the industrial integration of the region. Those prospects may also help to weaken the opposition and ease the pressures of firmly established interests, and this in turn would facilitate prompter and more far-reaching decisions in connexion with the development of new lines of industry, regardless of the adjustments which existing industry will gradually introduce.

This is what is happening in the two integration schemes now in force. In the case of Central America, where less weight is carried by considerations relating to existing industry because of its less advanced degree of industrial progress, the incentives explicitly contemplate greater advantages for new industries, such being the actual nature of most of the projects regarded as "integration industries". As to ALALC, besides the stress generally laid on the "installation and development of area industries" — which suggests new industries — the inclusion of products in the National Schedules, and even more so in the Common Schedule, tends to exclude those for which several of the member countries already have fairly important industries established, while complementary agreements also seem to be more compatible with the impetus given to new projects.

Nothwithstanding the advantages which a distinction between existing industry and the requirements foreseeable in the near future seems to offer in a study of possibilities for an industrial integration policy, it should be realized that such a distinction is largely arbitrary. An appreciable proportion of the expansion in question would be absorbed by the so-called "traditional" industries, the more so if the efforts towards a more progressive distribution of income materialize, as noted from the hypothetical estimates presented above. But even within the sphere of dynamic industries, and particularly in countries that have made most headway in industrialization, future industrial development would also imply the growth of activities which are already in operation, and perhaps have even achieved a measure of consolidation.

In this respect, subsequent industrial growth cannot be conceived as the mere superimposition of a different pattern from that already in existence, which could therefore be moulded on entirely new bases quite independently of the traditional structure of industry. Even in the case of industrial ventures which might, strictly speaking, be regarded as "new", the level of efficiency attained by them would necessarily be influenced by the whole complex of their relations with the rest of the industrial sector, on which they would rely in some degree for supplies of inputs or other basic services.

Furthermore, whether or not certain lines of industry were classified as "new" would depend on the stage of industrialization reached by the countries concerned. The scope of the term would be far broader in those which had made little progress in that direction. The more industrialized countries might well have no other fields capable of being developed within a reasonable span where these new lines do not already exist at least in embryo form. In this respect, it might be considered that the disparities in the progress thus far achieved by the Central American and ALALC integration

schemes are up to a point consistent — among other important factors — with the industrial characteristics of the respective member countries and with the varying opportunities they offer for the development of new lines without jeopardizing existing industry.

The above considerations also bring into relief the urgent need to increase industrial integration efforts. The longer this is postponed, the larger will be the number of manufacturing activities whose problems will come to swell those already affecting existing industry — even at an incipient stage of development — and, consequently, the fewer the possibilities of strengthening the measures for a rational development of new enterprises proper. The motor vehicle industry is a good example of this. In the course of a few years, Brazil has managed to replace virtually all its imports of motor vehicles through the local manufacture of nearly all their parts and components, and Argentina's production is also large. Although these two Latin American countries have the widest domestic markets, they fall short of what would be required, in absolute terms, to take advantage of the considerable economies of scale which are typical of this industry, particularly if account is taken of the relatively large number of enterprises established. At the same time, steps have been taken to promote the production or assembly of vehicles in other countries of the region, including Mexico, Colombia, Chile, Venezuela and El Salvador — in the latter with an eye to the Central American integrated market. The extension of industrial activities to other countries along the same lines, in none of which full use is made of the advantages of specialization and large-scale production, is noted in several sectors of the chemical and steel industries.

Added to the obstacles of the kind described above is the second type of concern alluded to at the beginning of this section, namely, the uncertainty regarding the consequences that might stem from the marked disparities in the different countries' industrial development levels, in terms of the varying degree to which they are able to turn to account the advantages deriving from integration.

Of course, this is a basic evaluation, without which it is more difficult to adopt what are no doubt the essential policy decisions needed to accelerate the process. It is also a highly complex problem, requiring simultaneous consideration of a great many points, including some for which sufficient data are probably lacking. Needless to say, such an undertaking is beyond the aims and possibilities of the present study, although a preliminary investigation based on the hypothetical estimates presented above might be warranted. In such a study it would be best to disregard the aforementioned question concerning the possible repercussions of integration on existing industry, and to focus attention on the prospects that might be opened up by future development, while recognizing that not only should integration arrangements avoid harming what already exists but they must also be effective enough to ensure an equitable distribution of the additional benefits they produce.

It should be stressed, above all, that the disparities between the Latin American countries which are relevant in this connexion are not limited to their respective levels of industrialization or to their industrial bases, but extend also to other factors whose impact on industrial development has been shown earlier in this study. They include, in particular, the size of population in absolute terms and the average level of *per capita* income — that is, the size of the national market concerned — as well as the level of urbanization and the import coefficient. Of these, urbanization might be considered more important as a factor explaining the past industrial process than as a determinant

of subsequent industrialization, since within the framework of planned development policy it is probably no longer an autonomous factor, but a passive answer to the needs arising out of development itself.

Consideration being thus limited to the remaining factors, the best course would be to single out certain typical situations in Latin America in which a relationship exists between the stage of industrialization reached thus far and the population, the average *per capita* income and the relative importance of the external sector in the countries concerned. Accordingly, consideration could be given to a first group consisting of the most densely populated countries with the highest level of industrialization and a relatively low import coefficient. It would comprise Argentina, Brazil and Mexico, whose annual domestic product would total some 68,000 million dollars, their industrial product about 17,000 million and their imports around 4,300 million dollars. The second group would be composed of Chile, Colombia, Peru, Uruguay and Venezuela, with medium-sized domestic markets, a slightly lower level of industrialization and a far higher average import coefficient than the first group, although marked disparities persist between the five countries themselves. The annual figures for their total product, industrial product and imports would be 22,000, 3,400 and a little over 3,200 million dollars annually. A third and last group would consist of Bolivia, Costa Rica, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Nicaragua, Panama and Paraguay, whose combined domestic product would amount to some 6,300 million dollars annually, their industrial product to approximately 700 million and their annual imports to about 940 million. The same grouping could be associated with different structures of the manufacturing industry sector, in terms of the relative share of current manufactured consumer goods, intermediate products, durable consumer goods and capital goods, as typified elsewhere in this study.

As a next step, it would be useful in this respect to take the results of the hypothetical calculations presented earlier as to what effect a 100 per cent increase in the product would have on the capacity to import from other areas and on the consequent requirements of trade in manufactures between countries of the region. It was then estimated that in the face of a potential demand for imports exceeding 15,000 million dollars annually, plus other income of nearly 2,000 million, the traditional trade flows would provide a capacity to import of just over 11,900 million dollars, which would mean a gap in Latin America's foreign trade of the order of 5,000 million dollars annually. Under the hypotheses formulated at the time it was assumed that this potential deficit could be covered by means of additional exports of manufactures to other areas (1,250 million dollars), import substitution in respect of certain primary products (750 million dollars) and import substitution efforts in respect of manufactured products amounting to the equivalent of 3,000 million dollars, half of which would take place within the framework of each domestic market and the other half under regional industrial integration arrangements.

New hypotheses could now be added to show how those projections might be classified according to the above-mentioned country groups. To that end it would be necessary to begin with the basic reference relating to the growth of the product. In this respect, however efficient the regional integration instruments may be from the standpoint of the equitable distribution of the benefits deriving from integration, there would still be a great many internal factors which, in the last analysis, would determine different growth rates for the various countries, although the difference might be smaller than in the past. A merely hypothetical assumption, however, would be that those

growth rates were the same at least for the groups of countries — in some degree a justifiable simplification if it is borne in mind that each group includes countries which, in the past, have registered very different rates of development — and that the domestic product, which has been taken as a reference for the calculations, doubled within the same period. Another hypothetical assumption would be that the various groups could increase their traditional exports at the same rate and, actually aided by integration, that their share of exports of manufactured products to other areas, for example, could be in proportion to the respective absolute volumes of their industrial output. The results of these two suppositions would be that of the total gap of 5,000 million dollars annually, about 2,500 million would be absorbed by the first group of countries, 1,900 million by the second and 600 million by the third.

To complete the break-down of these over-all figures by groups of countries, yet another hypothesis would be necessary concerning the subsequent trends followed by each group's import coefficient or, which amounts to the same thing, by its share in intra-regional trade. If, as in the case of the general hypotheses, it were estimated that in every instance half the new import substitution activities could take place exclusively within the domestic markets, it would be concluded that the requirements in respect of regional trade arising in each group would be very much the same for the first two groups of countries[14] — approximately 650 million dollars annually in each case — and the equivalent of some 200 million dollars annually for the third. In other words, regional trade in manufactures for the first group of countries would represent between 9 and 10 per cent of its total exports to other areas, 15 per cent for the second group, and a slightly higher proportion for the third.

From this set of hypotheses it is inferred that, although it has been fairly systematically assumed that the contribution and effort made by the separate groups of countries are the same in relative terms, there is a wide gap in absolute terms between the first two groups and the third. That is to say, it would be hard to achieve stability in regional trade as a result of transactions relating mainly to trade between countries at very different stages of industrial development. Owing to the disparities in the absolute size of the markets concerned, a substantial proportion of such trade would have to consist of transactions between countries belonging to the same group, or at most between the first two country groups.

Such a conclusion would not help to foresee the varying ability of countries at different stages of industrial development to take part successfully in a regional industrial integration scheme, but in any case it helps to illustrate certain aspects of the problem. Its effects extend also to the definition of the so-called "integration industries", to use the terminology of the Central American schemes. If these are considered to be industries in which the effective turning to account of the economies of scale, at the level of high productivity techniques, easily transcends the size of the individual domestic markets, the range of "integration industries" — as in the case of "new industries" — is far more extensive in the group of less industrialized countries than in others at a more advanced stage of industrialization. This fact is due not so much to

[14] The fact that these figures are so similar is explained by the hypothesis that the proportion of exports of manufactures to other areas absorbed by each group of countries would be in line with its absolute level of manufacturing production. On this assumption, while the proportion accounted for by the first group would amount to some 1,000 million dollars annually, the second group would absorb only 200 million, which would therefore accentuate the need for import substitution and regional trade.

the level of industrial development in itself as to the fairly close relationship existing in Latin America between that level and the absolute size of the domestic markets concerned.

Provided that the fundamental trend is to take full advantage of the economies of scale, these considerations are gradually shaping a picture which would be characterized by a lively trade in manufactures within each separate group of countries. In an extreme case like that of the less industrialized countries, this trade could cover a fairly extensive range of manufactures; secondly, there could be an even greater volume of reciprocal trade in absolute terms, it would be concentrated more particularly on specialized or, technically speaking, highly complex products. In addition, there would be a region-wide trade in the products of regional "integration industries" proper, in the broadest sense of the term.

The system of grouping the most homogeneous countries from the standpoint of the stage of industrialization reached is possibly one of the reasons for the great strides made by the Central American integration scheme. The Montevideo Treaty failed to provide for the possibility of sub-regional agreements as part of the over-all ALALC scheme, although it subsequently allowed for it up to a point through fairly liberal exemptions from the most-favoured-nation clause.

The risks entailed in too wide a dispersion of integration efforts would depend, in these circumstances, on the efficiency of the instruments for promoting activities that might be considered integration industries at the regional level. There is no reason why those industries should be limited in number, and even if they were, they could give rise to a considerable volume of trade in absolute terms.

In any case, there would still be the question of how far each country would have equal opportunities to take part in the development of integration industries, either at the level of the relevant group or at the regional level proper. However, a systematic examination of the question is beyond the scope of the present study, which is barely intended to formulate a few general considerations on the subject.

As noted previously in connexion with the prices of specific manufactures in several countries of the region, to broach the problem in terms of comparative monetary costs under prevailing market conditions does not make for a very thorough analysis. Among other things, the results ultimately depend entirely on the exchange rates used to convert the costs expressed in the various national currencies to a common currency unit. Those in force for foreign trade may represent temporary over-valuation or under-valuation, which would not provide a sound basis for any far-reaching decisions. Moreover, the difficulty of accurately determining "parity exchange rates" is only too well known, even if the actual concept were useful to those ends. Hence, the evaluation would have to be expressed in terms of "real costs", which reflect the quantity of material inputs that would have to be used per unit of final product in a given line of production.

Under present conditions, in many manufacturing activities there are marked disparities in real costs between the various Latin American countries. Such disparities are due, in turn, to at least three types of factors: some, such as scale of operation and the techniques employed, are inherent in the characteristics of industries developed purely at the domestic level in countries differing so widely as to absolute size of market; others reflect permanent or transitory conditions peculiar to each country, such as the availability of natural resources and the level of training and skill of its human

resources, including those responsible for promoting and organizing industrial production in a general sense; and others are closely bound up with the actual stage of industrialization thus far reached and with the so-called "external economies". Under conditions of the progressive industrial integration of Latin America, it must be admitted that the first group of factors would cease to be a source of gaps once a regional market was established. The factors relating to the training of manpower and technical personnel fall into the category of differences that could be remedied fairly quickly provided sufficiently intensive and far-reaching efforts were made to do so. The disparities in the availability and quality of other resources would constitute the basis of what might be called each country's "natural specialization" in certain manufacturing lines, although their effects are limited to those countries in which the costs of obtaining the raw materials are particularly high.[15]

The effects of the third type of factors mentioned — those relating to external economies — on each country's ability genuinely to participate in a regional industrial integration process would still remain to be seen. Past experience shows that their effect seems to be of fundamental importance, since the cumulative advantages implied by external economies are usually referred to as one of the chief explanations for the concentration of industrial development both at the international and domestic level. In Latin America itself, as noted in chapter II, Greater Buenos Aires, the Municipality of São Paulo and the Federal District of Mexico account for more than one-third of the value of the region's total manufacturing output. If that is what happened under strong national protectionism, it is not difficult to imagine that, for want of an effective policy deliberately aimed at preventing it, such a tendency might be even further accentuated in a regional integrated market, thereby strengthening those industrial centres where the external economies are greatest, to the detriment of others at a relatively less advanced stage of development.

This is one of the reasons why an association of countries at widely differing stages of industrialization with a view to participating jointly in an industrial development process could hardly take place within a scheme operating automatically, where decisions regarding the location of industries are entirely dependent upon market conditions. Hence, some degree of deliberate participation in the process seems indispensable, implying as it does a greater or less industrial development planning effort which would go beyond the strictly national planning level. A suitable mode of combined action of that kind might be necessary even if the effect of the external economies were not very significant. In fact, the turning to account of the opportunities which a regional market might open up to a country in the case of specific manufactures does not depend solely on its relative advantages, but also on its ability to accumulate sufficient investment resources for its development. Consequently, the deliberate action to assure it of such opportunities would have to be followed by some other form of joint action calculated to facilitate the appropriate financing for countries whose possibilities of earmarking funds for industrial development are weakest.

To the extent that external economies are really an important factor, it might be considered that the re-orienting of industrial development with a view to the balanced participation of the various countries would entail some sacrifice from the point of view of the growth potential of the region as a whole. However, regardless of the fact

[15] For the extent to which each of these factors affects specific branches of industry, see *A contribution to economic integration policy in Latin America, op. cit.*

that this might be purely a temporary "sacrifice", there are at least two other facts to be taken into account in relation to the two main manifestations of such external economies: the combination of services (housing and public services) and utilities (energy and water) which are indispensable for industrial development, and the proximity of industrial establishments whose output is so closely linked that the supplies of some of them constitute basic inputs for the operation of others.

Although there is no reason why the former should normally be financed by the manufacturing sector, being more often the public sector's responsibility, that does not prevent them from representing social costs which must be taken into account in one way or another. Consequently, throughout the accelerated urbanization of Latin America, there have been signs in certain cases that the location of industry in traditional urban centres no longer represents real external economies in the supply of those services, or will soon cease to do so. Unless those cities are completely remodelled, the lengthening of supply lines for public services allied to housing — including urban transport — , the increasing distance from water and electric energy sources, and other factors, entail increasing rather than decreasing costs in the supply of those services. To put it even more strongly, it might well be less costly to create new urban centres around the location of new industrial centres than to go on establishing industries in the traditional urban centres.

Planned industrial development can at the same time open up possibilities for considerably mitigating the effects of the second type of manifestations of external economies. Since the decisions are not necessarily confined to individual industrial establishments, but can apply to a whole group of them, it would be useful to plan the establishment and development of industrial "complexes", in devising which attention could be paid to the essential features of external economies in so far as reciprocal relations between these activities are concerned.

An interesting illustration of the factors referred to above is to be found in the development plan for Venezuelan Guiana. The aim there is not only to create an industrial nucleus for the immediate utilization of a particularly favourable combination of basic resources, but also to set up in the same location a series of related manufacturing activities which will bring into being an urban centre of significant proportions. The population of Santo Tomé de Guayana increased from barely 4,000 inhabitants in 1950 to 42,000 in 1961, and is expected to be 115,000 inhabitants in 1966 and 400,000 by 1975. Although the location of basic industries was consistent with the resources available, the decision concerning the location of others which might have shifted to the traditional centres is apparently influenced by the consideration that, from the standpoint of the economy as a whole, these centres — particularly Caracas — no longer offer significant external economies in relation to the cost of establishing new urban centres.

If such a phenomenon were true of a sizeable number of existing industrial centres in Latin America, it would mean that the industrial integration of the region would afford the opportunity for the large-scale relocation of Latin American industry on such lines that a major proportion of its subsequent growth would tend to shift to new sites. This process could greatly enhance the efficiency of the integration industries, if it is taken into account that certain of the traditional centres, in developing along lines directed exclusively towards the domestic market, might be unsuitably situated for the purposes of regional trade.

From another angle, therefore, the need emerges once again for the region's industrial integration efforts to be backed by instruments involving a high level of planning, and not exclusively in connexion with strict trade policy limits. This has been largely the case in the Central American scheme, and the same need has been recognized in the bases for formulating a regional industrial development policy put forward by the relevant advisory commission of ALALC, according to which the location of industry must be effected in line with an over-all programme so that the benefits of integration are equitably distributed, account being taken of the different structures and development levels of the member countries, since the devices and incentives should contemplate not only the elimination of regional trade charges and restrictions, but also "all those carrying some weight in an industrial integration process by sectors". To sum up, the problem seems to be not so much the recognition of that need as the devising of specific devices and instruments to satisfy it.

3. The new responsibilities of industrial policy

It will be concluded from the foregoing considerations that whatever may be the possibilities in the last analysis, Latin American industry is facing increasing development requirements and deeply significant needs in respect of reorientation and structural changes. Such requirements, in turn, imply new and greater responsibilities in the definition and efficient application of the set of measures and instruments which constitute industrial policy in the broadest sense of the term.

As observed in chapter III, industrial policy at one time considerably influenced the rate and pattern of Latin America's industrialization process, but it also displayed certain shortcomings, and unless they are remedied it can hardly meet its new responsibilities efficiently. If an attempt is made to generalize regarding particular situations which often differ notably between one country and another, and if their characteristics in relation to specific fields are disregarded for the moment, it can be stated that industrial policy has consisted in a number of insufficiently related measures rather than a consistent over-all line of action; that this policy has not been expressed in terms of clear-cut objectives, nor has it been given the necessary continuity to eliminate or mitigate the uncertainty concerning the stability of the conditions it has tended to create; that it has so lacked selective criteria as to have had an indiscriminate effect on the manufacturing sector as a whole, without, however, carrying much weight in the shaping of sectoral structure; and that it has not always seemed to be sufficiently integrated with over-all economic policy to provide a more dynamic impetus to industrialization.

On the other hand, those very characteristics of consistency, continuity and selectivity, combined with its proper integration with general economic policy, appear now as essential requisites of industrial policy in the light of the new objectives pursued. The recent progress made in economic and social development planning is making it easier to meet those requirements, since such planning must provide the general frame of reference to guide decisions on industry in the light of long-term prospects, and for properly balanced efforts in this sector and those envisaged for other sectors of the economy. Thus, the plans could constitute an instrument which would presuppose the need to reconcile industrial policy with the broader aspects of economic policy.

Many of the shortcomings noted in past industrial development and subsequently in industrialization policy itself are the virtually inevitable consequence of an un-

planned industrial development. Under the circumstances, the distribution of resources between the manufacturing sector and other economic activities, and also among the various branches of industry, was determined mainly by the characteristics of markets whose relative price structures tend to be seriously distorted, and by other factors of an essentially institutional nature. To remedy them will therefore call for a more active industrial policy duly integrated with general planning efforts.

The data on the past evolution of industrialization and the present distinguishing features of industry, the analysis of the experience gained in following industrial policy in the past, and proposals for some of the lines along which industrial development could be approached in the future — subjects which have been referred to throughout the present study — might prove useful in outlining some of the basic points to be borne in mind in ultimately perfecting industrial policy. They could also help in gradually determining possibilities concerning the specific instruments and procedures which could effectively deal with the series of problems which industrial development will apparently entail in the next few years.

To that end, it might be as well, in the first place, to review briefly some of the issues which appear to be essential in giving shape to what might be considered a regional industrialization "strategy". The major objectives of industrial policy could be inferred from such issues and, in the light of those general considerations, the role which specific instruments might play could be examined.

(*a*) *Definition of an industrialization strategy for Latin America*

Consistency and continuity, two qualities which determine the effectiveness of industrial policy, depend not only upon the existence of suitable mechanisms and skill in using them, but also — and perhaps primarily — on their taking shape within a framework of long-term guidelines as defined by certain fundamental criteria. It is not proposed that industrial policy should be cast in so rigid a mould that it cannot be adapted as flexibly as required to temporary circumstances or short-lived developments, but rather throughout those changes to maintain specific guidelines which presuppose long-range definitions and whose persistence is important, *inter alia*, in determining that, based on their continuity, decisions of all kinds adopted by public agencies and private enterprise itself will tend to fall into line with them.

The characteristics of past industrial growth and the problems encountered at present make it possible to select certain basic factors which might be considered as defining this strategy. These are closely interrelated guidelines which cannot be expressed in actual quantitative terms, nor are they applicable indiscriminately to each individual country of the region. Thus, they are mentioned here in the form of an enumeration of subjects or questions — whose elucidation is essential for industrial policy — rather than as suggestions of possible answers in each particular case.

The first such factor is concerned with how far industrialization efforts will continue to be directed towards the individual domestic markets, as compared with regional integration and the world market for manufactures. The answer may seem obvious, in that it is important to take advantage of every new opportunity that might arise to accelerate the growth of manufacturing industry. However, the relative significance ascribed to these last two objectives may lead to a vital re-orientation of industrial policy. Although the issues concerned may also entail external decisions which are not strictly dependent upon those adopted at the national level, if such opportunities

are to be effectively turned to account the whole industrial base will have to be adjusted — by adapting existing activities and incorporating new ones — with those objectives in view. What is more, there are undoubted signs that past industrial policy, which aimed above all at intensifying the incentives to import substitution, in practice created adverse conditions for opening up industry to external and regional markets. This does not necessarily imply criticism of the pattern of industrial policy which existed at a time when conditions were very different from what they are, but merely emphasizes the need to adjust such incentives to new conditions and aims in so far as it is considered that they should begin to form part of the future industrialization strategy.

A second factor, closely linked to the first, could be expressed in terms of how far the tendency towards the "extensive" growth of industry will persist or to what extent a calculated effort will be made to re-orient it towards a greater internal structural integration of the major industries. This subject has been alluded to repeatedly throughout the present study, making it clear that, allied to other factors, those characteristics have been influenced by specific industrial policy provisions. To some extent, the question can be expressed also in terms of how to combine the industrial efforts concerned with the market and resources, a matter of vital importance if the bias is on regional integration aims and exports of manufactures to other markets.

A third consideration of the same nature is the location of industry. The question here is how far a deliberate attempt will be made to modify the noticeable trends towards a marked concentration of Latin American industry which have been followed under a more spontaneous policy. The question may be considered from two separate angles: firstly, how far should industry contribute to the internal integration of the countries' own economies, which are often faced with serious disequilibria in the development of their distinct component areas and disparity between their production and consumption capacity; secondly, how far will the location of industry have to be gradually adapted to conditions of progressive economic integration in Latin America.

In defining those general long-term guidelines, it is impossible to avoid making some reference to the increasingly acute problem of manpower absorption. From the particular standpoint of industry, this continues to be a controversial subject. While some are of the opinion that industrial productivity should be stepped up through the introduction of technical advances on the widest possible scale, others support the course of seeking how best to combine the capital and labour factors of production as consistent with their relative supply in the Latin American economies. From the broader angle of the economy as a whole, there is no doubt that this is one of the most serious problems so far encountered in Latin America's development, and one which is increasingly aggravated by different factors, including the needs in respect of the modernization of agriculture and the rationalizing of existing distribution and marketing systems. Under the circumstances, while the problem can hardly be solved through action in any one sector of the economy, neither does it seem possible for any sector to refrain from helping to solve it. It is necessary, therefore, to define a long-term employment policy which, in turn, would necessarily influence the industrialization strategy.

It is the factors outlined above — and others too, since this is not a complete enumeration — which could, in the last analysis, contribute to devising the industrial development strategy apparently required in order to shape a better industrial policy. In the decisions taken in this respect a sufficient degree of similarity may be discerned

between the individual countries to permit certain features of the strategy to be applied to Latin America in general, but important discrepancies are also observable between them as a result of particular conditions or objectives.

The point at issue is not so much that the decisions embodied in a strategy formulated along those lines have been absent from the content and pattern of past industrial policy, but rather how far the aims should be marshalled in order of importance and how much stress should be laid on selectivity in deciding on specific incentives.

(*b*) *Major industrial policy aims*

A strategy of this nature would help to define certain basic objectives which, in turn, would be conducive to the more efficient use of specific instruments for shaping industrial policy. Although they may appear fairly obvious as expressed in general terms, it may not be superfluous to dwell in some detail on certain of those objectives with a view to placing them more accurately within the context of those broad definitions of industrialization strategy, and to bear them in mind in the more extensive references to particular measures and provisions contained in the following section.

(*i*) *Financing*. If Latin America's future industrialization process is to meet the new development needs, a fundamental requirement will be the mobilizing of enough resources to finance the expansion of industrial production capacity, and the distribution of those resources within the manufacturing sector itself in consonance with the structural changes it would have to undergo.

The greater industrial growth needs anticipated over the next few years can hardly be satisfactorily met on the basis of a financing system such as that existing in the past, as described in the pertinent section of chapter II. To increase the manufacturing growth rate to the levels shown in the hypothetical estimates presented in previous sections — that is, an average for the whole region of not less than 7 per cent annually — would entail a considerably larger gross investment in industry than in recent years, not only in absolute but also in relative terms, whether in relation to the industrial product or the total domestic product. Hence the need to strengthen, in economic policy in general and industrial policy in particular, the additional instruments and measures which will facilitate the relative transfer of resources from other economic sectors to manufacturing industry, or will substantially increase the latter's rate of savings.

Even if the aggregate rate of industrial investment were attained, its effectiveness would also depend on whether the funds were being properly channelled into the different branches of the manufacturing sector, in keeping with the necessarily varying industrial growth rates, which in turn would result from the broader decisions embodied in the industrialization strategy. As has been seen, the want of selective criteria is precisely one of the shortcomings of past industrial policy which it is most important to remedy in the face of the new conditions.

The magnitude of investment needs is also conditional upon the efficiency with which production capacity — both existing and envisaged in the next few years — is utilized. The persistent under-utilization of installed capacity — a characteristic feature of Latin America's industry at present — would accentuate those needs, in addition to the inevitable repercussions of incorporating new and more capital-intensive pro-

duction lines and the continuing process of replacing artisan industry by factory industry as such.

Accordingly, this broad aim of industrial policy should comprise not only the mobilizing and channelling of sufficient new investment resources, but also the efficient use of the resources available.

(*ii*) *Technology*. Another basic objective is to expedite the assimilation of new techniques and their adaptation to the conditions prevailing in the particular area concerned. As stated at the beginning of the present chapter, this undertaking entails far more than the mere introduction of new equipment and the necessary training in its operation. It applies not only to industry, but to all sectors of the economy, and to the general structure of society as well. Its importance is all the greater in that more stress is laid on the efforts towards regional integration and exports of manufacture of other markets, which — by overcoming the limitations of the narrow country markets — make it at once easier and more necessary to take the fullest possible advantage of technical progress.

It is not too much to emphasize that, under the new conditions envisaged, the assimilation of technology cannot continue to be restricted to the superimposing of more advanced phases of technical progress on a basically unaltered traditional structure. The persistence of what has been called "technological duality", both within the industry itself and in the whole sector in relation to others, is most likely incompatible with the new guidelines drawn up in the industrialization strategy for Latin America. Training with a view to turning scientific progress to account in acquiring a fuller knowledge of regional resources and their use, and to adapting production techniques to the conditions prevailing in a particular area, is another increasingly important aim of industrial policy in its broadest sense.

(*iii*) *Costs and prices*. Linked to the foregoing, a third basic objective necessarily guiding industrial policy will be the elimination or mitigation of factors determining the high costs and prices of Latin American manufactures. Its *raison d'être* is obvious, whatever may be the general industrialization strategy it is wished to pursue. To internal considerations are added those relating to regional integration and, in particular, to an active share of world trade in manufactures, and thus this objective becomes an essential requisite. Here, too, the aim would be not merely to establish new industrial activities capable of producing on a competitive footing, or at least at lower costs than at present, but to improve operating conditions for existing industry as a whole. Failing this, it would be impossible to attain other important goals such as the expansion of domestic markets in conjunction with lower prices for manufactured goods; nor is the fullest possible benefit likely to be derived from the new and more efficient activities if they continue to adhere to the traditional industrial base for the supply of inputs and other services required for their own production processes.

(*iv*) *Income distribution*. Lastly, it is important that one of the aims of industrial policy should be to secure the manufacturing sector's contribution to a more progressive distribution of Latin America's income. As has been repeatedly observed, manufacturing industry is bound to benefit from such redistribution, which may mean wider markets and, in many cases, lead to demand for manufactured goods on the part of broad population sectors hitherto unable to afford them. But the industrial sector should also contribute to a better income distribution — another factor to be borne in mind in formulating industrial policy —, not only through the relative movements of income between industry as a whole and other economic sectors, but also through

the distribution of industrial income between factors of production in industry itself. In this respect, the information given throughout the present study emphasizes the characteristically high relative prices of manufactured products, a situation which has changed little over the years. Thus, the tendency has been for the benefits deriving from technical progress in industry to be concentrated in that sector, almost to the exclusion of other sectors of the economy and consumers in general. The same data show that the salaries and wages paid in Latin American industry absorb a far lower proportion of the total value added than in the more developed economies, which suggests the importance, too, of helping to achieve the aim pursued through changes in the distribution of income between the factors of production of industry itself.

The latter goal — from the standpoint either of the transfer of real income or of the internal redistribution of income generated by the manufacturing sector — might in some degree conflict with the need to offer greater incentives to industrial expansion. Therefore, over and above its long-term favourable effects, it should be considered within the context of a broader industrial policy, including other compensatory incentives, so that altogether they will enable the industrial sector to fulfil its responsibilities in the light of Latin America's economic development needs as a whole.

(c) *Specific instruments of industrial policy*

As noted previously in regard to the principal guidelines which could define an industrialization strategy, the enumeration of aims set out above has been devised purely for illustrative purposes, since it would have to be enlarged and adapted to circumstances in each particular case. It is presented merely as a basis for determining how far the operation of specific instruments of industrial policy can be made more expeditious within the context of certain clearly-defined objectives.

It is impossible to relate each of those objectives to a specific instrument of industrial policy, since some call for a combination of more than one type of action, while a single instrument might be concerned with more than one such objective. For practical purposes, therefore, the following comments relate to fairly specific instruments which, however, are not set out in any special order of priority or importance.

(*i*) *Taxation.* Taxes are an important part of industrial policy, since they can be linked to several of the long-term guidelines and general aims indicated above. For example, they may provide incentives designed to facilitate the channelling of financial resources from other economic sectors into manufacturing industry; help to reinforce the internal sources of funds earmarked for the expansion of enterprises; exercise some influence in increasing the use of available production capacity; help to direct new industrial investment into such sectors or branches of industry as are most likely to meet industrial development needs as a whole, etc.

From the information contained in chapter III, it may be inferred that past tax procedures have only partially fulfilled those functions. Although the effect of taxation on industrial income has, on the whole, been fairly modest compared with the more industrialized economies, industry has not been more favourably treated than the other sectors of the economy. In fact, it can claim less favourable treatment, in terms of actual taxation since tax evasion has usually been more commonly practised in other sectors. On the other hand, in providing for adequate depreciation rates, facilities for the building-up of additional reserves and incentives to reinvestment of profits, taxation has played an active part in mobilizing the firms' own funds for additional

investment and the proper maintenance of their production capacity. Even these facets, however, present shortcomings or limitations which might have to be remedied in the face of the new responsibilities of industrial growth. Thus, for example, the effectiveness of depreciation rates is often undermined or annulled by somewhat restrictive systems for the periodical revaluation of assets. Nor, in this connexion, have the systems of accelerated depreciation become sufficiently widespread or streamlined to constitute a real incentive to the fuller use of available capital. In some cases, preferential treatment is accorded in respect of reinvestment of profits on condition that the resulting funds are invested in the enterprise itself; thus, they cannot be channelled into supplementary activities which might be conducive to the integrated growth of the industries concerned, or into other apparently high-priority activities, with the result that surplus capacity is built up instead. Moreover, tax incentives to reinvestment are limited by the persistence of indirect procedures for the distribution of profits, which serve to reduce the total amount of officially declared profits that are subject to such provisions. Lastly, a particularly careful evaluation of the result of temporary tax exemptions as a means of stimulating new industrial ventures would seem to be called for, from the standpoint of how far such exemptions are justified, what effect they have on enterprise efficiency and how much discrimination is exercised with respect to other existing industries or enterprises.

(*ii*) *Industrial credit.* Besides constituting the major source of external funds for financing the expansion of enterprises, industrial credit can play a vitally important part in guiding industrial activities towards particular goals.

The data reviewed above are grounds for concluding that — with certain important exceptions — the absolute volume of credit available for industry has been very small compared with the magnitude of the industrial product. Although the relationship has gradually become more favourable than in other economic sectors, it should be assessed also in the light of the heavy financial obligations industry has to meet when it grants credit in order to market its products.

Added to the need to increase the total volume of credit earmarked for industry, in view of the aforementioned circumstances, and to accelerate industrial growth, other needs relate to the systems and terms under which such resources are made available. Commercial banking accounts for quite a large proportion of total industrial loans, but because of legal or other restrictions its activities are still confined to short-term credit, part of which must be used in practice for financing long-term operations. This gives rise not only to uncertainty regarding frequent re-negotiation of loans, but also to the high cost of periodically renewing operations which in themselves are relatively costly. Besides the substantive reforms which could be introduced in the traditional operation of the private banking system, it would appear necessary to examine how far influence can be brought to bear through the monetary authorities to earmark resources for industry in preference to other goals, and even to introduce selective criteria for determining the priority to be granted to different manufacturing activities. These questions are much simpler to deal with in the case of public credit agencies, which are gaining in importance as suppliers of industrial credit under more favourable interest and amortization terms. A step of major importance, allied to fresh efforts to provide these agencies with the necessary resources to operate on a larger scale, would seem to be to strengthen their role as intermediaries in the channelling of future external loans. In this respect, useful experience has been gained from operations of that nature undertaken recently with resources of the Inter-American Development Bank (IDB). This

measure, besides guaranteeing the indispensable supplementary means of payment abroad and facilitating longer-term operations, would open up access to international credit for the medium-sized and small enterprises, with the added possibilities of obtaining technical assistance in adapting themselves to greater technological requirements.

Lastly, it should be pointed out that the guidelines and general aims referred to imply new short-term financing needs, as in the particular case of credit for facilitating exports of manufactursed goods, either with a view to intra-regional trade or to a share in other world market. Therefore, some of the credit lines that are taking shape — including IDB projects — might be assessed specifically with a view to bringing them up to the required magnitude.

(*iii*) *The securities market*. The efficient operation of the securities market could well be a major requirement in the two basic aims considered — that of attaining a sufficiently high level of industry investment and the proper channelling of the resources concerned. As may be inferred from the data contained in earlier chapters, however, its present level of activity is not only very low, relatively speaking, in most countries of the region, but in many cases it represents an appreciable reduction with respect to that registered in earlier years.

From the standpoint of industrial policy, it is important to recognize in this contraction the structural and institutional factors to be taken into account in orienting future efforts to raise the level of activities. Both types of factors have been examined fairly thoroughly at some time or another, so that only a few of the suggestions emerging from their consideration will be dealt with here. They relate, *inter alia*, to methods of operation of the mechanisms concerned, including those recently summarized in terms of "the need to exercise the strictest care in selecting negotiable securities in order to inspire confidence on the part of the investor; the need to safeguard minority shareholders by means of legislation designed to protect them from improper practices or price-lowering measures by unscrupulous entrepreneurs; and, in short, the need to overcome the distrust, indifference or reserve of the public . . .".[16]

From another standpoint, steps should be taken to evaluate the effectiveness of other existing devices for channelling private savings, which might indirectly help to strengthen the securities market. While recognizing the present and potential contribution of this source of savings, its basic limitation deriving from the low average *per capita* income and the regressive nature of income distribution in most Latin American countries has been pointed out in earlier sections of this report. These considerations show that it might be wise to pay more attention to the efficient handling of securities market mechanisms as instruments for facilitating the mobilizing and proper channelling of the potential savings of the enterprises rather than as a means of attracting personal savings. The functions of such instruments under existing conditions in Latin America and the experience gained by certain institutions — in particular, Nacional Financiera, S.A., Mexico — would require careful investigation and study before being defined in more concrete terms.

---

[16] Statement by Mr. Carlos Rafael Silva, Vice-President of the Central Bank of Venezuela, at the eighth operative meeting of the Centre for Latin American Monetary Studies (CEMLA), see CEMLA, "Posible constitución de un *pool* de reservas entre países latinoamericanos", *Suplemento al Boletin Quincenal*, No. 12 (Mexico, D.F., December 1964), p. 375.

Moreover, Latin America's integration prospects present the matter in a new light, and no doubt it will gradually have to be considered at a regional level as well. This will come about, for instance, as and when the conclusion is reached—as happened in Central America and is beginning to happen in connexion with specific projects in other countries as well — that the impetus to specific integration industries must be combined with multi-national investment. Certain possibilities in this respect were suggested at the eighth meeting of the Centre for Latin American Monetary Studies (CEMLA), whose aim was to study the capital market with a view to economic integration.

(*iv*) *Direct foreign investment.* Direct foreign investment and greater incentives to channelling it into Latin American industry under the conditions afforded by an integrated regional market are ever-present considerations in the majority of the proposals put forward concerning the most effective instruments for expediting regional integration, and have been approached from two standpoints: the benefits deriving from its contribution, in terms of larger industrial investment resources and faster technological progress, and the possible disadvantages it might bring in the form of competition against the installation or expansion of Latin American enterprises proper. These sources of concern usually culminate in the need to standardize the provisions governing foreign capital in force in the various countries of the region, both as regards channelling it along more appropriate lines and avoiding competition between the countries themselves in attracting larger external resources by offering additional, particularly advantageous, incentives.

Therefore, this aspect of industrial policy must be adapted to the new conditions. In so doing, it might be as well to take into account, too, some of the pertinent considerations noted in chapter III, particularly the tendency to distribute such investment over a wide range of manufacturing activities — including some which are not highly capital-intensive and whose technical needs are limited — instead of directing it into industries where its contribution might be more significant because of the amount of resources and high level of technical progress involved. A further desirable step might be to evaluate the fund of experience gradually accumulated concerning the association of foreign and domestic capital, and the various disparities deriving from the functioning of mixed enterprises as compared with those operating mainly or exclusively with foreign capital.

(*v*) *Protectionist mechanisms.* Protectionism is one of the aspects of industrial policy calling for careful revision in the light of the new industrialization aims and guidelines. The question is linked to several of the essential factors indicated above.

In the first place, the position of manufactured products as regards efficiency, productivity and relative prices in each of the Latin American countries is closely bound up with the virtual absence of competition in which the region's industry in general has developed. The protectionist policy imposed by the external sector's limitations and by the import substitution needs deriving therefrom has completely sheltered it from foreign competition. Other internal factors have been added: in many cases, domestic markets are small and thus the operation of only a limited number of plants is justified, which in practice conduces to monopolistic situations or cartels; in other cases, the existence of a larger number of small enterprises results in high costs and prices, and advantage is taken of this by a few large concerns with higher productivity levels which, though potentially capable of operating on a competitive footing, are in fact favoured by a more or less open distribution of the market.

This is, perhaps, one of the hardest and most difficult problems that industrial policy will have to face in the next few years, since situations such as these cannot persist in the light of the new requirements entailed by regional trade and exports of manufactures to international markets, and other needs associated with internal economic development.

Although, under the circumstances outlined in the section concerned, regional integration could offer, in part, the element of competition which is largely lacking today, it seems likely that, over and above the requisite adjustments in the integration devices proper, steps would have to be taken at the same time to rationalize the protectionist mechanisms.

In practice, the protective measures often come to constitute an incentive so strong as to overshadow or nullify other industrial policy stimuli which are consistent with more selective criteria. The very aim of reorienting industrial growth with a view to a more integrated structure of industry would be jeopardized if such characteristics of the protectionist policy were to persist. The same thing would happen as regards reconciling the need for import substitution with the efforts to encourage a significant flow of industrial exports.

Hence, there are a number of factors militating in favour of a review of past protectionist procedures as a requisite for a more adequate orientation of future industrial policy, over and above those aimed at remedying the internal shortcomings of the tariff mechanisms alluded to previously.

(*vi*) *Promotion of industrial exports.* Whether or not Latin America is to share in the world markets for certain manufactures will depend on the effectiveness of its over-all industrial policy rather than on specific measures or instruments. There are, however, some facets which might demand new forms of action not sufficiently covered by past industrial policy aims.

One is the promotion of sales of manufactures on external markets. The commitments and preferences that will finally be obtained from the industrialized countries — with both market and centrally-planned economies — permitting access to their markets for industrial products from the developing areas are contingent upon negotiations at the appropriate policy level and primarily through the agencies to be established as a result of the United Nations Conference on Trade and Development. But whatever progress is achieved at that level, if Latin America is not to waste its opportunities, not only must it have industries capable of competing on world markets and of meeting requirements as to quality standards and norms, but is must also possess a thorough knowledge of external markets and apply effective measures for promoting trade in manufactures. Moreover, the absolute magnitudes that could be reached for particular transactions, which would be of far greater relative importance in the exporting country than in the industrialized country of destination, might prove beyond the possiblities of a particular enterprise and make it necessary, therefore, to pool the production of several establishments, which would also call for the establishment of appropriate organizations to undertake the task. In many cases, both the action in regard to external markets and the internal organizational measures with a view to exports would have to be channelled through specialized public bodies which would form an integral part of the set of mechanisms for promoting industry.

This may be a very important requirement in the case of exports of manufactures to countries with centrally-planned economies, whose operations tend to be based on

long-term agreements which are difficult to negotiate except through government agencies. This applies to certain agreements of this nature concluded by India, in which a State agency acted as intermediary, arranging that local private enterprises should pool their production in order to complete the volume of exports laid down in the agreements.

As stated previously, the prospects of creating an appreciable flow of industrial exports also entail new financing needs over and above the resources required to install or expand industries capable of exporting manufactures, including the financing of the trade transactions themselves. The question has already arisen in relation to intra-regional trade, which has shown this to be a decisive factor capable of nullifying the effects of other advantages which could have placed matters on a clearly competitive footing.

(*vii*) *Price and marketing policy*. As noted above, a revised protectionist policy and the advances made towards regional integration could have a marked effect on the relative prices of Latin American manufactures, in terms not only of improved efficiency, with the consequent reduction in real production costs, but also of the limitations they impose on the maintenance of excessive margins between costs and prices at the producer level, favoured in many cases by the absence of sufficiently competitive conditions. However, this does not preclude tackling the problem through other instruments of industrial policy as well.

In this respect, it should be stressed that, although the deliberate aim of bringing about less favourable terms of trade for industrial products might discourage industrial development, the resulting expansion of the demand for manufactures would probably more than offset its temporary effects. This is a particular facet of the broader aim referred to in relation to the manufacturing sector's contribution to a redistribution of industrial income, transferring through the medium of relative prices a proportion of the benefits deriving from technical progress in industry, while at the same time creating the necessary conditions for producing on a larger scale for a market which that very policy would cause automatically to expand.

The foregoing considerations lead to the controversial subject of price control, whose use as an instrument of economic policy is dependent upon decisions at the national level in which other factors are also at stake. Suffice it to recognize, in this respect, that wherever recourse has been had to price control, primarily for the purpose of combating inflation, the main concern has been for products with direct incidence in the cost of living. In the case of many manufactures, either less importance has been attached to control, or it has proved less effective.

The problem, moreover, does not rest solely on prices at the producer level, but also on the inefficient distribution and marketing machinery, upon which the industrial policy hitherto pursued has had little or no effect.

(*viii*) *Public instruments for promoting industry*. Certain of the specific instruments referred to above — in particular in connexion with credit and the promotion of exports — entail direct action by public bodies, which is thus added to the indirect incentives deriving from other general industrial policy provisions and measures. In the past, other forms of government promotion have had important repercussions, and they will also face heavier responsibility in connexion with the need to accelerate and re-orient the industrialization process.

The promotion of State-owned enterprises — whether they retain that status or are transferred to the private sector once established — and the activities of other public bodies responsible for promoting new industrial projects have proved particularly efficacious in developing production lines, which could hardly have emerged so quickly had they been left entirely to the initiative of Latin American private capital. Hence, those direct promotional activities — the patterns and some examples of which are reviewed in chapter III — constitute an essential part of industrial policy.

Besides this type of activities, which are confided to public enterprises, there are others no less important, some of which, although exercising only an indirect influence on industrial development, should be dwelt on briefly here.

One such indirect role is played by public infrastructural investment and its effect on the location of industry. Years ago, it was easy to discern in the location trends of industry a sort of inertia which, under spontaneous conditions of growth, makes for the continued concentration of manufacturing expansion in centres that have already achieved considerable progress. If those trends are to be corrected, either because of internal growth factors or with a view to regional integration or foreign trade, an active industrial policy will deliberately have to embrace that aim. In many cases, the measures adopted do not seem to have been very effective, particularly when based on uncoordinated incentives established independently in different areas, which were promptly brought into balance and thereby lost their essentially discriminatory character. Such incentives are even less effective when efforts are made to promote new industries in places lacking the indispensable infrastructure, and where it would therefore be necessary to establish basic services, such as transport, water, energy, and others providing the minimum requirements for the existence of an urban centre. The same thing would happen in the promotion of industrial complexes, which call for careful planning of the group of integrated industries concerned. This, therefore, is one of the most powerful instruments for shaping the new physiognomy of Latin American industry discussed above.

Another obviously important factor of industrial development is the training of manpower and technical personnel. Considered from a somewhat restricted standpoint, it should be noted that the possibility of improving the existing low levels of productivity and efficiency of much of Latin America's industry is to a certain extent dependent upon the availability of skilled personnel. Hitherto, even decisions concerning technical matters have often been drastically influenced by the shortage of skilled manpower. In point of fact, even though from a social or performance standpoint it might suit an enterprise to select a labour-intensive system, the shortage of properly trained personnel might well compel it to adopt techniques involving a higher level of automation, thereby sacrificing at once capital resources, employment opportunities and economy in the production process proper. Neither has the under-utilization of certain industrial production capacity been entirely unrelated to that shortage, which could be a serious obstacle to the establishment of additional working shifts. An equally important factor is the availability of enough senior personnel, both technical and skilled in the rational organization and management of enterprises, a question which, as noted previously has a decisive influence on the productivity of Latin American industry.

Interesting — though perhaps not sufficiently extensive — experience has been accumulated in regard to several of these questions in the Latin American countries. However, in guiding these efforts in future it might be wise to bear in mind the desirability of dealing with the problem from a broader angle, embracing some of the aims

outlined earlier (particularly in the section on industrial employment in chapter II). Briefly, it is a matter of carefully ascertaining how far training in specific production activities should be combined with efforts in the province of general education designed to raise the capacity for absorbing the working population and to facilitate the latter's adaptation to different technical requirements, which can be an important factor if it is taken into account that, besides differing widely, these requirements are constantly changing. To increase the average years of schooling might thus be essential if a really well-trained labour force is to be available for industry. As in other respects, the necessary action seems to involve considerably more than the addition of a few efficient mechanisms, and extends to the transformation of traditional instruments and their adaptation to the new conditions. In this particular case the whole educational system would have to be expanded and revised, as an essential requisite for gradually achieving the aforementioned target of establishing an industrial community, in the broadest sense of the term.

The same consideration might apply to the responsibility borne by the appropriate public agencies for carrying out technological research. In addition to the scope of such research over the long term, in the light of the above aspirations stress should be laid on certain particularly urgent points. For example, it seems necessary to intensify research on such production techniques as are best suited to the region's relative supplies of resources. If Latin America fails to introduce its own innovations and devise techniques especially adapted to conditions in the region, the choice will be confined to the most advanced techniques and other more or less out-of-date techniques which could be brought in from the industrialized countries, though in the main there is no reason why either type should be that best suited to the special conditions of the area.

Systematic research on natural resources and the best ways of industrializing them are also very important subjects. This assertion is borne out by the fact that such resources will probably give birth to many of the projects for developing industries with a view to exporting manufactures to other areas.

As Latin America forges ahead in these respects, it will be able, as an important part of its promotional activities, gradually to intensify the technical advisory assistance provided to private enterprises. Viewed within the context of over-all industrial policy, technical assistance, besides its intrinsic importance, is one of the instruments which could help to match, in existing industry, the incentives that are now being offered primarily to new industries. It should therefore be an essential part in a policy aimed not only at accelerating the installation of new production capacity, but also at reducing the magnitude of "technological duality", today a feature of Latin America's manufacturing sector, by improving the efficiency and productivity of its traditional activities.

Purely for illustrative purposes, attention might be drawn, among other things, to the importance of the State's intensifying its advisory assistance to industries in connexion with production processes and trade marks.

As noted previously, for want of widespread internal efforts of this kind, agreements and contracts in respect of licences, the use of trade marks and technical assistance from foreign concerns, whose incidence in the production costs of Latin American enterprises is by no means negligible, have become common practice. There are instances in which this type of agreement is fully warranted because of the complex nature of the production processes involved, and represents a useful way of transmitting

foreign technical progress; in other instances, it amounts to little more than authorization to use certain trade marks, associated with quite simple processes; and again there are cases in which the licence is accompanied by export restrictions on the products in question, a yet more serious point since they might come to conflict with regional integration needs and with the growth of industrial exports in general.

The establishment of industrial norms, the definition and control of technical specifications and the provision of advisory services, laboratories and other material facilities to aid the work of private enterprises might constitute another important sphere of action for the appropriate public agencies.

Even in the field of preparation and evaluation of industrial projects a more intensive and systematic effort would seem to be required on the part of public agencies. The inadequacy of such projects is often alluded to as one of the main obstacles to industrial planning and the fuller and more timely use of the new sources of external financing which are being opened up for manufacturing industry in the region. Moreover, it is difficult, and in any case costly, to contract the services of foreign firms of experts, especially when the projects are neither very large in scope nor technically complex.

Various local agencies have gradually accumulated a valuable fund of experience in some of these questions, which might serve as a basis for the more intensive and widespread efforts that seem to be required if future industrialization needs are to be met. Moreover, those efforts could no doubt be greatly facilitated if undertaken on a regional scale, as has been happening to some extent in Central America. Not only would this result in greater efficiency and saving, but such efforts could be more easily oriented if the region's industrial integration prospects were taken explicitly into account.

Needless to say, it is not claimed that the enumeration of incomplete facets presented in this section amounts to so much as an outline of a specific industrial policy programme. At most it might be described as a research programme on the subject. The intention has been merely to bring into focus some of the findings derived from the analysis contained in earlier chapters, which it might be useful to bear in mind, among other things, in specifically formulating an industrial policy. Be that as it may, such an undertaking is becoming increasingly urgent in the face of the new needs entailed by the acceleration and changing pattern of industrialization in Latin America. When the time comes to draw up such a policy, the disparities and peculiar conditions of each country will be brought to light, often vitiate any attempt to generalize for Latin America as a whole, although important common factors may undoubtedly persist. Another basic fact which will emerge is that, if the policy is to be effective, it must consist of a set of properly co-ordinated guidelines, measures and instruments, in the definition and application of which the enterprises themselves would be offered the chance to participate actively. Thus, all the incomplete aspects of industrial policy would be integral parts of a single planned industrial development policy.

That the above requirement has not so far been satisfactorily met is plain from a study of the place in the whole Latin American institutional structure occupied by the administrative units charged with responsibility for industrial policy in its various forms, and their scant contact with enterprises. The fact that industrial policy plays a secondary role with respect to other goals, coupled with its lack of continuity, is at least partly attributable to that gap in the institutional structure in relation to a sector which is expected to play a strategic part in economic and social development as a whole.