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DO1864



Distr.
GENERAL

ID/CONF.1/B.33
7 August 1967

ENGLISH
ORIGINAL: SPANISH

United Nations Industrial Development Organization

INTERNATIONAL SYMPOSIUM ON INDUSTRIAL DEVELOPMENT
Athens, 29 November - 20 December 1967

Provisional agenda, Items 1, 3(g) and 4(a)

Background paper

NOTES ON INDUSTRIAL DEVELOPMENT STRATEGY IN LATIN AMERICA *

Presented by the Latin American Institute
for Economic and Social Planning

* This paper was prepared by the Latin American Institute for Economic and Social Planning. The text is provisional and subject to revision of substance and style. The Institute has also prepared a Spanish version of this paper which appears under the same symbol number, ID/CONF.1/B.33.

GE.67-16701

Industrialization with a view to import substitution was a highly important step and in some degree an achievement, since it has enabled Latin America to maintain a rate of development which would have been unattainable on the basis of the feeble growth of its traditional exports. This fact is clearly borne out by the evolution of the import coefficient. In 1930 Latin America's imports amounted to about 20 or 30 per cent of the gross product, compared with the present figure of only 8 per cent, and approximately 5 per cent in the major countries of the region.^{2/} It is easy to see that without import substitution it would have been impossible to meet the growing demand for imports which goes hand in hand with economic development; consequently, an insufficient capacity to import would have been an insuperable obstacle to development.

Accordingly, industrial growth does a great deal to avert the unfavourable results of the external bottleneck, even though the establishment of import substitution industries entails imports of additional intermediate and capital goods to meet the requirements of more complex economic activities. Once import requirements decline in relative terms, the structure of imports changes in favour of intermediate and capital goods, and there is a time lag before substitution of such goods can be activated.

Industry is embarking on the production of increasingly complex and highly processed goods, to the point where some of the more advanced countries are producing practically all the durable and non-durable goods they consume, as well as a large proportion of intermediate products and a significant volume of capital goods. The process reveals a radical change in the structure of production in some countries, which is reflected to a varying degree in the stage of industrial development reached.

Thus, Latin America's industrial product now represents about one-fifth or a quarter of the total gross product, and in some countries as much as 30 per cent. In 1930 no more than 10 or 15 per cent of the product was generated by manufacturing industry; only in Argentina did industry account for over 20 per cent.^{3/}

^{2/} See Integración, sector externo y desarrollo económico de América Latina, op. cit.

^{3/} See The process of industrial development in Latin America, op. cit.

/However, industrial

However, industrial development during the substitution phase cannot be considered particularly rapid compared with the world increase in manufacturing. During the past fifteen years, world per capita industrial output increased at about 5 per cent annually, while in Latin America the rate was less than 3 per cent. Thus, Latin American industry lost ground in relation to world totals, its share declining from 3.1 to 2.7 per cent. This relative decline is due, among other important factors, to the inherent tendency of the strategy followed to exhaust the possibilities.

As import substitution progresses, the pace of industrial development slackens, because the dynamic impetus implicit in the relative decline in imports and in unsatisfied domestic demand tends to be lost. This tapering-off is apparent in the region as a whole, perhaps not in all countries but more especially in some, particularly those at a more advanced stage of industrial development and import substitution. It is also becoming evident in countries with smaller markets which have made less progress in industrialization.^{5/}

These are indications that import substitution is extending to increasingly difficult and complex branches of industry, especially those producing certain types of intermediate and capital products, i.e., the basic chemical, metal-transforming and other industries. Since these

✓ These data are based on information contained in the following United Nations publications: The Growth of World Industry 1938-1961. International Analyses and Tables (Sales N°: 64.XVII.8); Monthly Bulletin of Statistics (various issues); ECLA, Statistical Bulletin for Latin America, Vol. III, N° 2 (Sales N°: 66.II.G.5); Provisional Report of World Populations Prospects as Assessed in 1963 (ST/ECLA/SER.I/77); Demographic Yearbook 1965 (Sales N°: 66.XIII.1).

5/ See ECLA, Economic Survey of Latin America, 1966, Part Three, "The Major Sectors of Economic Activity", E/CN.12/76/Add.2, March 1967.

new industries, to be really efficient, must operate on a larger scale and use more up-to-date technology, the domestic markets are too small for them and, logically, their operating costs are too high.

On the other hand, exports of primary products generate most of the foreign exchange needed to purchase capital goods not produced locally. As these are not generally dynamic exports, difficulties arise with regard to financing, investment and development. The rate of development necessarily declines, or recourse must be had to external financing. But the time may come when it will be difficult to obtain or service foreign loans.

Lastly, the protection provided for the substitution process and the existence of monopolies in the small domestic markets, in conjunction with the failure to utilise existing economies of scale, are all factors militating against production efficiency. Once the stage of large-scale substitution is reached, this tends to hamper industrialisation. In the first place, inefficiency as reflected in high costs and prices curbs the demand for manufactures; secondly, once some progress is made in the production of intermediate and capital goods, inefficiency impedes the establishment or operation of activities utilizing those goods.

Thus, import substitution is tending to wear itself out as the main stimulus of industrial and over-all economic development. This does not mean that important substitution prospects do not remain for certain items; but it should be understood that there are certain limitations preventing the import substitution process as a whole from continuing to be the essential basis of economic development, it still operates with small domestic markets affected by wide disparities in income distribution among the social sectors and by the backwardness of some sectors and areas. Those limitations arise at different stages of industrialization according to the size of the domestic market, sooner in the smaller countries and later in the larger ones.

As mentioned previously, import substitution enabled the Latin American economies to develop further than would otherwise have been possible in view of the unfavourable primary export trends. But the results are even better if it is considered that the process has established a useful

"industrial infrastructure" (production, entrepreneurial, technological and working capacity) and valuable experience at all levels of industrial operation and promotion, which provide sound bases for future stages of development.

Just as at one stage it was necessary to frame a clear-out import substitution policy, the time seems to have come for Latin America to redouble its efforts to establish the specific features of a new phase in industrial development strategy, which might comprise three main approaches: (a) expansion of individual markets by means of economic and social structural reforms which would effectively incorporate in the market broad sectors and areas that have hitherto been excluded; (b) import substitution at the regional level, with a view to turning to account the advantages offered by the larger markets of economic integration blocs; and (c) the opening-up of industry to the export of manufactures.

Those three approaches to industrialization, which would combine to promote a more dynamic over-all industrial development, are discussed in chapter I of the present document. Chapter II presents some of the main implications or requirements of the strategy: (i) to introduce progressive production structures; (ii) to work towards scientific and technological progress; (iii) to improve production efficiency; (iv) to promote economic integration; and (v) to apply a more deliberately planned industrial policy. Lastly, some illustrative projections in respect of import substitution at the regional level are evaluated in chapter III.

Chapter I

INDUSTRIAL DEVELOPMENT PROSPECTS

1. Three approaches to industrial development

The industrial development model traditionally followed in the Latin American countries is unlikely to be wholly adequate in the future, since the region is tending to exhaust the possibilities of import substitution as the mainspring of growth. New approaches must therefore be sought, which will enable industry to resume its dynamic role on a new footing. This implies no disregard of the need to revivify other branches of economic activity, such as agriculture, whose relative backwardness constitutes, in many respects, an obstacle to over-all development and to the industrialisation process itself.

At all events, industrialisation as a development strategy is a necessity that is no longer challenged and the first stage of the process has been successfully completed in many of the Latin American countries by means of import substitution. It is essential not only as a means of generating growth potential, but also from the standpoints of demand for manufactured goods, employment and foreign trade. Furthermore, the need for it is confirmed by economic history and by comparison of the structures of production in countries at the upper and lower ends of the income and development scales.

One method of shedding light on the possible features of a new phase in the industrialisation process is to consider the three lines of action that singly or in combination constitute industrial development: production to meet the increase in domestic demand, import substitution itself and the expansion of exports of manufactured goods.

Broadly speaking, industry has developed only along the first and second lines, and has scarcely begun to export its products. In many cases, the growth of domestic demand has been retarded by the relatively slow rate of over-all development and the existence of "internal economic boundaries" such as inequitable income distribution patterns and the backwardness of certain sectors and regions. Import substitution has been
/designed along

designed almost exclusively to serve the domestic market. The time has now come to launch a more dynamic development policy, which will break through internal boundaries, place the substitution process on a regional footing and initiate outward-directed industrial development with a view to intra- and extra-regional export trade in manufactured goods.

The special features of the three approaches to industrial development in the future will have to be carefully analysed, estimating the requirements they will entail and analysing their potential effects on the development of the Latin American economies; for relatively complex activities will be involved, and their implications for all national development prospects will therefore be varied and far-reaching. But for the purposes of the general review attempted here, it will suffice to outline the three approaches and evaluate their individual and aggregate significance in the light of industrial and over-all development needs.

One warning must be given at the outset. None of these approaches can be viewed as a separate strategy in itself. On the contrary, they must be treated as complementary lines of action, overlapping and supporting one another at many points, as will be shown in later sections. The specific aim of the present paper is to define some of the requisites for reviving the dynamism of a development and industrialisation process that seems to be losing its momentum. Accordingly, in suggesting changes in industrial policy, it is essential to explain why certain conditions and trends prevent the growth of industry from keeping pace with the development aspirations of the Latin American peoples.

2. Expansion of the domestic market

In purely direct and quantitative terms, the increase in domestic demand for manufactured goods accounts for a high proportion of the industrial expansion that has taken place in the countries of the region, and this proportion must be assumed to rise as the import substitution

6/ See The Process of Industrial Development in Latin America, op. cit.; and World Economic Survey, 1961, United Nations publication, Sales No: 62.II.C.I.

process approaches completion. It seems likely, therefore, that in Latin America, or at any rate in those of the Latin American countries where industry has made most progress, the growth of the domestic market will have to play a more vital role than in the past in relation to industrial development.

Clearly, then, the expansion of industrial output will largely be an induced effect of over-all development. But this does not imply underestimating the vital stimulus provided by autonomous action (independent of the evolution of internal demand) in the fields of investment and production for the purposes of import substitution, manufacturing for export, and the introduction of new technology. Still less does it detract from the significance of import substitution and exports where the external sector is concerned.

The enlargement of the domestic market is important not only in quantitative terms, but also from the standpoint of its dynamic effects. Bigger markets make for greater productive efficiency and facilitate progress in the direction of new fields of industry and more advanced or better-integrated industrial structures, with the possibility of producing more types of intermediate and capital goods. The reason is that economies of scale and specialisation are inherent in the application of modern industrial production techniques. Thus, a larger domestic market makes it easier to develop the industrial sector in the other two ways discussed: via import substitution and via exports.

Since the import substitution process stems from the limitations of the capacity to import, it is based on a pre-existent level of demand. The growth of industry can therefore be relatively rapid without necessarily being accompanied by a very sharp rise in domestic demand. But once it becomes difficult to carry import substitution much farther, the industrialisation process loses some of its autonomy, and comes to depend increasingly on the development of the economy, as a whole. If the rate of economic development is slow, and a start is not made on exporting manufactured goods, industrial growth is liable to be stifled.

/The fact

The fact that industry has dynamic characteristics, in the sense that it gives impetus to the development of its socio-economic environment,^{2/} suggests that the autonomous action referred to above would be likely to bring over-all development in its train, and that there is consequently no need to take deliberate steps with respect to the domestic market in order to promote industrial expansion. But conditions are often such that those dynamic effects are produced only in part, and sometimes even fail altogether to materialize, owing to specific circumstances, most of which fall under the head of structural and institutional obstacles to development.

Precisely in connexion with the removal of such obstacles, development policy can do much to give the dynamic properties of industry real meaning. One of the problems arises from the domestic market for manufactured goods: its expansion becomes an objective in itself in so far as it is linked to the improvement of income and consumption levels.

There are two aspects of the problem: one relates to over-all economic development, and the other to the elimination of internal economic boundaries. Some of the main structural and institutional impediments to growth are related to this latter aspect of the problem. The boundaries are also, of course, drawn in different ways: (a) by the inequitable structure of income distribution, as a result of which large population groups live at or below subsistence level, and therefore do not participate or participate only marginally in the market for manufactured goods; (b) by the relative under-development of certain sectors of economic activity, such as agriculture, where

^{2/} This impetus emanates from the economic relationships involved in production, distribution and demand; from the generation of economic surpluses in the higher-productivity activities; and from the spread of technical progress. Social and political repercussions — with economic implications — are also produced, such as the spread of culture, the improvement of social mobility, the promotion of the entrepreneurial spirit, the modification of political power structures, and the redistribution of wealth and income. And all these effects rebound in turn to the benefit of industrialisation itself and the over-all development process.

productivity per worker is low; and (c) by the economic backwardness of certain geographical areas.

The significance of these boundaries differs from one Latin American country to another, but they are regarded as among the major factors that retard development in general and industrialisation in particular. It is not merely that they limit the market for manufactures; they create other problems which also indirectly affect industrial development.

The inequitable distribution of income has unfavourable repercussions on both demand and supply. In the first place, it restricts the volume of demand for industrial wage goods. Thus, no advantage is taken of economies of scale, specialisation and mass production in branches of industry that are on the whole less technically complex and less capital-intensive. In many cases, installed capacity is inefficiently used, and a high proportion is standing idle in Latin America. This same income distribution structure and the corresponding structure of demand, are reflected in a high level of horizontal diversification of industry -- as regards both the large number and the wide range of consumer goods produced-- and under-diversification in depth, since little has been done to develop the intermediate and capital goods industries. On the supply side, likewise, the unsatisfactory distribution of income is linked with social stumbling-blocks. It militates, for example, against the wider spread of education and general culture and therefore against the availability of more highly-skilled manpower; or against social mobility, and therefore against the utilisation of individual drive and enterprise for industrial development purposes.^{2/}

The backwardness of the agricultural sector, apart from its limiting effects on the domestic market, exerts an adverse influence on the welfare of the population and on the balance of payments. It restricts exportable surpluses in some countries and compels others to spend enormous amounts

^{2/} See The Process of Industrial Development in Latin America, pp. 512-1 and Karl Prebisch, Imports & Dynamic Development Policy for Latin America, pp. 512.

of foreign exchange to cover supply deficits. Thus it makes for disequilibrium and tightens the external bottleneck.

The relative under-development of particular areas seems to give economic boundaries a geographical meaning. In any case, the implications of these boundaries are as limiting as the aforementioned obstacles. They often indicate that the country's centres of development are not supplying a continuous stimulus to the rest of the economy. And this sluggishness in turn may be at least partly the result of obstacles in the agricultural sector, as well as difficulties relating to natural resources, infrastructure and transport.

Accordingly, market expansion is of twofold importance for industrialisation. In the first place, it gives full effect to the dynamism of industry. Secondly, the growth of demand serves as an incentive to industrial development. In that connexion — since demand relates both to consumer manufactures and to intermediate and capital goods — over-all development, income distribution, sectorial growth (including the expansion of industry itself) and regional development all have a bearing on the question. For example, a dynamic agricultural policy may act as a spur to industry through the income it generates, and/or may give rise to the installation or expansion of agricultural industries, i.e., those manufacturing capital goods or other agricultural inputs and/or those processing agricultural products. Regional development may be viewed as a means of raising the population's level of living and increasing demand for consumer manufactures; but it may also be envisaged as a means of exploiting specific natural resources on which certain transforming industries could be based. Finally, industry itself, by creating new levers of development, might act as the agent of regional development. In any case, development policies for a particular sector (agriculture, for example) or for a region (including the elimination of economic boundaries of the geographical type) may set in motion innumerable economic forces which will operate to the benefit of industry.

Hence, industrialisation

We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fiche.

Hence, industrialization may be conceived as a dynamic factor and/or, in part at least, as the outcome of one or more development strategies.

3. Regional integration of the import substitution process ^{2/}

In view of the increasing demands of Latin America's import substitution industries in respect of scales of production, specialisation, investment and technique, regional integration of the substitution process seems a desirable objective, as a means of escaping from the limitations that closed national markets are bound to impose, even if they expand to the maximum extent.

Setting aside for the moment the integration effort represented by the Central American Common Market and the weaker moves in that direction made by the Latin American Free-Trade Association (ALALC), the import substitution process has hitherto been geared to the individual country markets. The resulting strategy has been ambitious as regards diversification, but limited in depth. The growth and the inequitable distribution of income make for increased diversification of demand for consumer goods and of manufacturing output. This has resulted in the installation and survival of industries with low plant utilisation coefficients, little or no ability to compete on the world market for manufactured goods and, above all, anti-economic scales of production governed by the small size of each country's market. A cursory international comparison of market dimensions reveals that the markets of Argentina, Brazil and Mexico represent, respectively, one-fourth of those of France, of the United Kingdom and of the Federal Republic of Germany.

Import substitution strategy should therefore be reformulated on a new scale, in the broader framework afforded by the economic integration of Latin America. The consequent improvement in the structure of industry would also afford a basis for competition on the world market.

^{2/} See chapter III for fuller discussion of the role and significance of import substitution at the regional level.

/for manufactured

for manufactured goods. In direct quantitative terms, import substitution may perhaps be of less significance than the expansion of domestic markets, especially for those countries where the substitution process has reached the most advanced states, and/or the internal economic boundaries are most sharply defined. Nevertheless, its dynamic role is vitally important. In the first place, it implies progress towards greater complementarity of structures of production in which the intensification of inter-industrial relationships generates increasing dynamism. Secondly, it is in the substitution industries which still remain to be developed in Latin America-- such as the basic chemical and metal-transforming industries and those producing intermediate and capital goods in general-- that it is most important to assimilate and create new technology and disseminate it throughout the economy. These industries constitute a more fruitful field for the training of skilled manpower, which is likewise a sine qua non for development.

The impact of a more advanced substitution process on external relationships is yet another dynamic factor, since it makes the economy less vulnerable to external influences, relieves the external bottleneck and reduces the trade gap. In addition, the efficient development of the capital goods industries promotes capital formation and over-all economic development. To that end, regional integration of the substitution process seems to be one of the indispensable requisites.

It should be noted here (although chapter III of the present paper reverts to the subject) that in view of Latin America's low import coefficient it will not be very long before the possibilities of a regional model based solely on import substitution are also exhausted. Moreover, it would be hazardous to advocate the industrial self-sufficiency of Latin America at the expense of the benefits of trade and the opportunities it offers for assimilating the technological advances generated in other parts of the world. But precisely in order to ensure the expansion of trade with other regions, steps must be taken to remedy the long-standing imbalance in the Latin American countries' foreign trade. And for the attainment

/of that

of that objective, two major requisites are progress towards more advanced industrial structures by way of import substitution, and the development of an export trade in manufactured goods.

4. Exports of manufactured goods

The third component of a Latin American industrialisation strategy --the development of exports of manufactured goods-- is, up to a point, implicit in the regional integration of the substitution process.

The trade created by regional integration would have to be developed on bases which would ensure that the trade gaps characterising transactions between the great centres of development and the peripheral countries of the developing world were not reproduced in inter-Latin American trade. It would be desirable to secure increasing similarity in the degree of processing undergone by the products traded and in their socio-economic impact (in relation to employment and income). The ultimate objective would be a trade structure like that existing among the developed countries. This would not of course affect the trade in primary commodities, or in goods subjected to relatively little processing, which is based on the differences between the natural resources of one group of countries and another, and in the expediency of turning specific facilities and comparative advantages to good account.

What must be avoided is the perpetuation of the comparative disadvantages characteristic of under-development. These are cumulative, and their effect is to widen the existing gap between the relatively more and relatively less developed or industrialised countries, as well as between areas within individual countries. Similarly, Latin America as a whole should take care not to incur the same risk in relation to the more advanced and rapidly developing regions of the world.

This has several implications. Although some of them are dealt with in the following chapter, attention may be drawn here to the question of the types of products on which the export drive should be concentrated.

It is not merely a matter of increasing exports of manufactured goods in order to reap the benefits of wider markets. The aim should also be to expand and stabilize foreign trade, bringing exports and imports closer to the break-even point, and ensuring that one of the basic imbalances resulting from a strategy based entirely on import substitution will not be reintroduced on a different scale. Not every industrial export line would be suitable for this purpose.

By way of illustration, it is worth considering the composition of world trade in manufactured goods. The products of the metal-working and metal-transforming industries account for over 60 per cent, and these plus chemical products for more than 70 per cent. It is in respect of these items, too, that the volume of industrial exports shows the greatest increase.^{10/} An analysis of exports of manufactures from the developed countries, especially from those with smaller domestic markets, reveals that the biggest contribution is made by the industries manufacturing intermediate, capital and durable consumer goods, and also that exports absorb a high proportion of output of these products. (See table 1.)

It is natural that this should be the case, for four main reasons:

(a) Demand for these products grows at a more rapid rate, firstly because the income-elasticity of demand is greater in respect of the consumer manufactures in these groups, and secondly because it is in these fields that the most important technological innovations are introduced, which means a higher consumption of intermediate and capital goods;^{11/}

(b) It is in these fields of industry that the largest scales of production are usually necessary;

(c) In these branches of manufacturing, the advantages of specialisation seem to be most marked; and

^{10/} See Integración sector externa y desarrollo económico de América Latina, pp. 61.

^{11/} With respect to intermediate products, this intensification of consumption is involved in the vertical integration of manufacturing processes or in the substitution of processed goods for primary inputs (for example, the use of artificial fibres in the textile industry). In the case of capital goods, the rate of obsolescence is very high.

Table 1
COMPOSITION AND ORIGIN OF EXPORTS OF MANUFACTURES
FROM SELECTED COUNTRIES IN 1964

(Round figures)

Countries	Exports of manufactures as a percentage of f.o.b. value	Composition of exports of manufactures, by industry of origin ^{a/} (percentages)			Proportion of production of the different industries exported ^{a/} (percentages)			
		Non-durable consumer goods industries	Intermediate goods industries	Capital and durable consumer goods industries	Manufacturing sector	A	B	C
United Kingdom	93	85	86	49	11	10	13	
Japan	95	20	20	54	9	9	12	
Netherlands	73	20	27	50	30	20	45	
Sweden	82	0	45	47	25	0	22	
Norway	82	24	27	19	25	11	45	
Denmark	59	47	26	27	54	30	27	
Argentina	27	27	50	9	1.4	1.4	1.5	
Brazil	11	35	30	12	0.9	0.7	1.0	
Mexico	17	26	62	12	1.9	0.9	2.9	
Chile	6	36	30	6	1.2	0.6	2.3	
Colombia	6	49	30	5	0.3	0.6	2.0	

^{a/} Handbook of International Trade Statistics (United Nations publication, Sales No. 66.XVII.6); The Growth of World Imports, Exports, and National Saving (United Nations publication, Sales No. 65.XVII.5); Statistical Yearbook 1964 (United Nations publication, Sales No. 66.XVII.1); Economic Survey of Latin America 1964 (United Nations publication, Sales No. 66.II.8.1); Demographic Survey of Latin America 1964 (United Nations publication, Sales No. 67.II.8.1); Statistical annex (unpublished) to The Structure of Industrial Development in Latin America (United Nations publication, Sales No. 66.II.8.2); and official statistics of Latin American countries and unpublished statistical material prepared by UNCTAD and the Institute.

See note on classification at foot of table 2.

(d) The structure and trend of world trade in manufactured goods is not unaffected by the fact that these products are of high value (or price), so that transport costs can be easily financed. Moreover, production of these items is in many instances independent of natural resources. In other words, the industries that manufacture them need not necessarily be installed near to the market and/or to the areas where specific natural resources are found.

It is often asserted that developing countries should, in their efforts to promote exports of manufactures, concentrate on "light" industry (generally non-durable consumer goods), since they have a better chance of competing in this field. This is thought to be the case because such industries are based on the country's own natural resources, are labour rather than capital-intensive and are less technologically complex, and because production does not have to be on so large a scale. However, although no opportunity should be lost of promoting such exports, some of which could be developed quite easily in certain countries, and there should be no slackening of effort in relation to primary exports, a longer-term view should be taken. If this is not done, the disparity between imports and exports will continue, although, it is true, in less acute form. This is because the increase in world demand for light-industry products is slackening, protectionist policies tend to concentrate on such goods and because over the long term, light industries tend to have a less dynamic effort on the rest of the economy, as a result, *inter alia*, of the fact that, generally speaking, their technical content is smaller and the chain of technological interrelationships shorter. It is true, however, that certain light-industry exports — such as processed agricultural products, for example — can help to raise employment levels considerably in the primary activities. Such opportunities should certainly be exploited to the full.

Clearly, a great deal of effort would be required to adapt the structure of regional exports to the dynamics of the world market. There is a tendency to believe that such an undertaking is unrealistic
/because present

because present industry is not competitive. Over the long term, however, there may well be no other way of overcoming Latin America's endemic backwardness if world trade continues to develop along the same lines and international transfer of income and factors of production continues to be restricted.

Nevertheless, over the short term, while the necessary adjustments are being made as regards structure of production, training, technology, efficiency, and commercial and financial internal and external arrangements, it would be more realistic to consider the possibility of concentrating on exporting goods from industries classified as light, traditional or slow-growth, since these industries are more advanced in Latin America and, in many cases, clearly enjoy relatively advantageous production conditions. Moreover, export prospects for these goods, cannot be divorced from the question of standards and favourable quality, cost and price differences. In most cases this means that more specialization is needed and methods of production must be improved in industries ranging from those producing the raw materials to those responsible for the final processing. In addition, in some cases, institutional arrangements will probably be needed at the source of the raw materials.

5. Evaluation of strategy

Although it is generally agreed that for many reasons industrial development is imperative, it is perhaps worthwhile evaluating in greater depth the strategy outlined above. Such an evaluation can be made in terms of the main requirements of economic development, and this section is limited to a consideration of the most important of these requirements, i. e. those relating to the balance of payments and employment.

The widening of the domestic market, as a result of a general economic growth and the elimination of boundaries between income groups, sectors and regions, has many direct and indirect effects on the balance of payments. General expansion of the domestic market implies a more rapid growth of demand for imported goods (consumer, intermediate and /capital). It

capital). It is thus difficult to achieve economic growth without bringing the capacity to import into line with the demand for imported goods and/or adjusting supply by means of import substitution. The capacity to import can be regulated by means of exports and/or external financing. As the latter is not unlimited, the disparity between commodity exports and import requirements should be corrected. From the standpoint of the balance of payments, industry must not only respond to the stimulus of economic growth by expanding present production for the domestic market, but also by substituting locally produced goods, for imports and by exporting manufactures. Thus, these three approaches to industrial development must be viewed as complementary and it must be recognized that import substitution is not the only remedy for external imbalance.

One specific aspect to be considered is income redistribution in favour of the low-income groups. This would have positive effect on the balance of payments, since the resulting structure of demand would contain a smaller proportion of imported goods. Moreover, the production of wage goods, for which there would be a correspondingly greater demand, often has fewer import requirements. Even over the short term, the idle capacity usually found in those industries would allow for an increase in production without a corresponding increase in investment and imports of capital goods.

From the standpoint of employment, an analysis would have to be made of the labour absorption capacity of the expanding manufacturing sector as it enters into a new phase. The participation of the marginal population in the manufactures market. Thus increasing domestic demand, would favour greater labour absorption by the manufacturing sector. It would bring about a more rapid expansion of the light industries supplying wage goods, which tend to be labour rather than capital-intensive.

Import substitution, on the other hand, does not always mean a high labour absorption capacity. Although a number of metal-transforming and other types of industries, which directly or indirectly absorb a high

/proportion of

proportion of labour still remain to be developed, the ratio of labour to unit of production is generally low in the import-substitution industries yet to be established, particularly those producing intermediate and capital goods. However, in countries at a relatively early stage of industrial development there is still room for import substitution in respect of important light-industry items.

The export of manufactured products of light industry and/or industries whose inputs are derived from labour-intensive activities, such as agriculture would have a much more positive effect on employment, provided the need to compete on the world market does not force light industries to adopt more mechanised methods and thus be less labour-intensive.

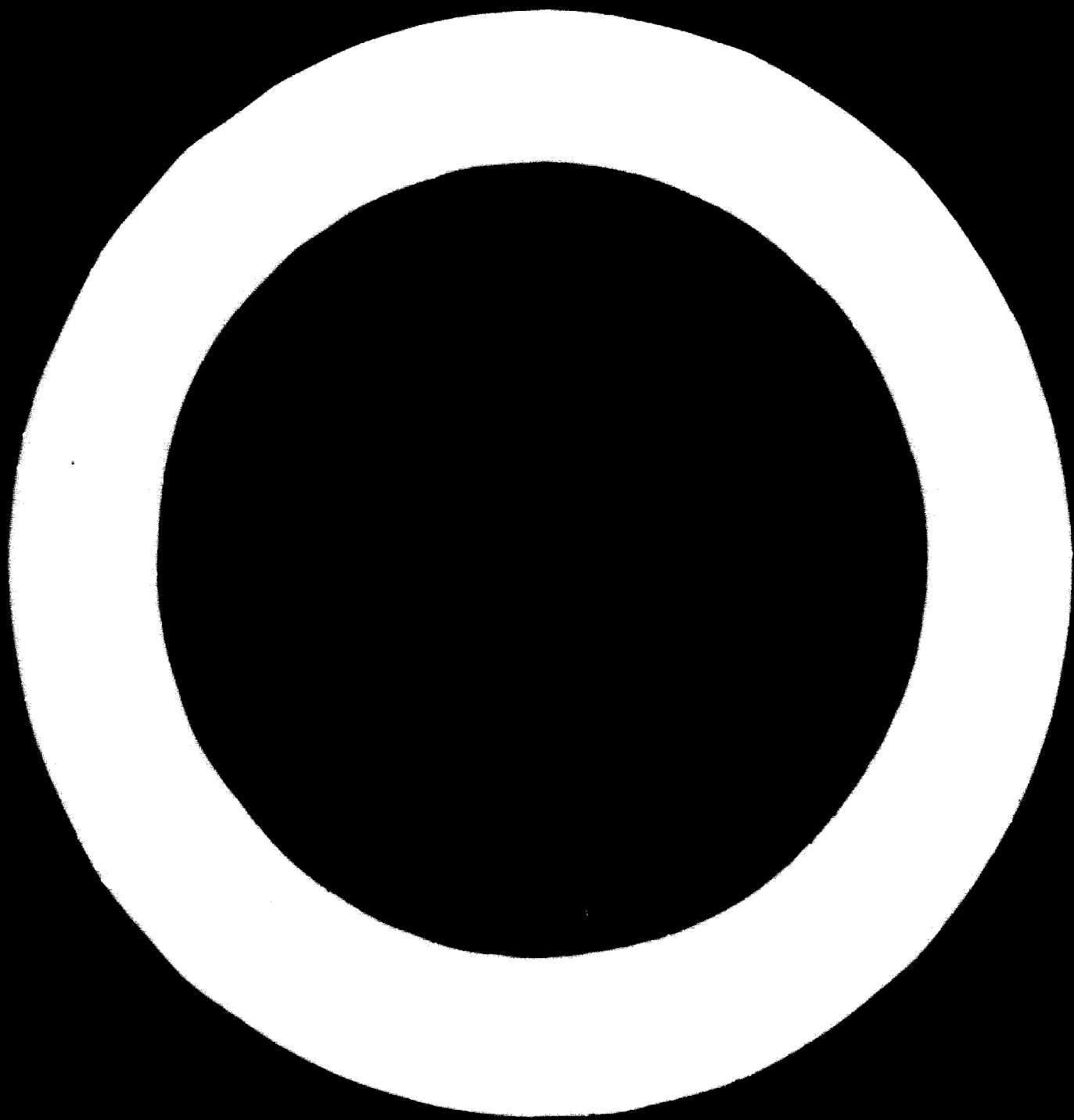
In any case, the absorption of labour by the industrial sector will depend on three factors: (a) the rate of growth; (b) the type of industries being developed and (c) the technologies used. The extent to which the last two factors will affect the level of industrial employment will depend on the alternatives available.

But there is little possibility of planning an employment strategy with reference to manufacturing alone. The problem is more general, covering other important economic sectors, particularly agriculture. Although the agricultural and other sectors have employment responsibilities — which may be greater than those of the industrial sector — industrial employment has a multiplier effect. This is because one job in the manufacturing sector represents a certain amount of production requiring inputs which in turn provide other jobs.

It should be pointed out that the multiplier effect of industrial employment varies according to the degree of vertical integration of economic activities, to the length of the chain of technological relationships, which include input-output ratios as well as those relating to capital goods requirements for maintaining and creating productive capacity. From these standpoints, import substitution in respect of intermediate and capital goods would have a favourable effect on employment and would also encourage the establishment or
/expansion of

expansion of industries based on natural resources and of the corresponding primary activities.

The observations on the multiplier effect of employment and complementarity between industries are not intended to imply that countries must adopt an autarkic attitude. Greater complementarity may be envisaged within an international frame of reference, but it must be based on trade patterns which ensure balanced development, not only from the standpoint of the balance of payments, but also from the standpoint of the importance to the domestic economy of the goods being traded.



Chapter II

MAIN IMPLICATIONS OF A NEW PHASE OF INDUSTRIAL DEVELOPMENT IN LATIN AMERICA

1. Advanced structures of production

The development of a better balanced and more dynamic structure for the industrial sector would be implicit in a strategy based on region-wide import substitution in Latin America, on a growing export trade in manufactures inside and outside the region and on the removal of the economic boundaries between the different countries.

The achievements of Latin American industry in shaping a better industrial structure are outstanding when weighed in retrospect. However, when viewed in an international context, they show signs of weakness. The differences revealed in Table 2 indicate the magnitude of the task confronting industrial development policy-makers although they suggest no specific course of action. The table underscores the sluggishness of production in the metal-transforming industries which fall into category C of the classification adopted.^{12/} This sluggishness is, of course, a reflection of the low level of development and even lower level of industrialization, the size of the market, the natural resources available and other factors that influence the composition of the manufacturing sector.^{13/}

This structural weakness is particularly typical of the incipient stage of capital goods production in general. A glance at the internal composition of the three categories (A, B and C) will show that there is an even bigger imbalance between the production of consumer goods, intermediate goods and capital goods.

^{12/} The classification is described in a note to table 2.

^{13/} A study of industrial growth, United Nations Publication, Sales No. C.I.I.C.I.

Table 2

PRODUCTION STRUCTURE OF THE INDUSTRIAL SECTOR IN THE WORLD,
LATIN AMERICA AND OTHER AREAS, 1965

(Percentage of total manufacturing production)

Area and countries	Industrial categories		
	A	B	C
	Non-durable consumer goods	Intermediate goods	Capital and durable con- sumer goods (metal-trans- forming industries)
World ^{a/}	34	29	37
Capitalist countries ^{b/}	35	29	36
Socialist countries ^{a/}	32	29	39
More developed capitalist countries ^{a/}	34	28	38
Latin America	52	33	15

Sources: United Nations, Monthly Bulletin of Statistics, New York, September 1966; The Growth of World Industry 1950-1961, International Analysis and Tables, United Nations Publication, Sales N° 64.XVII.6; Statistical Yearbook 1965, United Nations Publication, Sales N° 66.XVII.1; ECLA, The Process of Industrial Development in Latin America, United Nations Publication, Sales N° 66.II.6.4; official national statistics and unpublished material in ECLA and the Latin American Institute for Economic and Social Planning.

A: Industries that typically produce consumer goods, particularly of a non-durable kind (foodstuffs, beverages, tobacco, clothing and footwear, textile goods, wood, furniture, printed material, leather, rubber and non-specified goods). The rubber industry is included for purposes of international comparison.

/B. Industries

- B. Industries that typically produce intermediate goods (pulp and paper, chemicals, petroleum and coal products, non-metallic mineral products and basic metals).
- C. Capital goods and durable consumer goods industries; metal-transforming industries (metal products, machinery, electrical equipment and transport equipment). Strictly speaking, the classification in categories A, B and C is not very precise, since the International Standard Industrial Classification of All Economic Activities (ISIC), which is the only one available for this purpose, is based on the industrial origin of products and is therefore hard to adapt to a reclassification by destination. Consequently, the sectors in category A, produce a certain number of intermediate goods, while B includes some consumer and capital goods and C has a large number of intermediate goods processed by the metal-transforming industries.

- ✓ Excluding Albania, mainland China, Mongolia, North Korea and North Viet-Nam.
- ✓ World total, excluding the Soviet Union and Eastern Europe.
- ✓ Including the Soviet Union, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland and Rumania.
- ✓ In 1964. Including Australia, Canada, the members of the European Economic Community and the European Free Trade Association, Finland, Ireland, Japan, New Zealand, the Union of South Africa, the United States and West Berlin.

✓The smaller

The smaller share of the metal-transforming group (G) in industrial production is counterbalanced by the larger share of consumer goods (A). Intermediate products (B), however, are represented as well as or even better than in other parts of the world. This is due to the fact that Latin America is regarded as a suitable area for certain intermediate goods industries (steel, pulp and paper, some chemical products, etc.) because of its natural resources. Moreover, the branches of industry in group (B) produce a much larger proportion of consumer goods in Latin America than in the industrially advanced countries. The difference is repeated in the metal-transforming industries, group (C).

The failure of the metal-transforming industries to develop sufficiently is a problem common to the region as a whole, whereas the lack of intermediate goods industries is particularly serious in the smaller countries.

A continuing trend towards an industrial structure in which the intermediate and capital goods industries play an increasingly important part is an axiom of modern development since development depends on a continuous rise in productivity as a result of more intensive use of capital goods and a greater measure of industrial integration (e.g. in relation to the use of synthetic materials), all of which bring about the desired structural changes.

If the speed at which structural changes take place in industry in the developed areas is compared with the tempo in Latin America, the latter is obviously slower. Table 3 shows that the group (B) in Latin America has been rapidly increasing its share of total regional production, largely because of a vigorous drive on the part of the State to develop the basic industries in a number of countries. The metal-transforming group (C), on the other hand, has been slower to increase its share of production than in the developed areas. Thus, the tendency seems to be for the development gap between these industries to become wider rather than narrower with time. This is no doubt due to the difficulties of promoting the metal-transforming industries in less advanced countries.

/Table 3

Table 3

LATIN AMERICA AND OTHER AREAS: INCREASE IN THE WEIGHTING OF INTERMEDIATE (B)
AND CAPITAL GOODS (C) INDUSTRIES IN MANUFACTURING PRODUCTION, 1938-60

(annual average percentage increment
in weighting over the previous year before)

Areas	Categories of industries	
	B	C
Latin America	0.6	0.3
Latin America (1938-1965)	0.6	0.3
Canada and the United States	0.3	1.2
Europe ^{a/}	0.4	0.5
European Economic Community	0.3	0.5
Soviet Union and Eastern Europe ^{b/}	-0.2 ^{g/}	0.9

Sources: As for table 2.

^{a/} Excluding the centrally-planned economies.

^{b/} Covering the period 1950-64. The industrial total includes the extractive industries.

^{g/} Including the extractive industries.

These facts

These facts are particularly significant because the metal-transforming industries, and in particular those manufacturing capital goods, are the mainspring of present-day industrial development. The qualitative links between the capital goods industry and the process of industrialisation are vitally important. In under-developed countries where the possibilities of the external sector are limited, that relationship will determine whether or not the rate of capital formation can be stepped up. This kind of relationship must also be created if the technological level of domestic production is to be geared to the combination of natural resources and factors of production locally available, and if Latin American industry is to share in the process of development and technological innovation.

It is clear from the foregoing that a Latin American industrial development strategy should concentrate on the scale of the contributions to be made by the intermediate and capital goods industries to the manufacturing product, and the extent to which the consumer, intermediate and capital goods industries should complement one another or be brought into balance.

The object of the structural development of industry is not self-sufficiency, although this could certainly be increased in larger economies. It is to exploit the advantages of foreign trade, in both exports and imports, in such a way as to make for financial and economic stability; the structure of industry and the kind of exports to be manufactured will play a decisive part in achieving that stability. It seems hardly possible to achieve equilibrium without developing the industries in the intermediate and capital goods categories. In the smaller countries there is every more reason for developing certain industries of this type, precisely because of their foreign trade, since exporting widens the market and makes it possible to benefit from economies of scale, specialisation and modern production techniques.

Thus, regional import substitution and export trade in manufactures are the necessary concomitants of structural change in industry designed to give it dynamic force and external equilibrium. In turn, structural progress is a prerequisite for the development of the export trade, since a measure of technological and economic independence is essential for exporting either within Latin America or to other regions.

2. Application of technology

It might well be said that in Latin America there has been a somewhat passive attitude towards the application of technology to industrial development and that little progress has been made in that respect. This is borne out by the figures relating to expenditure on scientific and technical research, which is extremely low in comparison with the amount spent by more developed and dynamic economies. (See Table 4.) With reservations regarding the significance and comparability of the data, the disproportion between the two sets of figures warrants attention.

Apart from the vicious cycle of under-development (the inability of the economy to finance projects which would help to raise the economic level), the absence of efforts in this direction is due to the fact that the process of import substitution itself did not lay proper emphasis on the vital need for such efforts. Over-dependence on imported technology restricts the use of certain natural resources, slows down general development and is an obstacle to the export of manufactures. This is because the research undertaken by the developed countries concentrates on their own problems, which rarely include the exploitation of certain natural resources native to developing regions, and is often directed towards economising on or replacing raw material imported from these regions. Moreover, it is unlikely to be suitable for solving the problems arising from the combination of factors of production in developing countries. This technological dependence does not favour exports of manufactures by the Latin American countries, since in most cases such exports are possible where there are differences in type, quality, costs and prices, which frequently call for ad hoc research studies. ¹⁴

¹⁴ Most of these points were examined in the UNESCO/CASTALA documents submitted to the Conference on the Application of Science and Technology to Development in Latin America (Santiago, Chile, September 1965).

Table 4

EXPENDITURE ON SCIENTIFIC AND TECHNOLOGICAL RESEARCH IN LATIN AMERICA, EUROPE, THE UNITED STATES AND THE SOVIET UNION

	Recent annual expenditure	
	Millions of dollars	Percentage of the gross national product
Latin America ^{a/}		
Argentina	34	0.30
Bolivia	0.7	0.24
Brazil	30	0.18
Colombia	8	0.26
Peru	3	0.13
Venezuela	13	0.16
Europe ^{b/}		
Belgium	300	2.45
Federal Republic of Germany	1 740	1.70
Plan for 1970	2 810	2.70
France	1 850	2.60
Italy	310	1.65
Plan for 1969	2 230	...
Netherlands	430	2.20
Soviet Union (1963) ^{c/}	5 200	1.70 ^{d/}
Sweden	190	1.35
Switzerland	230	2.00
United Kingdom	2 470	3.03
United States ^{e/}	17 530	3.10

^{a/} Pan American Union, Meeting of the Inter-American Ad-Hoc Science Advisory Committee (Washington, D.C., 7-10 June 1966).

^{b/} "Cómo se hace investigación y desarrollo en Europa", artículo publicado en International Management, and summarized by Nacional Financiera under the title "la investigación tecnológica en las empresas" in El mercado de valores, N° 46 (Mexico, 14 November 1966).

^{c/} UNESCO/CASTAL, Tendencias de los países europeos destinados al desarrollo de la ciencia y la tecnología y planes de financiación (Paris, 13 August 1965).

^{d/} Institute for Latin American Integration (ITAL), "Progreso tecnológico e integración", Boletín de la Integración (Buenos Aires, December 1966).

^{e/} Estimated.

^{f/}The importance

The importance of research for industrial development cannot be overlooked. It has been fully recognised by the developed countries, whose governments deliberately use scientific and technological research as a promotional tool, even in those countries where private enterprise predominates. This is borne out by the figures in table 5, which reveal the important part played by the State in this respect. In fact, in all the countries except Japan, it is the State which bears the greatest financial responsibility. Moreover, there is a tendency for State participation to increase considerably; in the United States, for example, it rose from 54 per cent in 1953 to 66 per cent in 1961.^{15/}

Table 5

STATE FINANCING OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH

Country	Year	Percentage of expenditure financed by the State
France	1961	78
Japan	1960	33
Soviet Union	1958/60	
Central budget		70
Local budgets		30
United Kingdom	1961	61
United States	1961	66

Source: UNESCO/CASTALA, Tendencias de los gastos globales destinados al desarrollo de la ciencia y la tecnología y métodos de financiación (document submitted to the Conference on the Application of Science and Technology to Development in Latin America, Santiago, Chile, September 1965).

^{15/} UNESCO/CASTALA, op. cit.

Research is primarily concerned with the production of both capital and intermediate goods, which in itself creates the demand for technology and research by incorporating them into the production process. Thus, it may be said that structural progress in the production of capital and intermediate goods and scientific and technological research are equally important requisites for a new phase of industrial development in Latin America.

Another extremely important element of intra-regional co-operation for industrial development is economic integration, to which must be added increasing scientific and technical co-operation as a means of co-ordinating efforts. This would lead to a saving of resources by avoiding duplication and taking advantage of the economies of scale inherent in research.^{16/} This point has been appreciated by the countries of the European Economic Community, which are considering the possibility of establishing a scientific and technological community to bridge the scientific and technological gap between them and the United States.^{17/} The full significance of this situation can only be appreciated in the light of the already considerable research programmes undertaken by these countries.

3. Efficiency of production

Greater efficiency of production in the manufacturing sector is another requisite for embarking upon a new phase of industrial development in Latin America. Not only must there be more efficiency in the production processes themselves, but also in an economic and social sense, in the trade, sales and price policy of the producing enterprises. Their efficiency is closely connected with their methods of operating vis-à-vis

^{16/} See, in addition to the UNESCO/CASTALIA works already quoted, the proposals of the Instituto para la Integración de América Latina (INTAL) in Boletín de Integración (December 1966).

^{17/} INTAL, op. cit.

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a few markets that are usually protected by indiscriminate tariff barriers. Here greater regional economic integration in Latin America has the added advantage of improving competitive conditions for these enterprises.

Increased efficiency is necessary for the expansion of domestic markets since its impact on costs and prices influences the volume of demand for consumer, capital and intermediate goods and facilitates investment and operation in other branches of activity, whether industrial or non-industrial. It opens the way for competition on foreign markets and makes integration itself, which is a difficult task when industries are inefficient, a more feasible proposition. This seems to indicate that, in the more industrialised countries of the region, where the internal economic boundaries are less sharply-defined, an increase in efficiency may be the decisive factor in future industrial development.

To grasp the full scope of the problem, the internal efficiency of the enterprises must be distinguished from the efficiency of the chain of processes, that is, of technological relations at the earlier stages of the different production processes. Viewed in this way, the question of efficiency is clearly of greater importance in the more industrialised countries with a more advanced structure of production, because technological relations hips are more important there. More intensive and far-reaching efforts will doubtless have to be made to improve efficiency in these countries. In the less industrialised countries, on the other hand, the emphasis will have to be laid on staying off rather than on solving the problem.

Efficiency is, in any case, contingent on the type of process used, the admixture and nature of the factors of production, the quality of the inputs, the scale of production, the degree of specialisation and the organisation and management of establishments and enterprises. In short, an increase in efficiency would entail modernisation of the enterprises and the introduction of satisfactory scales of production in which labour and the shortage of capital would be taken into account. The strengthening of certain processes that require large-scale production and specialisation will be a key factor in a policy of efficiency.

/Perhaps little

Perhaps little can be done in the individual countries because of the limited size of the markets. A policy to improve efficiency would therefore have to hinge upon the development of export trade and integration. Under the stimulus of competition, they would help to raise the level of efficiency.

4. The process of economic integration

Of the many areas in which economic integration can influence the course of economic development, two are particularly important for the growth of industry; the relatively more developed branches of industry and the sectors of import substitution.

In existing branches of industry, economic integration would act as a catalyst by imposing a necessary measure of rationalisation, an increase in plant size and greater competition, and would thus increase the efficiency with which these sectors operate and bring them into line with world market requirements. Import substitution in relation to goods from outside Latin America would be extended to imports from within the region, and stress would be laid on the development of the major basic, intermediate and capital goods industries, which are usually termed "integration industries". A regional programme of substitution, designed to promote the development of a complementary industrial structure in Latin America in which the intermediate and capital goods industries could participate, should not be confined to solving these problems at the regional level. On the contrary, it should aim at improving the structure of industry in the individual countries, particularly where industry has been slow to advance, so as to make for the balanced development of the group as a whole.

One of the conclusions to be drawn from these considerations is that the dynamic forces released by integration can only be effective if the environment in which they are to operate in each country has been pre-conditioned to cope with them. Hence, it is obviously important to weigh the benefits of establishing certain industries with a view to the medium or longer term rather than to immediate results and of tailoring them to a clearly-defined strategy and programmes aimed at developing within and among the Latin American countries the necessary industrial relationships for exploiting the benefits of integration.

/5. The planning

5. The planning of industrial policy

"A late start" on development or industrialization puts manufacturing industry in a relatively disadvantageous position. The disadvantages are essentially due to lack of skills (entrepreneurial, technical and labour), the shortage and relatively high cost of capital, the limitations of an internal market that is not equipped to absorb consumer, intermediate and capital goods and technological and financial limitations. Latin America has sought to cope with these problems by protecting import substitution activities. It should be remembered that even the industrial Powers of the world protect their manufacturing industry, by, for instance, a progressive tariff graded in accordance with the degree of processing of the products imported.

It would seem, however, that industrial development should progress far beyond substitution to a phase which, in Latin America, is only just beginning in some of the more industrially advanced countries. As indicated before, this phase would be one of expansion of national markets in accordance with general development policy, the removal of internal economic boundaries, regional import substitution in relation to goods from outside Latin America and export trade in manufactures both inside and outside the region.

It is generally agreed that more thought needs to be given to this phase, since, unlike its precursor, it would not be brought about by external factors, it is essentially more complex and faces greater difficulties and obstacles than the earlier phase of import substitution. This is evident not only from the delay in embarking upon it, but also from the general decline in the rate of industrialisation in Latin America. The new course to be shaped by industrial development clearly bristles with difficulties, since the enterprises will have to deal with increasingly complex technological and economic questions and enter into competition on foreign markets.

While some basic industries were recently developed at Government initiative or through specific measures of assistance given to private industry, what is needed now is direct promotion in the even more complex
/area of

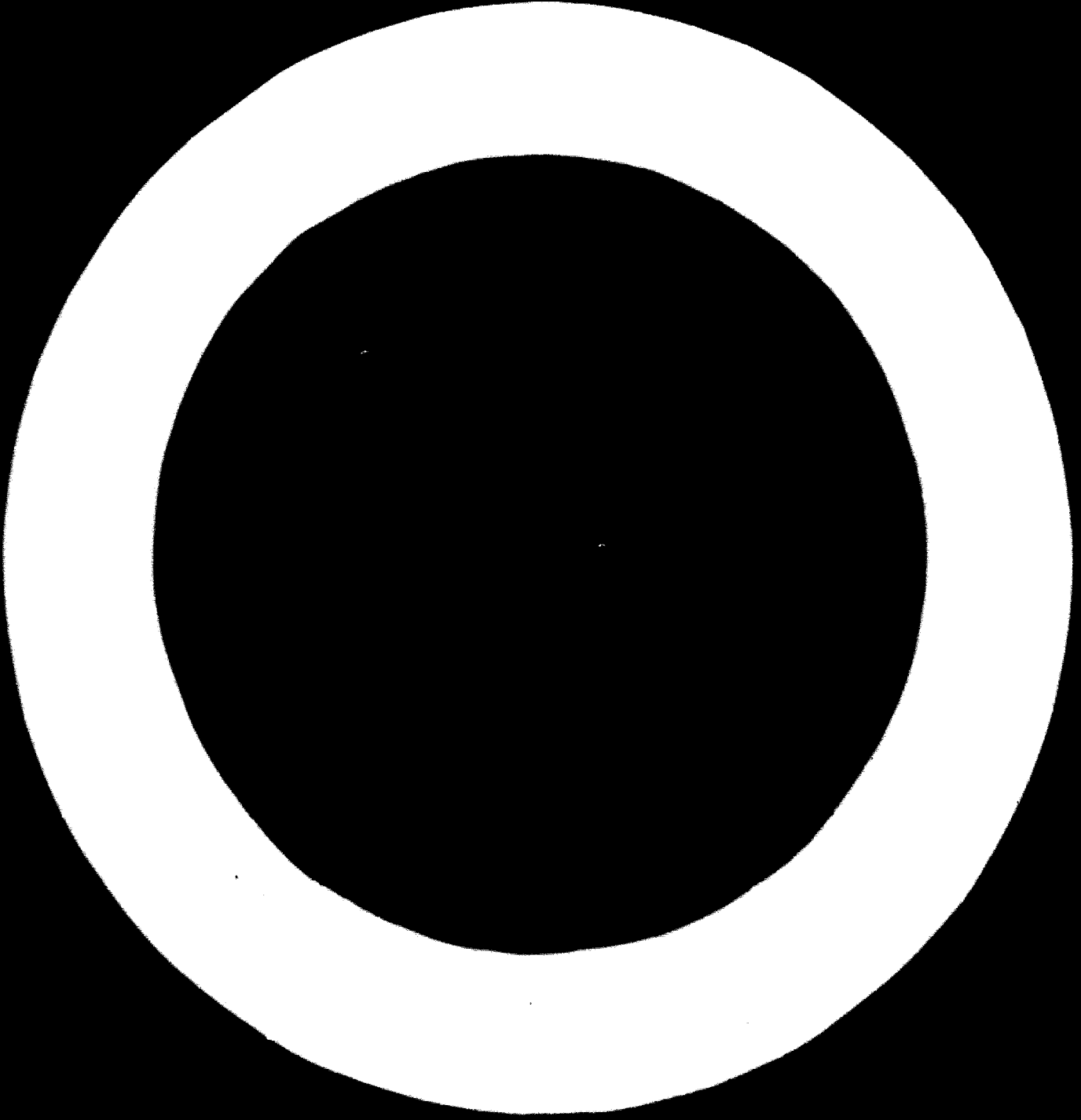
area of capital goods. Even the big industrial powers have had to set up machinery to promote their exports of manufactures; the Latin American countries, which start with so many difficulties in competing, obviously have far more need to do so.

The Latin American countries are by no means unaware of the need to take action in this respect, and some of them are making a serious attempt to do so. It should perhaps be emphasized that they must take much more comprehensive and drastic action than is normally regarded as necessary. The obsolete structure of production, for instance, cannot be remedied just by projects and the establishment of certain industries. To begin with, the use of economies of scale in small markets often means that production costs cannot be kept down to a reasonable level without exporting; this ties in the questions of integration and export development with that of industrial structure. Secondly, efficiency in terms of costs is not merely an issue to be dealt with at the level of a single plant or enterprise. Efficiency is partly contingent on the price and cost of inputs, in other words, of the activities that come near the beginning of the production process and the greater the national integration of production, the greater will be their influence. This effect is usually known as the inefficiency chain reaction. In a "horizontal" sense, some inefficiency is due at times to the proliferation of small plants of less than optimum size, producing the same type of goods. These deficiencies must be eliminated by action on a broader and more intensive scale, whose effectiveness will depend on how successfully industrial planning can rationalise industrial development.

The economic viability of certain industries is also contingent on the size of the domestic market which in turn depends on general development and internal economic boundaries. The planning of industrial policy must be geared to general economic development policy, since the removal of these boundaries and, of course, the overall growth of income are beyond the scope of purely industrial matters.

/A good

A good basis for a more forceful industrial policy is to be found in the valuable experience gained in the majority of the Latin American countries. Moreover, nearly all of them have special offices for planning and industrial promotion, and many of them have prepared or are in the course of preparing fairly specific and comprehensive industrial development plans.



Chapter III

POSSIBLE EFFECTS OF A REGIONAL IMPORT SUBSTITUTION PROGRAMME ON THE EXTERNAL SECTOR

The three ways of promoting industrial development discussed in the previous two chapters are complementary rather than alternative.

In the first place, it seems clear that the use of any single approach is subject to the law of diminishing returns and, consequently, if an attempt is made to solve the problem of development in its entirety by applying only one of these alternatives, more and more difficulties will be encountered.

Moreover, the fact that the characteristics and possible effects of the three approaches are to some extent different emphasizes their complementary nature. The widening of the domestic market may have more obvious favourable effects on employment than import substitution, for example, but it is less likely to have a favourable effect on the balance of payments. Thus, the formulation of a strategy based on a judicious combination of the three is likely to provide a more appropriate remedy for the problems of the external sector, employment, savings, investment, etc.

This chapter will examine the possible effects of a regional import substitution programme on the external sector. Specific consideration is being given to this point simply because there happens to be a recent study on this question,^{18/} and does not mean that greater importance is being attached to it a priori than to the other aspects of a possible industrial development strategy.

1. Contribution of the external sector to economic development

Economic growth and industrial development in Latin America are closely related to the evolution of the region's external sector. One proof of this interrelation is the process of import substitution, which

^{18/} See Latin American Institute for Economic and Social Planning, Integración, sector externo y desarrollo económico de América Latina, Santiago, October 1966 (2 vols. mimeographed).

played an extremely important role in establishing a basis for industrial development and, at the same time, succeeded in alleviating the difficulties arising from unfavourable export trends.

Because it was mainly based on national markets and technologically dependent on other countries and was unable to achieve a degree of efficiency that would make it possible for Latin American industry to compete on the world market, the process of industrial development could not be further extended by generating good prospects for exporting manufactured goods, which ought to have been the natural continuation of the process.

For a better understanding of the relationship between industrialization and the behaviour of the external sector, some of the features of this sector in Latin America and its relationship with the general development process are outlined briefly in this paper.

The small proportion of manufactured goods in exports and the unfavourable trends of exports of raw materials were responsible for the slow growth of total exports in the period 1950-64. The annual rate of growth of the purchasing power of exports was less than 3 per cent. When compared with the quantum growth rate of 4.6 per cent in the same period, it confirms the unfavourable trend of the terms of trade throughout those fifteen years.

The primary structure of Latin American exports is responsible for this situation. In 1964 manufactures accounted for only 10 per cent of total sales, whereas for the world as a whole they represented about 60 per cent, and it is precisely primary commodities and products requiring little processing which have the slowest growth rates in world trade. (See table 6).

In spite of the efforts made by certain Latin American countries to diversify their exports, eleven of them still depend on a single commodity for more than 50 per cent of their export earnings.^{19/}

In view of the relatively slow growth of exports, and in order not to impose further restrictions on imports to the detriment of its rate of economic growth, Latin America has had to resort to external financing.

^{19/} Ibid.

Table 6

COMPOSITION AND GROWTH OF EXPORTS FROM LATIN AMERICA AND THE
REST OF THE WORLD
(percentages)

SITC* Sections	Headings	Latin America ^{a/} (%)	Rest of world ^{a/} (%)	Annual growth rate of quantum of exports from rest of world ^{b/} (%)
0 + 1	Food, beverages and tobacco	45.1	15.6	3.5
2 + 4	Crude materials (except fuels)	18.4	13.6	3.5
3	Fuels	25.8	8.9	7.0
5	Chemicals	1.5	6.6	15.6
7	Machinery and transport equipment	0.5	25.3	10.5
6 + 8	Other manufactured goods	8.5	28.6	6.9

Source: Latin American Institute for Economic and Social Planning, on the basis of data from United Nations, Monthly Bulletin of Statistics (March 1966) and GATT, International Trade (various issues).

✓ 1964

✓ 1953-63

* Standard International Trade Classification (United Nations)

/Particularly in

Particularly in the period 1955-62, when exports remained almost stationary, the inflow of foreign capital, mainly in the form of public loans, was extremely large. This in turn swelled the size of the external debt, with the result that debt service payments increased so rapidly that they absorbed a very large proportion of export earnings. The situation was further aggravated by the fact that the conditions on which the loans were made became less favourable for Latin America. The average rate of interest and the average period of repayment was reduced. After the period 1961-62 the rate of increase in the flow of capital fell sharply while the burden of debt service continued to grow, with the result that the net contribution of foreign capital to the financing of the region's import requirements was reduced.^{20/}

It would be interesting to determine what the prospects would be if Latin America attempted to speed up its rate of economic growth while maintaining the basic conditions for development, and if the interrelation between the main economic variables were to remain the same as in the past. The specific value of such an analysis would be to determine the magnitude of the restrictions imposed by the external sector on the economic development of the region.

To that end it might be useful to project external sector development up to 1980 on the assumption that Latin America will endeavour to increase its gross domestic product 1 per cent faster than in the past fifteen years, or at about 6 per cent annually. It is also assumed that the basic conditions determining the evolution of exports, imports and external financing will not change substantially in the future.^{21/}

Separate consideration of export prospects for the eighteen most important products -- which altogether represent about 75 per cent of the region's total export earnings -- leads to significant conclusions. It is difficult to harbour much hope of improvement in the future behaviour of

^{20/} Ibid.

^{21/} This projection is based on criteria set forth in the Institute document referred to in footnote 18/, which also discusses alternative hypotheses regarding growth targets for the product and their results.

/those goods

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those goods, and the remaining exports -which, numerous as they are, carry little weight in the total- are unlikely to have much influence on future export trends. Moreover, there is no reason to believe, at the moment, that the degree of the diversification and the geographical destination of Latin American exports will alter substantially. Finally, it may be said that the purchasing power of exports is most unlikely to increase by more than 3 per cent annually over the long term.

Projection for future import show that the import substitution rate is unlikely to be maintained on the basis of domestic markets, particularly in countries at a more advanced stage of industrialization. It is precisely in the production of capital goods and some types of intermediate products which may still have an ample margin for import substitution—that—technology, capital and market size play a decisive role. Moreover, if the past substitution rate were to persist, some countries would reach an undesirable and unrealistic degree of self-sufficiency, considering their stage of development, their lack of capacity to create new technologies, and the scale of production imposed by their limited markets.

Accordingly, for purposes of import projections for all the Latin American countries, it seems reasonable to assume a stabilized import coefficient in Argentina, Brazil and Mexico. For the remaining countries of the region which still have a margin of substitution for durable and non-durable consumer goods, the import substitution rate can be expected to remain unchanged.

The stage of development reached by Latin America as a whole, its possibilities with respect to capital formation and the application of complex technologies, and particularly the size of its market seem to rule out the possibility of a long-term acceleration in the rate of industrial development on the bases prevailing in recent years.

The adoption of these assumptions imply that the elasticity of imports in relation to the product cannot be maintained at 0.85 for the whole of Latin America, but would rise to 0.95. It should be borne in mind that, if no import substitution takes place, the increase in purchases abroad would tend to exceed the increase in the product, since the proportion of goods directly or indirectly imported is larger in those sectors where demand grows relatively faster in a development process.

/This means

This means that the elasticity of imports in relation to the product tends to exceed one unit in a "neutral" state of import substitution. In Latin America this coefficient would be 1.2. Thus, the coefficient of 0.95 indicates that substitution is still fairly intensive, though less so than in the past.^{22/}

On the basis of these considerations, the projected trade gap for the whole of Latin America-- or the ex_ante difference between import requirements and export possibilities-- would be 4,600 and 8,300 million dollars in 1975 and 1980, respectively, representing 33 and 50 per cent of the purchasing power of exports in the two years concerned. In other words, there would be a considerable trade gap, which would increase rapidly in both absolute and relative terms as time went on. A careful scrutiny shows that, unless the conditions for capital inflows change substantially, foreign capital is most unlikely to contribute significantly to the financing of so large a gap.

If instead the situation is examined from the standpoint of the growth rate attainable by the product without sustained disequilibria in the balance of payments, it must be concluded that Latin America would have to confine its hopes of over-all growth to under 4 per cent annually, which is highly unsatisfactory in the light of its population growth of nearly 3 per cent.

Lastly, if the trends followed by the basic factors which have shaped the evolution of the external sector continue (inter alia, if import substitution continues to be domestically based and no progress is made in the export of manufactures), this sector will seriously hamper Latin America's development. It is therefore useful to determine how import substitution on a regional basis could help to improve these conditions.

^{22/} Import substitution in the past reduced the elasticity coefficient from 1.2 to 0.85. In the projections, the slower rate of substitution would only reduce it from 1.2 to 0.95.

2. General bases for a regional import substitution programme

This section explores the question how a regional import substitution programme might solve problems connected with the external bottleneck and help to accelerate Latin America's industrial development. With that end in view, it examines the results of projections whose main features are described below.

A regional import substitution programme might be considered a partial change in past development strategy in that it is implemented on a regional scale rather than at a country level. Advantage would be taken of the larger market to transfer the emphasis to capital and intermediate goods.

The market ^{23/} in Latin America as a whole is somewhat smaller than that of each of the major Western European countries -- France, the United Kingdom and the Federal Republic of Germany---whereas those countries have a far larger volume of international trade in relation to their domestic product. The ratio of the size of market in Argentina, Brazil or Mexico to that of any of the above-mentioned European countries is one to four. Therefore, to place import substitution on a regional basis might well give new impetus to Latin America's industrial development and partly overcome the small size of the market.

Attention is primarily focused on the most dynamic industries, which are, at the same time, those with the greatest potential influence on the restructuring of industry. They could help to make the region's over-all development less dependent on external factors, owing to their active contribution to the capital formation process, in the context of the expansion of total trade.

Another criterion applied in the selection of priority industries is their significance in relation to extra-regional imports. Since the external sector bottleneck is a formidable obstacle to accelerated development, effort will have to be concentrated on these sectors of industry, and the structure of exports will have to be altered.

^{23/} Market size is merely an illustrative figure representing the number of inhabitants who earn over 500 dollars annually.

The following is a list of these priority industries and the proportion of the region's total imports represented (in terms of value) by external purchases of their products: metal-transforming industries, 48 per cent; chemical industries, 12 per cent; the iron and steel industry, 7 per cent; the petroleum industry, 5 per cent; and the pulp and paper industry, 4 per cent. Their prospects were analysed in detail in the original study,^{24/} while for other manufacturing activities only aggregate projections were formulated.

The projections prepared are conjectural, and are based on the hypothesis that decisions tending to infuse new life into industry would be gradually adopted. They would have to do with scales of production, productive efficiency, technology and other points. This would imply, inter alia, the existence of a co-ordinated regional policy for a group of specific sectors, combined with the progressive liberalization of the country markets to pave the way for a regional market.

Generally speaking, it is assumed that plant dimensions will be a good deal more economic than at present. Economic plant size is defined not only in terms of the technology applied, but also in relation to supplies and prices of basic materials, the size and relative proximity of markets, price ratios as between the various factors of production, etc. It may reasonably be supposed that in this way the quality and prices of the region's output would be brought into line with international standards.

On these bases, Latin America could produce a gradually increasing share of the intermediate and capital goods required for its industrialization process, instead of having to import as high a proportion as at present.

^{24/} See Integración, sector externo y desarrollo económico de América Latina, especially chapter VII. On the basis of the relative weight carried in total imports, a few more sectors could justifiably be included in the detailed study: for example, agriculture, which in 1965 accounted for about 7 per cent of imports from outside Latin America. But owing to the widespread lack of dynamism in Latin America's agricultural sector, its highly specific difficulties and the lack of relevant statistics, it cannot be dealt with in detail in the present study.

/However, the

However, the object of the study outlined here is merely to determine, in the light of a preliminary analysis, the significance of a regional import substitution programme based on certain key sectors. No attempt is made to go deeply into all the problems that would have to be considered if such a programme were actually to be formulated.

Although the conclusion to be drawn is that a regionally-integrated substitution programme might represent a very important contribution to the solution of external sector problems and to the promotion of autonomous industrial development in Latin America; by itself it is not enough to ensure the attainment of this objective.

3. Projections for a regional import substitution programme ^{25/}

These projections are based on the hypothesis that Latin America's gross domestic product will increase at an average annual rate of 6 per cent. Such a growth rate would push up import requirements, especially in respect of intermediate manufactures and capital goods, which would constitute the main cause of the trade gap referred to in the first section of the present chapter. Thus, the essential content of a regional import substitution programme would have to relate to industries producing intermediate and capital goods, as can be inferred from the preceding section.

Outstanding among the industries in question are those in the metal-transforming group. ^{26/} The high proportion of imports represented by the products of these industries — 48 per cent — reflects the

^{25/} The projections that are summarised and discussed in the present section are those formulated in the document referred to, which is based, as far as the detailed analyses of specific industries are concerned, on a number of studies by experts and specialized agencies, and, in particular, on the reports of the Joint ECLA/INSTITUTO/IBS Programme for the Integration of Industrial Development.

^{26/} ISIC groups Nos. 35, 36, 37 and 38.

under-development of the structure of industry in Latin America, where metal-transforming activities play a far less important part than in the more developed countries. (See again Table 2). It is common knowledge that demand for the products of the metal-transforming industries grows relatively faster than aggregate demand. In Latin America, this tendency is reflected in the fact that during the past fifteen years the income-elasticity of demand for the products in question was 1.7.

If demand were to follow the same growth pattern in the future (given the hypothetical annual growth rate of 6 per cent for the product), the metal-transforming industry would have to expand by 12 per cent per annum if the region was to satisfy 82 per cent of its own needs. This target, as against 37 per cent in 1950 and 62 per cent in 1962, would represent a relative rate of import substitution similar to that recorded since 1950.

Such a substitution effort does not seem unduly ambitious in view of the fact that during the period 1950-62 the rate of expansion of the metal-transforming industries was 10 per cent, and in some countries even higher.^{21/} It must be borne in mind, however, that the industries now involved would require more complex techniques and larger scales of production. This is the essential reason why a programme of this type would call for a co-ordinated regional effort and for specialisation within Latin America.

These provisional targets would mean that by 1980 the products of the metal-transforming industries would still represent about 60 per cent of Latin America's extra-regional imports, and would constitute only about one-fourth of the region's total manufacturing output, which is a considerably smaller proportion than the 95 or 40 per cent registered in the more developed countries.

The development of the metal-transforming activities is directly linked to that of the iron and steel industry. Moreover, the share of iron and steel in Latin America's current imports is significant (7 per cent), and the region's own output meets only 75 per cent of the demand, although per capita steel consumption is very low (only about 50 kilograms, in

^{21/} The principle generally followed was to select, among the various hypotheses that can be formulated on the basis of the specialised studies, those implying a relatively moderate degree of import substitution.

in contrast with a world average of 130 kilogrammes).

In the last fifteen years there has been a decided development of the iron and steel industry in Latin America involving a vigorous import substitution process, reflected in the fact that supplies from domestic sources have risen from 45 to 75 per cent of the total. Nevertheless, the iron and steel sector is still confronted with serious difficulties. Briefly, they are, inter alia, high rates of investment per ton of capacity, resulting from limited scales of production; heavy costs of supporting projects (approach roads, power, social services, etc.); and over-designing, with a view to production of a wide range of articles to compensate for the small volume of each type.

These are the problems that make it necessary to place special emphasis on regional integration as a means of facilitating the development of the iron and steel industry and making it efficient enough to sustain the growth of the activities that consume its products.

According to projections of the development of the metal-transforming industries (which absorb an increasing proportion of the economy's demand for steel as the level of development rises) and to estimates for the other activities which use their products as inputs, demand for steel in Latin America will probably increase to about 49 million tons by 1980, i.e., to over 130 kilogrammes in per capita terms.

A provisional import substitution target for steel products is set at 95 per cent of self-sufficiency, since certain types of special steels will have to be imported. This objective does not greatly exceed what has already been achieved by such countries as Brazil and Mexico, and therefore, hardly seems over-ambitious. It should be borne in mind that on this basis per capita output of steel would amount to only 125 kilogrammes, whereas it currently ranges from 400 to 600 kilogrammes in countries such as the Federal Republic of Germany, France and the United Kingdom.

In addition to steelmaking, other sectors producing intermediate goods of vital importance to integration are chemicals, petroleum products, and pulp and paper.:

Latin America's chemical industry at present supplies about 75 per cent of demand. This is not too bad compared with the 87 per cent supplied locally by developed countries such as France and the United Kingdom. In 1964 Argentina and Brazil had reached much the same figure. However, it should be borne in mind that there is still little demand for chemicals, particularly basic chemicals in the region.

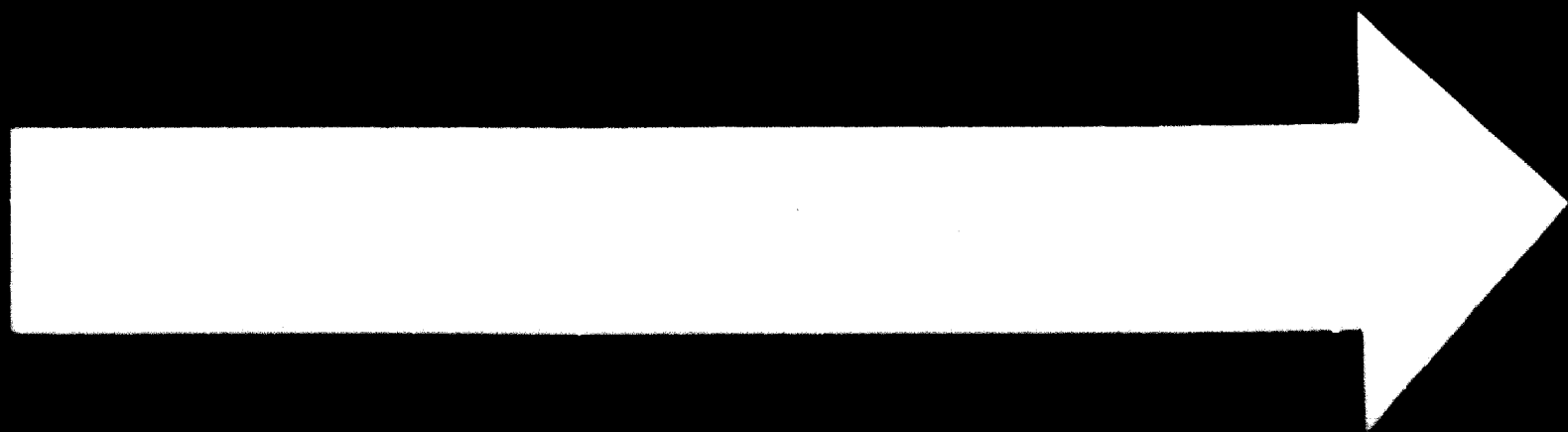
The Latin American chemical industry is in process of change; it is embarking on the production of basic materials and intermediate goods, such as fertilizers and petrochemical products, and is already exporting processed products.

In view of the region's natural facilities for the production of petrochemical products and fertilizers, it may safely be assumed that Latin America will be self-sufficient within the next fifteen years. What is more, its probable exports would compensate for the chemical imports it needs. Thus, it would not seek self-sufficiency in absolute terms, but would turn to account certain trade advantages.

Present trends and projects under way show that this process, which will accelerate import substitution, has already begun and will mean an annual expansion of 13 per cent in the chemical industry. Integration would make it possible to utilize productive capacity more fully, thus reducing production costs.

Production targets and the extent of domestic supply in respect of chemical products are intended to satisfy the projected sharp increase in Latin America's demand, which is reflected in an elasticity of 1.9 in relation to the gross domestic product. Even so, regional demand would be relatively low (68 dollars per inhabitant in 1980 as compared with the per capita figure of 100 dollars already attained by a large group of European countries in 1964). Furthermore, the 13 per cent planned annual expansion of the chemical industry is not very ambitious considering that it expanded by about 11 per cent annually when the general economic growth rate was lower than that postulated for the next fifteen years and no significant efforts were being made towards integration.

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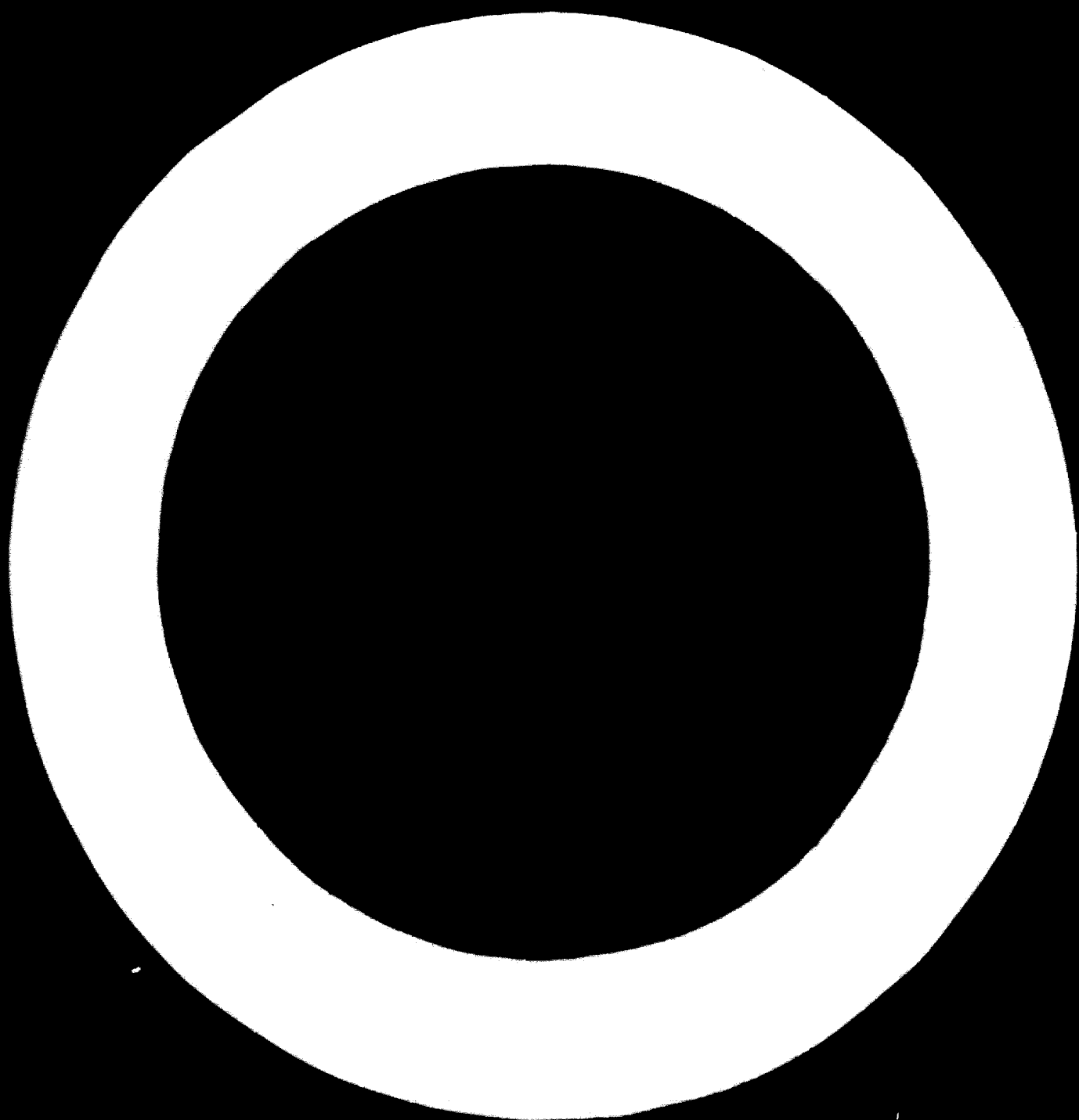
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PREFATORY NOTE

The purpose of this study is to discuss some of the basic elements of a new phase in Latin America's industrial development strategy which may be the object of increasing attention in the next few years.

It presents some of the principal ideas which have gradually evolved on these questions in Latin America and are discussed in studies not only of the Economic Commission for Latin America (ECLA) and the Latin American Institute for Economic and Social Planning but of national and other international agencies, as well as in a great many private studies on various countries.^{1/} This is not, therefore, a report on the results of ad hoc research; it is merely an attempt to analyse briefly some of the major problems likely to affect industrial development in the region. By its exploratory nature, the study may seem to present an incomplete review of these problems and a dogmatic approach to certain controversial points. In actual fact, it is intended to clarify the issues and to single out some questions which might well be examined in greater depth and detail.

^{1/} See, mainly, Raúl Prebisch, Hacia a Dynamic Development Policy for Latin America (United Nations publication, Sales N°: 64.II.G.4), and Política comercial para el desarrollo, Fondo de Cultura Económica, México (1964); Economic Commission for Latin America (ECLA), The Process of Industrial Development in Latin America (United Nations publication, Sales N°: 65.II.G.4), The Economic Development of Latin America in the Post-war Period (United Nations publication, Sales N°: 65.II.G.5), and Los principales sectores de la industria latinoamericana: problemas y perspectivas (ECLA.12/12/Nov.1), February 1966; Latin American Institute for Economic and Social Planning, Integración, sector externo y desarrollo económico de América Latina, mimeographed (October 1965), and Néstor Sosa, Planificación del desarrollo industrial, Siglo XXI, México (1966).



INTRODUCTION

Latin American development can be divided roughly into two phases: the first, when primary exports act as the most dynamic factor, and the second, when import substitution in respect of manufactures and the accompanying government action provide the main impetus.

In the first phase, the developed countries turn to Latin America for the primary products they need. This entails contributions of capital and technology in order to develop production activities and finance the transport and/or marketing of primary export commodities. External demand increases and foreign exchange earnings are sufficient to satisfy economic development and domestic consumption needs. At the same time, foreign trade is a useful source of revenue which helps finance government action on a limited scale and permits an initial investment in basic infrastructure.

In the interim between the two world wars-- particularly during the prolonged depression following the 1929 economic crisis-- this form of growth became impracticable for many of the Latin American countries. External demand for primary products declined and the external sector lost much of its dynamism.

The unfavourable evolution of the capacity to import prompted some countries to adopt, as a first move in self-defence, a policy for restricting imports and maintaining income and employment levels. This policy, in turn, by creating a gap between supply and domestic demand, activated the process of import substitution. The immediate purpose of import restrictions and substitution is to relieve the situation in the external sector and, over the longer term, to lay the bases for industrial development.

In other words, import substitution in respect of manufactures is tending to replace the external sector as the driving force of the economy. Government action is all-important in this connexion. First, it affords protection for import substitution activities to meet the needs of the external sector and other vital needs, i.e. to provide employment and maintain the income levels of certain groups of the population. Next,

/possibly after

possibly after the Second World War, the Governments took steps to rationalise the substitution process and adopted direct and indirect investment and other measures to carry it further. Thus, the State was instrumental in stimulating development by playing a more important part in giving direction to economic policy and in the activities themselves.

Industrial development presents some similarities in the various Latin American countries. It is directed towards the domestic market and follows the whole sequence from simple goods to complex products which require more capital and a higher level of technology. The process starts with the production of non-durable and durable consumer goods; subsequently it is extended to certain immediate goods and—usually under government protection—the establishment of some basic industries. Recently, some of the larger countries have started to produce simple capital goods.

It is difficult to define the point at which primary exports ceased to be the dynamic factor of development and import substitution assumed that role, since to some extent the two stages overlap. The import substitution and industrialization process has not, of course, taken place at the same time or with the same intensity throughout the region. In the individual countries the two processes tend to be parallel, and in some they have recently coincided with a fairly favourable external sector.

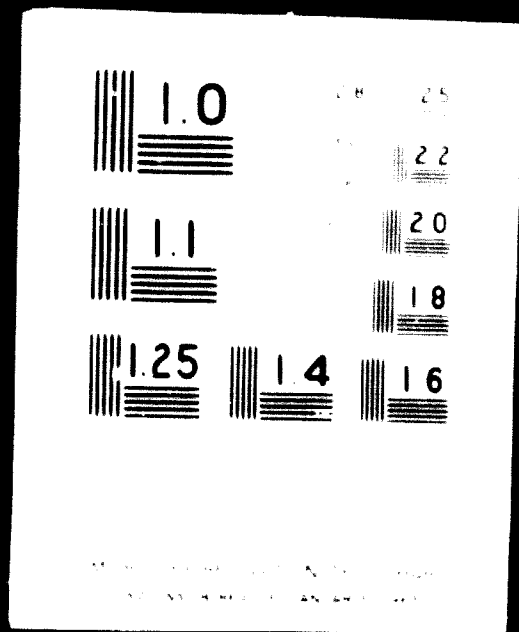
Countries with the largest markets, the most precarious external sector, a previously existing entrepreneurial and industrial base, or a clear-cut development policy were the first to develop their industry and have gone furthest in the process. In other countries industrialisation is more recent, and in some it is barely beginning.

It is a curious fact that the countries which are slowest to enter the substitution and industrialisation phase tend to follow the same course as other countries before them. However, in view of the progress made in regional economic integration and in development planning in some countries, it is hoped that there will now be a significant departure from the traditional pattern of Latin American industrial development.

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The volume of reserves of crude oil and natural gas ensure self-sufficiency in petroleum and the continuation of large-scale exports. A regional programme would help to make better use of oil resources and existing refining capacity, and to reduce costs through the establishment of better integrated refineries on a more suitable scale.

In accordance with projected domestic demand (an elasticity of 1.3 in relation to the gross domestic product) and exports (nearly 300 million tons in 1980), and in view of the supply targets for crude, natural gas and petroleum products, oil production by 1980 would have risen to 560 million tons.^{27/}

Despite the rapid growth of its pulp and paper industry, Latin America still relies on imports for supplies of some 25 per cent of these products, and in the case of newsprint, nearly 70 per cent. The reason is that the industry's production capacity is under-utilized, since, among other things, one country's surplus capacity is not fully used to make good the shortages in other countries of the region. A regional import substitution programme would have to be aimed at making fuller use of installed capacity—through intra-regional trade—exploiting the best natural resources, especially conifers, and turning to account the existing economies of scale, particularly for newsprint.

At the present time, Latin America's demand for paper is also low—only about 15 kilogrammes per head, compared with an average world figure of 25 kilogrammes. By 1980, assuming that the gross domestic product will increase by 6 per cent annually, demand would have reached some 30 kilogrammes per inhabitant, i.e., over 11 million tons. In the long run, the region would undoubtedly be in a position to supply its own pulp and paper requirements and even to export, particularly in view of its reforestation possibilities and opportunities to utilizing different types of wood in ways and for purposes which have not yet been fully defined.

A minimal programme would be to attain self-sufficiency in pulp and paper, except newsprint, for which the region's dependency on foreign

^{27/} Petroleum equivalent at 10,700 cal/kg.

suppliers would be reduced to about 35 per cent. Thus in 1980 production would amount to a little over 10 million tons of paper and nearly 9 million tons of pulp. Imports, which now represent 180 million dollars, would be reduced to about 150 million in fifteen years.

Briefly, the tentative regional import substitution programme would mean that projected import requirements in 1980 would be only 14,000 million dollars instead of 20,000 million dollars. This figure would comprise 8,000 million dollars for products of the metal-transforming industry and 6,000 million for other goods. Thus, the import substitution programme would bridge the anticipated trade gap in 1980 (see section 1 of this chapter).

The programme would be designed to overcome the bottlenecks in the external sector, this time at a regional level. It would enable the regional industrial development process to continue at a lower social cost than if import substitution were to continue indefinitely within the domestic markets.

However, as stated in chapters I and II of this report, Latin America requires a more active industrial strategy in order to correct certain structural shortcomings. These include the countries' internal economic boundaries and the disparity between primary exports and imports of manufactures.

4. Other considerations bearing on the acceleration of the growth rate of the product

Having dealt with the favourable effects of a regional import substitution programme on the external sector and on economic growth, it is useful to dwell briefly on whether the strategy implicit in the programme is correct or sufficient.

There is reason to believe that such a programme is necessary, but it is not sufficient for adequate growth in Latin America. Although the establishment of a regional market would quadruple the market for the major countries of the region and enlarge it even more for the rest, it does not justify a strategy which would isolate Latin America so completely from the rest of the world. The Latin American market would be approximately equal in volume to that of a single major Western

/European country

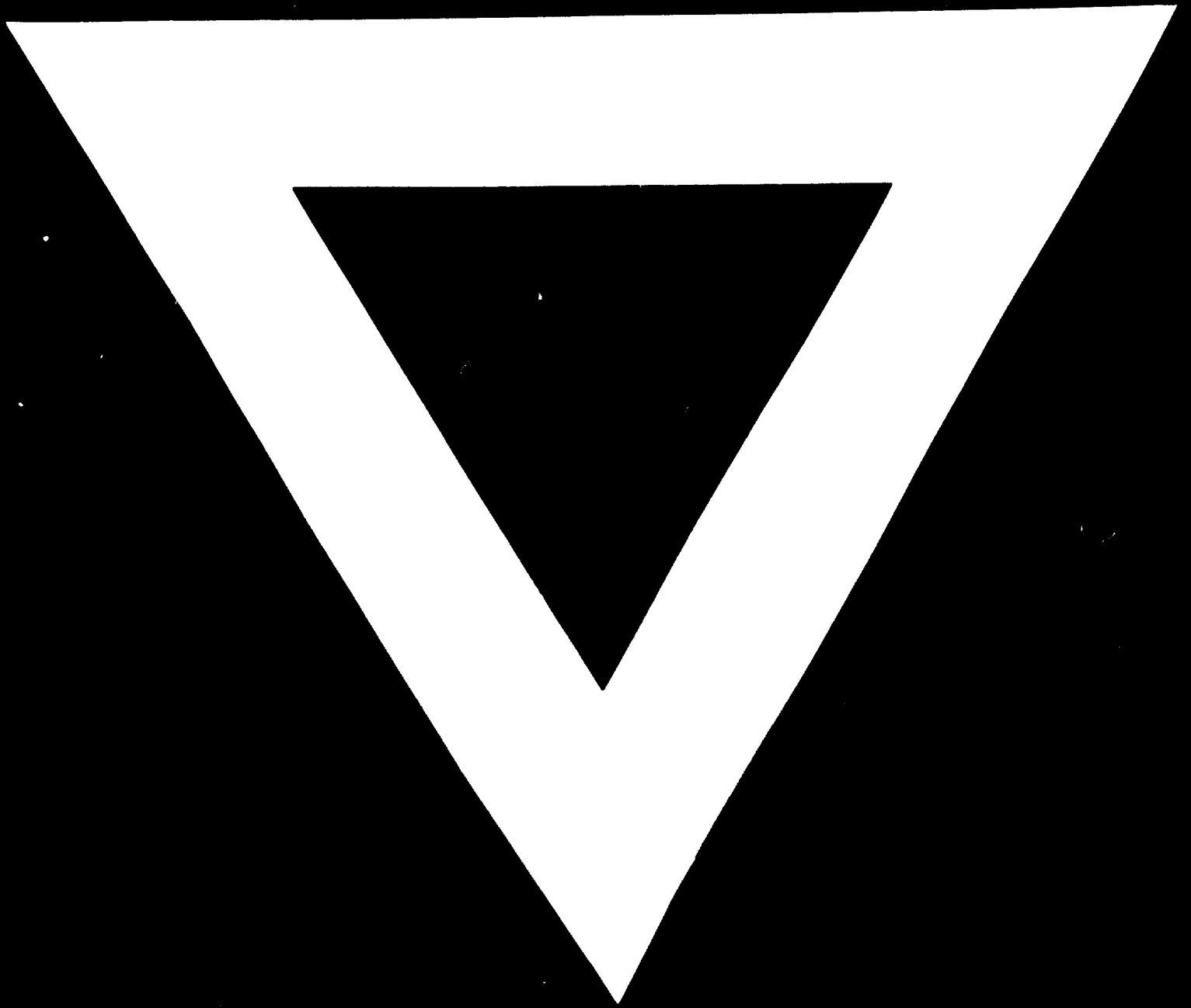
European country--France, the United Kingdom or the Federal Republic of Germany ---and amount to one quarter of the United States market. Under this programme, the import coefficient with respect to Latin America's gross domestic product would be less than 6 per cent. In the major European countries it has been rising and in some is almost 20 per cent. In the United States it is over 4 per cent and is still growing. Moreover, the assimilation of foreign technology, which is one of the main reasons for trade, is far more vital to Latin America than to those developed countries, since Latin America has much less chance of creating a technology of its own.

These considerations would seem to indicate that import substitution should not be pushed to the limit. Even if it could sustain a reasonable growth rate for ten or fifteen years longer, the external sector difficulties which would then arise would be more difficult to solve because the dynamic impetus of substitution would be virtually exhausted.

Furthermore, the sectors covered by the regional import substitution programme would absorb relatively little unskilled manpower. With serious structural unemployment, development based on these sectors might not solve the unemployment problem, since it would fail to absorb the population increase.

It would thus appear that a regional import substitution programme, whose usefulness was made clear above, would be supplemented by a policy for promoting exports of manufactures and by appropriate internal measures.





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