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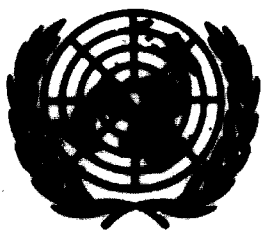
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THE NEED FOR AN EXPORT-ORIENTED PATTERN OF INDUSTRIALIZATION

Presented by the Executive Director of the
United Nations Industrial Development Organization

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.

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The tradition of inward-oriented development

1. Many generally accepted approaches to economic development are still dominated by the ideas and policies that took shape shortly after World War II, when the new independence of many former colonies, and the new pattern of international relations that took shape in the aftermath of the war, raised the problem of accelerated economic growth of developing countries to the first rank of international importance.
2. The reality was that the developing countries which existed, for consideration by theorists and policy-makers, up to the early 1950's were primarily the larger Latin American countries and those countries in Asia, including India, Pakistan and Indonesia, that had by then achieved national independence. In Latin America, it was mainly Argentina, Brazil and Mexico that engaged the attention, and to a lesser extent perhaps Colombia, Chile and Peru, in Asia it was the problems of India, Pakistan and Indonesia, followed by the Philippines and Burma. To these one might add, in the Middle East, the United Arab Republic and also Turkey and Iran. Thus it was the larger countries which tended to serve as prototypes for policy formulation.
3. It was recognised, to be sure, that there were great differences in economic, social and political structure, as well as size, even within this small group of countries, and particularly between the countries of Latin America on the one hand and most Asian countries on the other hand. Yet they had this in common: that the problem of economic growth could be viewed as a mainly "inward-directed" form -- as a combination of (a) the direct substitution of new domestic production for pre-existing imports and (b) the production of new goods and services for the domestic market, by means of balanced growth, with or without displacement of a traditional artisan sector which might previously have supplied similar wants.
4. The balance of payments problems that had to arise in consequence of the need to import particularly the capital goods necessary for this process seemed easiest to solve in the case of direct import substitution. For here it was expected that as soon as the new investments matured, part of the foreign exchange revenue available from traditional exports would be set free for the repayment of loans taken up to finance

the initial imports of capital goods, and for further imports for investment. On the other hand, in the case of new output producing no direct savings of foreign exchange, the solution might be more difficult and roundabout: it would require an increase in the savings ratio, and the devising of means, such as possibly currency devaluation, to convert the savings obtained into exports or reduction of imports. Nevertheless, the belief was that if only an initial impetus could be given to the developing economy, the over-all level of productivity would ultimately be raised so much that the necessary savings could be realized without having to cut into existing levels of consumption. Both processes would of course be facilitated by the availability of foreign exchange reserves, by foreign grants and long-term loans, and by private investment from abroad.

5. Thus, there seemed to be no reason to suppose that the typically large developing countries, as visualized twenty or fifteen years ago, could be unable to realize sufficient gains in productivity and in savings capacity so that they might, within a reasonable span of time, get over the hump of initial foreign indebtedness and balance of payments strains, and thereafter proceed on a steady course of self-sustained growth. Given the initial capacity to import the required capital goods, the application of modern science and technology, and a will to effect the necessary institutional changes, they should be able in time to attain what the more advanced countries had achieved before them.

6. Experience, however, soon showed that continued growth within such an inward-directed pattern was by no means automatic. By the early 1950's, this was clearly evident in Latin America, where the process of industrialization had gone a considerable way since the 1930's, and where the difficulties of further import substitution had already begun to be discerned. Some of the reasons for these difficulties will be discussed later in this paper; at this point, attention must first be drawn to the far-reaching changes that have taken place since the early post-war years with respect to the characteristics of the "typical" less developed country.

7. Most of the countries that have achieved their national independence in the past fifteen years are very small in terms of population, and often also in terms of territory and known resources potential. Further, they were often more retarded in their economic development than the larger countries on which attention was previously focused.

8. The size distribution shown in table 1 illustrates the changes that have taken place since 1950 -- the size of the average developing country is now two-thirds smaller, and the median developing country is now only about half as large as those of fifteen years ago. It is of course true that the weight of these numerous small countries in the total population of the less developed part of the world remains small -- less than 7 per cent of the total population, not counting mainland China. But it is equally true that the problems of economic development in many respects does not pose itself, in the international framework, in terms of the number of individuals concerned, but rather in terms of the number of national entities affected. And in these terms, it is relevant that the number of Member States of the United Nations which are commonly considered as less developed (excluding the socialist countries and the poorer countries of Europe) has grown from forty-two in 1950 to eighty-five in 1965, and that the number of developing countries with populations of less than five million (on the basis of their 1965 populations) has increased from fifteen, or slightly more than a third of this group and less than a quarter of the entire membership of the United Nations, to forty-five -- more than half of all developing countries, and nearly two fifths of all countries.

Frequency distribution of less developed countries,^{a/}
 Member States of the United Nations, in 1950 and 1965,
 by population in 1965

Size class	Number of countries		Total population in 1965 (millions)	
	1950	1965	1950	1965
0-5 millions	15	45	38	115
5-10 "	8	13	35	106
10-15 "	4	8	43	93
15-20 "	2	3	13	49
20-30 "	5	5	132	122
30-50 "	4	4	142	142
50-100 "	1	2	81	118
over 100 "	1	1	677	677
Total all countries	42	85	1,391	1,391
Median			9	9
Arithmetic mean			28	17
Geometric mean			9	9

Source: Meir Maslov, Technological Dependence, Monopoly and the Limits to Growth, chapter I (Penguin Press), 1965.

^{a/} Excluding the socialist countries and the poorer countries of Europe.

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9. The traditional approaches to industrialization, shaped in accordance with the problems posed by larger countries such as India or Pakistan on the one hand, or Brazil or Argentina on the other hand, fall into two broad groups: those which saw the maximization of total or average income as the immediate objective of development, and those which accorded priority to the alleviation of the employment problems created by rapidly growing populations. Frequently, the two were regarded as complementary if not identical. Whatever the goal that was given first priority, industrialization was generally envisaged as oriented predominantly towards the domestic market, and the policies concerning income disposition, resource allocation, the structure of production, the choice of techniques, and industrial organization, were formulated from that point of view. Expansion of exports was often recognised as essential, but it was usually considered only from the balance of payments viewpoint, and hardly ever as a significant part of the market basis for industrialization itself. Exports, accordingly, were thought of as either of the more or less traditional type, or as a spillover from import substitution and from the over-all rise in the level of domestic productivity in general. Rarely were they considered more than a residual from the development efforts directed towards the domestic market, although in specific cases of new industries the pressure of practical needs dictated it.

10. In Latin America, which had started its industrialization process earlier, disenchantment with the possibilities of sustained industrialization afforded by the import-substitution and inward-directed pattern of development set in at an early stage. It became increasingly recognised that the foreign exchange constraint on further growth was much more persistent than had originally been thought. Far from automatically alleviating the balance of payments difficulties, import substitution and the direct and indirect rise in import requirements that came in its wake tended to aggravate them, and what was first believed to be a temporary hump appeared more and more to be a continuing obstacle. At the same time, the opportunities for further investment in import-displacing industries seemed to shrink as time went on, so that growth along these lines began to run into internal barriers as well.

11. Equally, experience soon showed that the hopes placed earlier in the possibilities of easing the employment situation through industrialization had been far too sanguine. Even under favourable conditions with respect to the savings rates attainable in practice, the domestic accumulation of industrial capital usually fell far short of that needed to absorb even the increment to the labour force, let alone that required to do away with the open or disguised unemployment in the traditional sectors of the economy. Conceivably, investment could be diluted to the point where some kind of employment might be found for larger numbers, but only at the cost of forgoing all significant productivity gains. And as has been pointed out, this is not what is wanted, although in theory "any society, if it could rid itself of enough technique and capital, could keep every one of its ambulatory members fully employed grubbing for roots and berries".(1) Given the purposes and technical conditions of industrial development and the accepted patterns in which it takes place, the investment per worker needed, even for the less capital-absorbing types of production of those which still represent a meaningful shift from traditional to modern techniques of production, is much larger than that which would be consistent with the existing rates of population growth in relation to the savings ratios that can be attained in reality.

12. A simple numerical example may illustrate this point. The relationship between the full-employment growth rate G , the savings ratio S , the import coefficient M , and the capital-output ratio C may be expressed by the familiar equation $G = S(1 - M)/C$. Assuming a country with a population of 5 million and a labour force of 2.5 million, growing at no more than 1.5 per cent per annum and a per capita income of \$200, the savings ratios S and the investment per worker I/W that could be sustained with different capital-output ratios and import coefficients would be as follows, if the total savings are to create employment for the entire increment to the labour force.

Savings ratios required and sustainable investment per worker,
with different capital-output ratios and import coefficients

G	$M = 0.3$		$M = 0.5$		$M = 0.7$	
	S	I/W	S	I/W	S	I/W
2	0.043	\$1146	0.060	\$1600	0.100	\$2667
3	0.070	1704	0.090	2400	0.150	4000
4	0.093	2293	0.120	3200	0.200	5333
5	0.117	2915	0.150	4000	0.250	6667

* The bibliographical references are listed in the annex to this paper.

13. These figures may be compared with the results of some cost estimates for 113 small-scale industries prepared by the United States Agency for International Development, according to which the fixed capital needed to employ an additional worker is on the average about \$11,000, or \$7,700 if the six most capital-absorbing industries in this sample are excluded.(2) Only about a third of this investment goes for building and construction, i.e. predominantly domestic expenditure; the rest is equipment, most of which must be imported. If these estimates come close to representing the technically given lower limit of capital per worker, then any absorption of the additional labour force is out of reach on any reasonable assumptions. In this example, even if a savings ratio of 25 per cent could be attained, it would not be possible to absorb the entire increment to the labour force unless the import coefficient of investment were reduced considerably.

14. Given technology as requiring investment for industrial workers of \$11,000 or more, the crux of the problem evidently lies in the low investment multiplier which characterizes the developing countries and which particularly reflects their dependence upon imports for the supply of the capital goods they need for industrialization. In the absence of major capital transfers from abroad, only a reduction of the over-all import coefficient through an expansion of domestic income and demand can sustain the investment needed for a substantial absorption of the additional workers, within the context of current technology.

15. This reduction of the over-all import coefficient can come about either through expansion of exports or through import substitution, or both together. In the larger of the less developed countries, and particularly in those where a substantial volume of external trade had been built up before they embarked upon a process of industrialization, import substitution, which could take advantage of the protection of transportation costs and tariffs, was practically the only path envisaged for a reduction of import coefficient. In these countries, this seemed indeed to be the most rational pattern of development. As has been discussed earlier in this paper, the initial deterioration of the balance of payments which might occur because of rising import requirements in respect of the investment in the import-displacing industries was viewed as a temporary

phenomenon: as the new investment bore fruit, domestic income and demand would grow and would afford new outlets for further investment, and at the same time the import coefficient would drop. This would go on until the economy attained a stage of maturity, with full employment of resources, and with a level of foreign trade dictated by economic choice rather than by technical necessity.

16. This would indeed have been the result, were it not for the emergence of increasing obstacles to continued import substitution. These obstacles even now are not yet widely and adequately taken into account. The fact is that the opportunities presented by the industries that could be established behind the protection of high transportation costs and of tariffs not exceeding a self-defeating level, gradually became exhausted. As investment moved away from the more location-bound and simpler industries, the increase in domestic output that could be obtained for a given amount of investment tended to fall off. The resulting lag of growth of domestic income and demand, in turn, reduced the incentives and markets for further investment. At the same time, the terms of trade between the traditional exports of the less developed countries and the capital goods they needed also frequently tended to deteriorate, thus making the foreign exchange constraint on growth even more severe. To some extent, import substitution and industrial development in general could still be pushed further through various measures; the net effect of these, however, was generally to raise the economic and social cost of industrialization. Much of the burden of these higher costs had to be borne by the population at large, and in particular by the traditional peasantry and other underprivileged strata in the traditional sectors.

17. The present paper is not concerned with analyzing in detail the reasons why the continuous and self-sustained growth that was expected to result from this inward-directed pattern of industrialization has failed to materialize or has been frustratingly slower than anticipated or desired. Nonetheless, a few observations must be made on this subject in order to see in which directions industrialization must, under present circumstances, follow a different path if it is to be successful.

The technical determinants of development

18. From the viewpoint of the present discussion, it seems there are two elements in the traditional approach to industrialization which chiefly account for underrating the internal obstacles to growth that arise in an inward-directed mode of industrialization. The first is that, although industrialization is necessarily an historical process, whose shape and course depend on the specific circumstances of a given time, the concreteness of this historical dimension has nearly always been ignored. Yet in analysis and policy formation, parametric changes, which are of the essence of history, are often assumed away. The frequent assumption is that all countries will, broadly speaking, pass through the same stages of growth -- at most with variations due to innate differences -- and all will therefore end up, sooner or later, in an essentially similar condition, irrespective of when and how they start. History, in this view, repeats itself; the pattern of industrialization is really timeless, and all countries must and will go from youth and immaturity to the stage of maturity. Just as the now advanced economies have evidently managed to overcome the obstacles in their path of development, so will the developing countries be able to achieve a high level of industrialization on a similar, even if not always smooth, path of progress.

19. The second element diverting attention from the difficulties of industrialization based on import substitution is the belief that if only impeding traditional institutional restraints are done away with, growth will take place in a competitive framework. No account is taken of factors which might, under modern conditions, preclude the emergence of such a competitive structure. This implicit or explicit assumption of competitive structure is closely related to the non-historical approach mentioned in the preceding paragraph.

20. The issue can be much clarified if under-development, instead of being defined for the sake of brevity and simplicity as simply poverty, is looked at from the supply side and is regarded as consisting essentially of implanting extant, modern techniques in archaic economic structures. This is a "discrete historical process through which the economies that have already achieved a high level of development have not necessarily passed", (3) because their technical progress was essentially endogenous, while the growth

of the less developed countries of today almost wholly depends on foreign technology. This approach has the advantage of concentrating attention upon the crucial technical determinants of industrialization which, being different in different historical periods, affect both the form which industrialization can take at any given time and the degree to which the newly developing industrial structure can remain competitive, and thus maintain the pre-conditions for its continued expansion.

21. Modern techniques, on the implanting of which the less developed countries must rely for their industrialization (given the time span determined by their development goals), are largely incorporated in physical objects -- in plants and equipment. This equipment is typically imported from the more advanced countries, where it is naturally produced, like all other commodities, in adaptation to the demand in the vast internal markets of the advanced countries and to their factor proportions. The techniques embodied in this equipment largely determine how a given basket of goods can be produced at any given time, i.e. what the factor proportions will be, and on what scale it must be produced. In the advanced countries, there is a secular tendency for the scales of production to rise over time. The rise in the scale of physical output per establishment in the United States manufacturing industry between 1904 and 1947 was 15 per cent every five years, or an increase of three and a half times over the entire period. (4) At the same time, there have been revolutionary changes in the methods of making those products which have remained in demand during this period; even more important, new products, new qualities, and new designs have been introduced on a vast scale.

22. These factors have a far-reaching influence on the pattern of industrialization, making it very according to the period in which each country begins its industrial development, in accordance with the differences in the state of the techniques which are adapted from abroad. An inward-directed pattern of development will naturally lead to the adaptation -- within the limits set by the techniques available from the advanced countries -- of the product-mix, quality, design, and methods of production to the exigencies of domestic market and to its factor proportions, and to the actual state of its entrepreneurial, managerial and technical skills, as well as to other domestic factors. In pure theory and on the basis of a simple reading of the law

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of comparative advantage, such an adaptation could be considered as being in line with economic rationality.

23. According to this approach, a less developed economy should tailor its techniques and its structure of production to its relative factor endowments and to its domestic demand. If the dependence of industrial growth on imports of capital goods makes it necessary to increase exports, then these should also conform to comparative advantage, that is to say, they should be of the traditional types or very close to them in terms of their factor utilisation. The developing countries, lacking skills and being short of capital, while abundantly endowed with unskilled labour and possibly with easily exploitable natural resources, should -- according to this approach -- economise on the scarce resources and concentrate on those goods which make abundant use of unskilled labour and readily available natural resources, both in producing for the domestic market and in the exportable output. In time, the gradual accumulation of skills and capital would bring about a shift towards more advanced types of commodities and more sophisticated techniques.

24. Even under ideal conditions, it is doubtful whether these gradual structural changes would come about with the speed necessary for the actual rate of growth to be compatible with the aspirations of the developing countries. In any event, the expansibility of the traditional exports of the less developed countries, which is a pre-condition for their accelerated growth, is limited and further restricted by tariff and other obstacles placed in their way, and is thus unable to provide them with the import capacity they need for their industrialization. Their production of non-traditional commodities, on the other hand, has been predominantly geared to the domestic market, and generally fails to meet the requirements of the foreign markets in terms of costs as well as in terms of types, quality and design of goods.

25. Still, in the case of a larger developing country, it might be argued that if only the time horizon allowed for industrialization is extended, as it must be in a realistic view, the initial difficulties would ultimately be overcome and a high level of economic development, embodying modern techniques and based on a diversified productive structure, would be achieved in the end. The validity of this argument depends on whether it is safe to assume that the initial development will leave the industrial structure flexible

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enough to produce adequate and continuing technical progress, with a progressive upgrading of quality, specifications and design, and a steady reduction of the real costs of production, of the goods produced in the first instance for the domestic market, to the point where they could become fully competitive with those produced in the advanced countries.

26. Such an assumption cannot, however, be safely made when the technical determinants of industrialization are fully taken into account, and when their impact on the competitive structure is given its proper weight. The scales of output determined by the state of technique, as embodied in the equipment available from the advanced countries, generally fall within the range where they are large in relation to the existing market. The result is that almost as soon as industrial development starts on any significant scale, one finds oligopolistic and monopolistic, in place of competitive, structures. The scope of this paper does not permit a detailed analysis of this aspect except to note that such forms of industrial organization possess a high degree of structural stability and cannot be regarded merely as teething troubles of industrialisation.

27. The tendency towards a non-competitive structure of industry, arising in part from technological dependence on the more developed countries, restricts the expansion of the domestic market and thus the desired progress towards higher productivity. In the circumstances of the developing countries, these market-restricting effects can at best be offset only very partially through diversification and public investment, and the former may in fact bring about further losses in efficiency. The technological dependence initially responsible for the non-competitive industrial structures at the same time involves a dependence on imports. This has the result that, even if the erosion of competition would not tend to make investment outlets shrink -- e.g., if these effects were counteracted by public investment -- the domestic market would still expand only fractionally. Thus, progress from small-scale, high-cost production to larger-scale and correspondingly lower real costs, and from obsolescent techniques, inferior quality and design standards to the advanced techniques, the quality and the designs required for successful competition abroad, cannot be expected to be achieved on a wide enough scale, and the facts supports this conclusion. The general

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tendency is for technical backwardness to lead to more technical backwardness and for the domestic orientation of industrialization to perpetuate itself.

28. Nevertheless, if a country had an initial domestic market large enough to sustain the introduction of modern, large-scale techniques — possibly with modifications of the technical coefficient to allow for the differences in relative factor prices by comparison with those ruling in the countries where these techniques originated — together with a substantially competitive structure, or if it had an efficient system of planning, which would force the adoption of the most efficient techniques that the market could sustain, irrespective of their effects on employment or market structure, or if the public development effort could effectively reduce the technically necessary dependence upon imports and promote the indigenous development of capital goods, an initial orientation towards the domestic market might not preclude steady, self-sustained growth. These conditions, difficult in themselves, can at best be approached only in the larger and more industrially advanced among the developing countries. In the smaller and poorer countries, in the presence of a foreign exchange constraint on growth, industrialization based on orientation towards the domestic market cannot be expected to lead to significant spillovers of exportables. In fact, the productive structure often is not viable even for the domestic market unless given a high degree of protection against foreign competition. And an industry which needs such protection is obviously not competitive abroad.

29. The new situation in which the majority of the newly independent developing countries are exceedingly small by any economic yardstick, compared with the countries which a decade and a half ago were considered as typical, therefore seems to require a re-examination of the pattern of industrialization that can and ought to be adopted. In what follows, only a few aspects of this complex problem will be singled out for discussion, mainly because of their immediate policy implications, and even these will have to be treated very briefly: first, the difficulties encountered in expansion of the so-called traditional exports; second, the choice of products and techniques;

and third, the role of the public sector and of planning in achieving an export-oriented pattern of industrialisation.

Difficulties in the expansion of traditional exports

30. As is well known, the developing countries have run into serious difficulties in expanding their revenues from traditional exports -- mainly primary goods and, to some extent, manufactured goods of a simple and low degree of fabrication. These difficulties have been discussed mainly in terms of obstacles on the demand side. In part, these are due to objective causes, such as the low income elasticity of demand for many primary goods as well as simple manufactures, the substitution of man-made materials for natural products and the materials-saving effects of technical progress. In part -- particularly in regard to manufactured goods -- they are artificial barriers to trade, of which more will be said later.

31. The insufficient growth in the export revenues of the developing countries, as reflected in the statistics for the period 1950-1965, becomes more apparent when the data on the aggregate trade flows between developing and developed countries are broken down and considered in somewhat greater detail. The statistics on trade in all commodities between these two groups of countries seem to show that the import capacity of the developing countries rose in this period at an average annual rate of 1.3 per cent, but when fuels are excluded from the calculation, the growth rate falls to 1.6 per cent. Furthermore, for the developing countries, the capacity to import machinery is obviously of special importance, and in this respect the data seem to indicate no improvement at all during this sixteen-year period. Despite an annual increase of 1 per cent in the quantity of their total exports, and of 1.2 per cent if fuels are excluded, adverse price trends have made it impossible for the developing countries to increase, in this period, their capacity to import machinery. Although the statistical significance of these figures is less because of the short period covered, their relative magnitudes and directions of change are highly suggestive. (1)

Despite the obvious difficulties on the demand side, which are partly reflected in these data, the proposition is still sometimes put forward, on various grounds, that the less developed countries might lift the foreign exchange restraint on their industrialization by expanding their exports of primary goods. The same reasoning, based on the law of comparative advantage, is extended to the so-called resource-based, or "processing" industries, where the obstacles applying to primary goods on the demand side are less severe in some respects although perhaps more severe in others.

But this suggestion often overlooks the fact that the major problem of the developing countries is to increase their export capacity, not to expand exports from unutilized productive capacity. Natural resources are not factors of production, but become so only after prior investments have been made to make them accessible. (6) These investments may sometimes have a very long, or even infinite economic lifetime, so that while the capital intensity of current production may be low, in fact the investment-output ratio for primary products may be very high. Even in the favourable case, where land or mineral resources in the unexploited state exist, it will therefore require much capital to make them economically available. In other words, considering their relative factor proportions and ignoring the demand side, the developing countries may have a comparative advantage in the current production of primary goods provided that the necessary investment is already made; but because of their paucity of capital, they will be at a comparative disadvantage in developing them. And to the extent that the natural resources still have to be developed, the same will be true, other things equal, of the processing industries based upon them.

The developing country's shortage of domestic savings might not be an obstacle to the development of such natural resources, if the capital required could be attracted from abroad. But such foreign investments in natural resources, often of a depletable nature, raise problems of their own which are beyond the scope of this paper. Unless these problems are solved by mutual adjustments of the investors and the developing countries, the foreign investment may remain enclaves in the developing countries rather than the generators of self-sustaining industrialization.

35. In this respect also, the difference between the large and the small developing countries is relevant. There is no necessary connexion between size of population and natural resource endowment, but the investment necessary to develop the existing reserves of natural resources is often not only high in relation to output, but also lumpy because of indivisibilities in production or in commerce. A country which can draw on the savings of a large population, even if poor, is better placed to accumulate the big lumps of capital required, if it chooses to develop along these lines, than a smaller country.

36. It is in any case now widely agreed that, the developing countries cannot rely on the expansion of primary exports to provide further import requirements arising from industrialization. In the case of manufactured and semi-manufactured goods, barriers on the demand side are formidable, and this has led to the proposals that the artificial restrictions on trade be removed, or even that tariff preferences be given to the less developed countries, so that they may enter the markets of the advanced countries with just those manufactured goods which are eminently a spillover from their import substitution.

37. The question whether the latter class of exports can be expanded, and whether the access for them in the potential importing countries can be widened, is a practical one, not one of economic reasoning. If the advanced countries feel politically, socially and economically able and willing to abandon or reduce the protection of their domestic production of goods such as textiles, or to modify their tariff schedules now effectively discriminating against processed imports, there would be a wide field of expansion for exports from the developing countries. A shift of the producers in the advanced countries away from these industries would no doubt go very far in alleviating the balance of payments difficulties of the less developed countries before they could come up against the limits imposed by the low income elasticity of demand for these goods. But there certainly can be no assurance that this will happen, and the adjustment problems of the advanced countries are by no means negligible.

38. It is not even certain that the mere removal of trade restrictions, or the institution of preferences for imports in the advanced countries, would vacate an economic space which the developing countries could fill. It is equally possible -- and there are already indications of such a trend -- that these industries in the advanced countries would respond to the shock of exposure to competitive imports by introducing technical innovations, such as higher levels of mechanisation and automation. These techniques, of course, could be adopted also by the less developed countries, but they are not so well placed in this respect. Their exports in that case would no longer be a spillover from production primarily geared to their domestic markets, but would be based on a technology essentially dictated by the requirements of competition in the foreign market, and presumably out of step with the factor endowments of the less developed economies, and the requirements of their domestic market. In that case, the developing countries might then just as well have produced any other goods which had no sizable base in the domestic market and which might have higher income elasticities of demand abroad and meet with fewer institutional barriers to trade. This leads to the problems related to the choice of product-mix and of techniques, and their connexion with the orientation of industrialisation towards the domestic as against the foreign market.

Market orientation, product-mix and choice of techniques

39. The structure of production, on the most aggregate level, reflects the allocation of resources between consumption and investment. In the developing countries, exports substitute for the domestic production of capital goods, in that they alone make it possible to convert domestic savings into investments. The orientation of industrial development towards the domestic market, which has in practice been the main path of growth along the line of least short-run resistance, affects the structure of production in two important ways. First, it weights it heavily with products which, because national income levels are low, still have a high income elasticity of demand at home, but the markets for which tend by the same token to be saturated in the richer countries. Thus, even after the domestic demand for these products becomes less elastic with respect to income, the surpluses which then become available can be converted into exports, i.e. create the capacity to import investment goods, only with great difficulty because demand conditions abroad are adverse.

40. A second way in which the domestic orientation of industrialization affects the productive structure is less obvious, but is nonetheless highly important for the ability to expand from exclusively domestic sales into exports. The domestic market of a developing country may tend to become broadly similar to markets abroad as far as composition by commodities is concerned, but even when domestic production is not artificially shielded, significant differences in the nature of the products, their design and quality, are bound to appear. The requirements of the foreign market are everywhere considered more stringent than those of the domestic market. This applies even for trade among the developed countries. Between countries of a similar level of income, and having a high degree of cultural affinity, these differences may be relatively minor and may not affect the basic methods of production. The disparities which exist in this respect between the developing and the advanced countries are much greater, and very often involve different techniques of production. A productive structure geared to the requirements of the domestic market and producing goods which are perfectly acceptable there, therefore will often not be able to produce for the foreign market without changing its techniques of production, even if the products satisfy essentially similar wants. A spillover from domestic production into exports thus cannot generally be expected to be a simple matter; on the contrary, the initial orientation towards demand conditions at home may make it all the more difficult to export later. To sum up briefly: a domestically oriented productive structure is primarily a consumption-oriented productive structure, a system with a built-in low rate of investment.

41. It is natural to assume that the simpler techniques needed to satisfy the domestic market are easier to learn and will serve as a stepping stone towards further technical progress and refinement of skills. The possibility cannot be excluded, however, that the acquisition of the simpler technology may produce an inertia or vested interests which may become obstacles to the transition to a more complex one. In any case, the differences subsequent of techniques relate as much to the type of equipment installed as to the skills involved in operating it. Simpler, and presumably a smaller amount of, or less costly, equipment may suffice initially in order to supply the domestic market.

but if the goods that can be produced with it are unsuitable for export, a new productive set-up with different plant and equipment may be needed for the foreign market. Such a shift may make prohibitive the cost of shifting into export production. It might be possible for export production to be concentrated in new firms, emerging on the margin of growth, which would adopt the appropriate techniques. But such a specialization within the same industry -- with some firms producing primarily for the domestic markets, and others mainly for export -- will not be practicable in most instances, and would in any case again not be a direct spillover from domestic production in the usual sense.

42. In so far as techniques of production are specific to a certain product-mix, orientation towards the domestic market will thus make them more or less inadequate for the different and more stringent demands of the foreign market, either in terms of the best utilisation of the market possibilities there, or in terms of the factors affecting quality, or both. An industrial structure, once established, is in the nature of things long-lived and not easily modifiable; if it has been adapted to a domestic market which differs significantly from the demand characteristics of the foreign market, no substantial spillover into exports can be expected. Historical examples to the contrary from the earlier days of the industrial revolution are not conclusive since the earlier technological conditions of economic development and the structure of international trade were highly different.

43. The choice of techniques, when it does not relate to differences in product-mix, involves different methods of producing identical goods. In this sense, it has a close bearing on the scale of production and on the level of real costs. Although the commodity structure of demand broadly determines the methods of production that can be adopted, there is often a certain range within which techniques can be varied. Differences in relative factor prices and various other factors will affect the particular technique chosen, and, obviously, the higher the protection against competition that a given industry enjoys, the lower the minimum level of efficiency that must be attained. The kind of competition that comes to mind immediately in this connection is that from imports, against which high-cost domestic industry can become competitive under the protection of transportation costs, tariffs and a variety of subsidies.

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Such industries will by definition not become competitive in exports unless there are factors at work that will gradually bring down the level of real costs.

44. In part, the factors making for high-cost production result from the infant status of the new industries, and these might be expected to disappear in time; in part, however, they are connected with the scale of output, which is closely related to the choice of techniques. Once a given variant of technique is chosen, the scale of output is also determined and, thus, market shares are also determined. These are structural, long-term factors which do not change easily or rapidly, and they have an important influence on the degree to which the domestic market can expand continuously.

45. The point has often been made that, in general, the markets of the less developed countries are too small to sustain efficient, large-scale methods of production, so that import substitution creates a vicious circle of small markets enforcing production at high cost, and the latter in turn precluding a widening of the market through exports and thus the ultimate lowering of the cost level through attainment of economies of size. This is no doubt true as far as it goes, but it fails to explain why the internal markets of the developing countries do not expand in the course of time, as development goes on, to the point where they could sustain the more efficient techniques that would make their products competitive abroad.

46. Two reasons why the domestic market in a less developed country tends only to expand slowly have already been mentioned earlier: on the one hand, domestic income and demand increase less than is warranted by the volume of investment that is going on at any given time because a large fraction of it must take the form of imports; and on the other hand, the introduction of modern techniques which are the essence of industrial development, and which are embodied in plant and equipment designed for the much larger markets of the advanced countries, tends to create non-competitive market structures.

47. The oligopolies and monopolies or quasi-monopolies which emerge in these conditions are not -- as they often are in advanced countries -- the end result of a long competitive struggle in which the less efficient firms and methods of production have had to yield to the more efficient, thus leading to a market structure which although restrictive, yet possesses a high level of technical efficiency. They are, rather, the outcome of the initial transplantation of a foreign technique, and are usually the most advanced

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and efficient of those available. Thus, the oligopolies of the developing countries may be giants in their small domestic markets, but at the same time are often pygmies by comparison with their potential competitors in the advanced countries. In the export market, therefore, they are unlikely to be competitive in terms of their cost level as well as in terms of the other factors deriving from their domestic orientation, as mentioned earlier. Furthermore, being dependent on essentially imitative techniques to begin with, and being small in absolute terms, they do not -- unlike their counterparts in the advanced countries -- possess the internal resources to produce further technical progress, while at the same time their relative size at home gives them a market position which does not put them under constant pressure to do so and which impedes the entry of others who, if the existing markets had not already been pre-empted, might have achieved a higher level of efficiency.

48. These tendencies have been pointed out even in the larger among the developing countries and, as noted before, there are indications that the scales of output to which the techniques developed in the advanced countries are adapted tend to rise fairly rapidly over time, so that the disparity between them and the size of the markets in the less developed countries increases. But evidently, the larger and relatively less poor countries can sustain larger scales of output without producing high degrees of market concentration. Hence, in such countries, the gap between the cost level of domestic producers, compared with their potential competitors abroad is smaller. Furthermore, compensatory measures which might be taken by the Government always involve a cost, and a larger country is better placed to bear these costs.

49. The difficulties arising from the disparity between the scales of output that technology permits and the size of markets, and arising from the dependence upon imports of capital goods, are, in the nature of the case, most severe in the smaller and poorer among the developing countries. Therefore, the efforts to overcome these difficulties must correspondingly be greater, while at the same time a realistic appraisal makes it necessary to recognise that the possibilities are smaller. In what follows, an attempt will be made to outline broadly what the general direction of these efforts might be, although it is clearly realised that development problems always arise in the concrete, and that the actual policies adopted must vary in each case according to circumstances.

Directions of an export-oriented industrialization effort

50. Mention was made above of the difficulties faced by the developing countries in expanding their exports of primary products. On the supply side, similar difficulties exist with respect to the production of semi-manufactures, in the case of the conversion of primary products that are already being exported into more highly processed goods. No generally valid argument can be made either in favour of or against such processing, except to say that their comparative advantage cannot be taken for granted merely on the grounds that they are based on domestic raw materials. Each stage of processing must be judged as a distinct industry and on its own merits. It may well be that there is a comparative advantage in producing and exporting the raw materials, whereas the next stage of fabrication may be less advantageous than some other industry that may perhaps be based on imported raw materials. However, in stating this, it should be remembered that this paper is not dealing with artificial restrictions on the entry of more highly processed forms of import goods from the developing countries which are implied in the effective tariff schedules of the more advanced countries.

51. In many cases, however, it is not the further processing of a primary product now exported that is at issue, but the development of the raw materials supply together with the fabrication stage. The large capital requirements and likely need for foreign investment in such cases has been mentioned previously in this paper.

52. On a static view, there is no difference between the saving of foreign exchange through import substitution or its earning through exports. But experience has shown that the foreign exchange constraint on growth is of much longer duration than was originally supposed, and that import substitution does not provide an adequate solution for the balance of payments problem. Furthermore, the markets of many of today's developing countries are much smaller than those which started their development in an earlier period. An adequate base for industrialization therefore cannot be found in domestic demand alone. Instead of adapting their industrial structure to the requirements of demand, instead of favouring those products for which demand at home is highly elastic with respect to income, industrialization must be more oriented towards

these products which enjoy favourable demand conditions abroad.

53. This does not mean that there is no room for a substantial adaptation of the productive structure to the factor proportions and demand conditions at home. In any country, there will always be a large number of industries, the products of which do not normally enter into international trade. Their products will naturally be adapted to the needs of the domestic market, and the choice of technique for them will also be wider. Not so, however, in those industries which, being import substitutes, belong by definition to the categories which enter into international trade. Here a change in market orientation will necessarily produce differences in the commodity composition of the productive structure that is being set up, both in terms of the broad categories of goods that are being produced, and in terms of the detailed specifications of these products. An orientation of industrialization towards those products for which demand abroad is rapidly expanding usually means that domestic demand for them, which is based on a lower income level, is still limited for the time being. Therefore, instead of a spillover from domestic production into exports, as expected in the conventional image of industrial development, the opposite sequence must be expected and aimed at. As domestic demand grows, the goods initially produced for the foreign market begin to enter domestic demand on a larger scale, and a spillover into the home market can occur.

54. In practice, the processes of exportation and import substitution will often have to be simultaneous, particularly in those industries where essentially similar products are involved and a domestic orientation mainly reflects itself in variations of design or differences of quality standards. Here, production can be geared relatively easily to the requirements of the foreign market, and it can safely be assumed that the goods produced for export will be acceptable also in the domestic market, whereas the opposite is generally not true. In many cases, too, production for the export market will yield a certain proportion of output which cannot be sold abroad but which may be satisfactory for the less discriminating domestic market. By contrast, when the top quality standards aimed at are no higher than what the domestic market will find acceptable, no exportable output at all may be produced.

55. Of even greater importance is the choice of technique in so far as it determines the scale of production. In order to allow advantages of factor costs to express themselves in cost advantages of the final product, and thus become competitive in the export market, a technique must be chosen which is similar to that used by these competitors. Highly different factor prices may permit some variation, for in order to be competitive it may not be necessary to make use of the full differential in factor costs, and some of its advantages may be traded off against some degree of lower technical efficiency. Within these limits, however, — which must be evaluated from a long-term viewpoint, taking into account possible future changes in factor costs and further technical progress by the competitors—the technique and scale will be determined by the cost level that must be attained in order to meet the prices ruling abroad, and not by the costs which can be sustained in the domestic market.

56. If there is a substantial difference between domestic and foreign prices, and if there is a policy of restricting the domestic sales of such commodities, simultaneous production for the domestic and the foreign markets makes it possible to resort to differential pricing. When the domestic market, at the prices established by the alternative imports, is large enough to provide a significant subsidization of exports by the domestic consumers of the same products, this again may make it possible to forgo some advantages of technical efficiency and scale, although from a welfare point of view it would be preferable to have the costs of such export subsidies borne by the domestic economy in general, rather than by the users of the particular goods which happen to be exportable.

57. The goods which have a high income elasticity of demand in the foreign market are usually those which are to be found on the margin of growth of a sophisticated demand structure, and frequently they also involve sophisticated techniques of production. Among consumer goods, they include the latest innovations of durable goods, which are often technically complex and require a large scale of production, or commodities which derive their consumer appeal from variations in design which presupposing an extensive knowledge of prevailing tastes and the resources, organization and ability to carry out large-scale sales promotion. Among the intermediate goods, such as semi-manufactures or

components, production is less exposed to the vagaries of changing tastes -- which are difficult to follow and even more difficult to influence from a distance -- and, by comparison with consumers' durables, probably requires a less diversified and complex industrial supporting productive structure. With respect to semi-manufactured raw materials, however, the requirements of large scale are similar, while in regard to components the standards of quality and precision which must be maintained are usually strict. Production for export in all these lines must therefore strive to minimize the gap in techniques and scale of production as compared with potential competitors.

58. It would not be realistic to believe that the developing countries with their own national resources of technology and management can enter into the production of the most sophisticated branches of industry on equal terms with their competitors in the advanced countries. The latter are by definition technically leading, and the best that the developing countries can expect to accomplish themselves during their stage of early growth is to follow and adapt successfully. Nevertheless, it makes a considerable difference whether a country tries to attain the most advanced techniques which in practice can be absorbed within the limits set by the skills that are available or can be developed as an integral part of the industrialization effort, or whether a less developed country attempts, by orientation towards what the domestic market will tolerate, to save on capital in the short run, to disperse it, or to maximize employment rather than output, through the introduction of inferior techniques and small scale. In the former case, the country will exploit its objective opportunities to the fullest extent, and because its choice of techniques and scale is governed by the external market, which for all practical purposes is unlimited, a basis will be created for further progress, whereas the latter course will more often than not produce built-in deterrents to subsequent development.

59. The limited capability of a developing country to absorb the best available techniques of production and their associated scales of output leads to a dilution of technique where development is industrial-oriented, because in order to save foreign exchange through import substitution it is necessary to spread domestic production over as wide as possible a spectrum of commodities and industries; if the scale or the specific

nature of domestic demand does not require, or cannot sustain, the most efficient techniques, then industrialization will resort to obsolescent methods. The advantage usually claimed for the use of techniques other than the most up-to-date is that they save on capital or require less skill. Neither of these assumptions is necessarily true for the economy as a whole, but it should be emphasized that in the case of an export-oriented pattern of industrialization, which is not restricted by the extent of the market, a higher degree of specialization is possible. The differences in the capacity to absorb technique will, in other words, be reflected in the choice of the goods to be produced and exported, rather than in acquiescence in substantial gaps of technology and cost levels across a wide spectrum of industries.

60. The high degree of specialization implied in a pronounced export orientation of industrial development undoubtedly carries a considerable risk, for the economy as a whole and even more for individual producers. The real alternative, however, is not a similar degree of industrial development with less risk, but the acceptance of a slower rate of industrialization. Even among the advanced countries, the smaller ones are more dependent on foreign trade, and the developing countries cannot hope to be an exception to this rule. For the economy as a whole, the risk of a high dependence on exports can be reduced by efforts to spread exports over many markets, but since there is usually a minimum scale on which entry into any one market is feasible, this will generally require a larger scale of output than would be required with a higher degree of concentration on a few markets. The reduction of risk to the individual producer can, up to a limit, be achieved through various forms of insurance, and for certain types of risk or beyond certain limits, this may require government support.

61. An important factor which reduces the rate of expansion of the domestic market in national income, is the dependence of the developing countries on imports of equipment. These imports differ from others in that they are technically unobtainable as long as the developing country is not yet able to produce its own capital goods. At the same time, import substitution in this area is much more difficult than with respect to other commodities. This is not only because the production of capital goods requires considerably higher skills and because domestic demand for these goods is much more sensitive to

quality differences, but also because the limited size of the market affects these goods more than the final products. A narrow market for final products represents an even more restricted market for the machines to make them, both in terms of the scale of output in any given line, and in terms of the range of the capital goods that can be produced.

62. The production of capital goods, however, plays a special role in the industrialisation process. Not only are these goods the instrument by which investment creates its own markets and facilitates sustained growth, but they are also the main breeding ground for new skills and the vehicle for introduction of new techniques. It is often recommended that the developing countries should endeavour to develop their own specific technologies, and should adapt those they borrow from the advanced countries to their own conditions and requirements. Although in the early stages of development, successful imitation is probably a difficult enough task, the domestic production of equipment facilitates the adaptation of imported techniques to domestic conditions.

63. The importance of the capital goods sector for successful and self-sustaining industrialisation makes it necessary to devote special efforts to its development, and to overcome the difficulties encountered in this area. The domestic market is nearly always inadequate for a competitive development of the capital goods industries, so that an effort at import substitution can hope for success only if it is simultaneous with production for the foreign market. At first glance, exports of capital goods from developing countries may seem to be an utopian goal. The production of capital goods makes particularly heavy demands on skills, of which the developing countries are short, and demand conditions for these goods are much stricter not only abroad but also at home. But a closer look at the capital goods industries, and at the list of products actually imported by the developing countries reveals that they include a wide range of fairly simple products; a number of these, from the point of view of complexity of their production processes, are not further out of reach than many final products.

64. The foreign trade of the developing countries is often viewed, and with considerable justification, mainly as an exchange with the more advanced countries. This

accords, by and large, with the development of their international trade in past decades. The great diversity among the developing countries, in terms of their levels of economic development, and the small size of many of them, nevertheless should make it possible to re-establish a broader network of mutual trade. In no area does this seem to be more called for than in the production and trade of capital goods. Furthermore, just as it is a waste of resources for the advanced countries to produce not only the most sophisticated, but also the simplest, of the capital goods for the developing countries, so is it a waste of resources, from their national as well as from the international standpoint, for them to produce the great variety of simple tools, components and accessories which serve as inputs for their own production. By contrast with many of the final-product industries, the skills and capital goods needed to produce these commodities are less specialised, and can be more easily converted from one line of production to another. The problems created by a re-structuring of the international division of labour in the traditional industries, such as textiles, in which the less developed countries have so far tried to expand their exports, are likely to be less severe in some of the sub-branches of the capital goods industries.

65. The evidence available for the development of various categories of exports of manufactures from developing countries tends to show that growth has, in fact, been most rapid in the capital goods industries. In part, the high rates of growth revealed by data are simply a reflection of the fact that they started from a low base, but to some degree the increase must also be attributed to the more favourable demand conditions confronting them abroad. It is reasonable to assume that the demand for capital goods is governed by more rational considerations than that for many consumers' goods; the tariff rates and other trade barriers tend for the time being to be lower than for other commodities, and the share of transport costs in their final value is among the lowest of all commodity classes. In addition, by contrast to many other product groups, the capital goods industries are generally not highly concentrated, and least so in the international market.

66. Nevertheless, the development of a capital goods industry as such will often be a very arduous task, especially in view of a particularly wide disparity between present

and social profitability in this sector. If the private profitability of the production of capital goods is insufficient to call forth enough private enterprise, while from the social viewpoint they are necessary and justifiable, then there may be a case for strong public support for these industries or for production by the public sector, even in an economy which is essentially of a private-enterprise character.

67. Exports are in the nature of things more risky than production for the domestic market, which is a more familiar one and in which demand can often be manipulated to a considerable extent. Reduction of private export risk with the help of public support has already been mentioned. But the riskiness of exports also has wider repercussions, in that private entrepreneurs will usually be reluctant to invest in industries which depend for a major part of their revenue on the external market. In order to achieve an export-oriented direction of industrialization, the Government may therefore have to provide relatively strong incentives to induce entrepreneurs to undertake ventures of this kind, and in many cases the Government may even have to prime such a direction by helping to initiate certain industries on its own. This is in addition to the various supporting activities which Governments normally undertake in the field of export promotion and development. It must be recognized that public enterprise in export industries raises a number of problems of its own.

68. The difficulties of industrialization in the smaller developing countries, and also the bottlenecks to further import substitution in the larger countries among them, have not gone unrecognized, of course, and one of the main ways in which a solution for them is being sought is through various schemes and proposals for regional co-operation. One obvious conclusion is that if much of the difficulty lies in the small size of initial markets, then any measure that will expand the market opportunities for investment and will permit a higher degree of specialization, will alleviate the problem. At the same time, it must be borne in mind that unless regional co-operation itself assumes an export-oriented form, in the sense that the industries that are to be set up on a regional basis will plan to produce to a substantial degree for the extra-regional market, it will merely mean that import substitution is raised to a somewhat higher level, unless the area of regional co-operation is large enough and intense specialization

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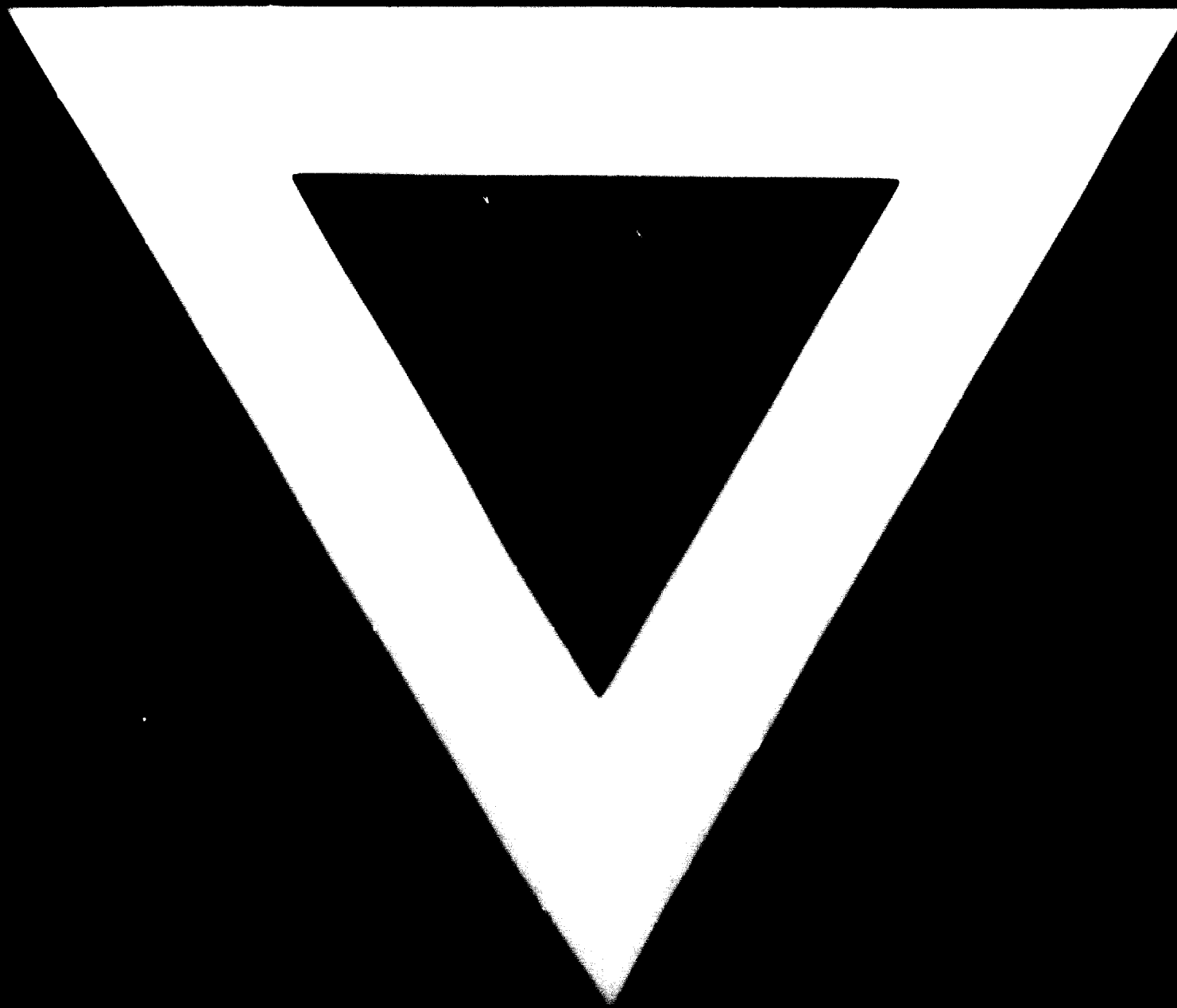
occurs within that area. In fact, some of the schemes of regional co-operation involve a relatively small number of countries with small populations. Even if they can successfully combine and pool their resources, regional co-operation provides no basic solution. A change in the basic orientation will still be required if development is to go on unimpeded. Although regional co-operation cannot be considered as a complete alternative to an export-oriented pattern of industrialization, it is certainly helpful for the latter. All the risks and difficulties involved in export-oriented industrialisation can be considerably reduced if it is undertaken from a broader basis than that of the small national markets of so many of today's less developed countries.

69. The conclusion from the foregoing discussion is that if the developing countries are to achieve an export-oriented industrialization, which alone seems a favourable pattern for ensuring its continued growth, far-reaching measures will be required, in the developing countries, in the advanced countries, and in international co-operation. These will require active government participation and guidance. The difficulties of making the needed export orientation possible through improved access, although not discussed in this paper, can be solved only on the basis of such co-operation.

ANNEX

List of Documentary References

- (1) John P. Lewis, Quiet Crisis in India, The Brookings Institution, Washington, D.C., 1962, p.203.
- (2) Agency for International Aid, Catalog of Investment Information Opportunities, Industry Profiles, United States Department of State, Washington, D.C.
- (3) Celso Furtado, Development and Underdevelopment, University of California Press, Berkeley, 1964, p.189.
- (4) Saul S. Sonds, "Changes in Scale of Production in United States Manufacturing Industry, 1904-1947", The Review of Economics and Statistics, vol. XLIII, November 1961.
- (5) Heinz Marbet, Technological Dependence, Monopoly and the Limits to Growth, chapter V, Pergamon Press, 1966.
- (6) Ramsey Robinson, "Factor Proportions and Comparative Advantage", Parts I and II, The Quarterly Journal of Economics, vol. LXX, May 1956 and August 1956.



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