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PROBLEMS AND PROSPECTS OF THE TEXTILE INDUSTRY IN LATIN AMERICA

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Contents

/Index of

Index of Tables

THE TEXTILE INDUSTRY*

Introduction

Among the various sectors of manufacturing industry, ECLA has focused special attention on textiles. As early as 1951 a study was completed on the labour productivity of the cotton textile industry in five countries of the region. 1/ In the study the various technical factors affecting that branch of the textile industry were analysed. On that occasion, perhaps for the first time in Latin America, systematic calculations were made to measure the incidence of the different factors (operation, type of equipment and mill size) in the level of productivity. On the basis of a representative sample of mills, both old and up-to-date, it was established that the existing low productivity levels could be improved largely through changes in the present methods of work.

Subsequently, following the establishment of the Latin American Free-Trade Area, textile manufacturers expressed interest in ascertaining the position of the textile industry, on a comparative basis, in the different countries of the region. Accordingly, ECLA embarked on a project designed to examine the evolution of the industry and its operating conditions, with a view to providing the background data for concerted action aimed at the liberalization of trade in textiles. So far, studies have been published on the textile industry in Chile, Brazil, Colombia, Uruguay, Peru and Bolivia, 2/ and provisional versions of those on Argentina, Ecuador and Venezuela are available. Based on direct surveys, these studies present data on the inventory of machinery, its degree of up-to-dateness and utilization, and on labour productivity and the utilization of raw materials. The cost factors are also analysed with the object of determining the areas in which costs could be reduced. The reports on Paraguay and Mexico are in course of preparation, and these will complete the country studies. They will be followed by a regional report on the textile industry in Latin America, which will embody, on a comparative basis, the main findings of the earlier studies and will project the probable future development of the textile industry in the region. This report, together with the separate country studies, could serve as the point of departure for action at both the national and international level to solve the industry's problems mentioned in the above reports. At the same time, the information provided - much of which is being produced for the first time - will be useful to all those concerned with the textile industry. By way of supplementing the above-mentioned studies, a provisional document was prepared on the

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* A preliminary Spanish version of this document was contained in a report on the main sectors of industry in Latin America (E/CN.12/718), presented to ECLA's eleventh session in May 1965.

1/ Labour productivity of the cotton textile industry in five Latin American countries (United Nations publication, Sales N° 1951-II.G.2).

2/ La industria textil en América Latina, I. Chile, III. Colombia, IV. Uruguay, V. Perú, VI. Bolivia; and The textile industry in Latin America, II. Brazil.

programming of the textile industry, 3/ and another on the economies of scale in that sector. 4/ It is hoped in the future to revise and complete these studies in other respects, such as the selection of techniques, 5/ which would also serve as background data for the reorganization and structural reform of Latin America's textile industry.

A. BALANCE OF SUPPLY AND DEMAND

1. Demand trends and level of domestic supply

The textile industry continues to be one of the major sectors of Latin America's manufacturing industry as a whole, notwithstanding the rapid growth of new manufacturing activities which tend to reduce, in relative terms, the proportion accounted for by textiles. In the whole region, the textile industry contributes nearly one sixth of the value of total manufacturing output, although the proportion differs widely between one country and another in line with the industrialization and import substitution levels reached in respect of textiles. To give some idea of the magnitudes noted, suffice it to say that the value of Latin America's textile production in 1960 was estimated at the equivalent of 3,200 million dollars. In physical terms, the output, expressed in fibres, was about 800,000 tons. By 1964, assuming that past trends have persisted, these figures should have reached some 3,700 million dollars and 925,000 tons, respectively; but, according to the provisional data presented below, this does not appear to have been the case, the estimates falling slightly short of those levels.

The apparent consumption of textiles during 1960 has been calculated at about 900,000 tons; hence, domestic production supplied practically 90 per cent of demand. This proportion has remained relatively stable during the last few years, following a gradual increase in the early post-war period.

The level of self-supply is higher in cotton products, the average for Latin America being over 90 per cent and in certain countries, such as Argentina, Brazil, Chile, Colombia and Mexico, it is virtually 100 per cent. In the case of wool, the domestic output of the Latin American countries as a whole also exceeds 90 per cent of consumption, but there are marked disparities between the various countries. Thus, for example, Argentina, Brazil and Uruguay cover their total consumer needs, whereas Colombia, Ecuador and Venezuela supply only a limited

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3/ Elementos de una metodología para la programación sectorial de industrias tradicionales: la industria textil (ST/ECLA/CONF.11/L.21).

4/ Economías de escala en la industria textil (ST/ECLA/CONF.11/L.20).

5/ Selection of techniques and manpower absorption (ST/ECLA/CONF.11/L.3).

proportion of them. Self-sufficiency is lower in artificial fibres, with production supplying an average of 70 per cent of consumption, and lower still in synthetic fibres whose total production fluctuates around 50 per cent of apparent consumption.

It should be noted that in the fifties the increase in the consumption - and, consequently, in the production of textiles - was very slow, barely keeping up with the population growth, with the result that per capita consumption remained practically stationary. It has been observed, too, that the relative prices of textiles tend to be high and that, in the face of a fairly marked price elasticity, this circumstance has helped to curb consumption.

This stagnation is even more significant if Latin America is compared with other developing regions, in all of which per capita consumption soared between 1950 and 1960 (see table 1).

In Latin America per capita consumption expanded by only 2.5 per cent during the period under review, as against 72.7 per cent, 130.7 per cent and 21.4 per cent in the Middle East, the Far East and Africa, respectively. Western and Eastern Europe also made noteworthy progress, considering the consumption levels already attained in those areas. Only North America, where the level of consumption is four times that of Latin America, followed a downward trend, influenced by the structure of consumption, which leaned towards lighter products and synthetic fibres.

The deterioration in Latin America's relative position is evident if it is considered that while the per capita consumption of 4 kg in 1950 was 2 per cent above the world average of 3.9 kg, the 1960 level of 4.1 kg brought the region 19 per cent below the average, which had risen to 5.1 kg per head during the decade.

The trends described above persisted during the early sixties. Thus, between 1960 and 1962 the region's total consumption increased by barely 3.5 per cent, and production by 4.5 per cent over the same period. However, from 1963 onwards a more favourable trend is discernible in certain countries, with the notable exception of Brazil where, according to provisional information, there seems to have been a levelling-out, or even a drop, in production which would tend to offset for the region as a whole the advances made by other countries. Although the statistics available are as yet incomplete, certain partial indicators reflect this change. For example, Argentina whose industry was affected by the economic depression experienced by that country in 1962 and 1963, recorded an increase in 1964 of 29 per cent in the output of its cotton sector and 80 per cent in that of artificial and synthetic fibres with respect to 1963.

Mexico's textile production, after being at a standstill since 1959, began to recover in 1962, and in 1963 it made rapid strides, attaining a growth of 7 per cent in cotton textiles and 35 per cent in artificial and synthetic fibres in the course of two years. The data for Chile indicate that in this country, too, production expanded rapidly following several

/Table 1

Table 1

PER CAPITA CONSUMPTION OF TEXTILES
(Index: 1950 = 100)

Area	1950 (kilogrammes)	1960 (kilogrammes)
North America	100	91.7
Oceania	100	100.0
Western Europe	100	129.2
Eastern Europe and USSR	100	202.3
Latin America	100	102.5
Middle East	100	172.7
Far East	100	230.7
Africa	100	121.4
World	100	129.3
Latin America as a percentage of the world average	102.0	80.9

Source: ECLA, La industria textil en América Latina, I. Chile, III. Colombia, IV. Uruguay, V. Perú, VI. Bolivia, and The textile industry in Latin America, II. Brazil; the studies on Argentina, Venezuela, Ecuador, Paraguay and Mexico are in course of preparation.

/years of

years of stagnation, an increase of over 20 per cent being recorded between 1961 and 1963, though partly offset by a drop of 6 per cent in 1964. In Peru and Venezuela production pursued its rising trend, as a result of larger-scale import substitution rather than of an increase in consumption.

The improvement indicated above, besides constituting a recovery from the low growth rate attained in previous years, was no doubt also influenced by the recent innovations - already a feature of the textile industry in the highly industrialized countries -, especially as regards the introduction of synthetic fibres and products consisting of mixtures of these fibres.

The stagnation of consumption is largely attributable to the relatively high prices of textiles compared with other consumer goods. Thus, a survey of consumer expenditure in nineteen Latin American countries 6/ showed that a proportionally higher sum was spent on a given sample of textile products than on other consumer goods in Argentina, Bolivia, Brazil, Chile, Ecuador, Paraguay, Peru and Uruguay, and relatively less in Colombia, Mexico and those countries which are largely textile importers particularly Central America and the Caribbean. This calculation was arrived at by equating the currencies at the parity exchange rate and obtaining the proportion of total consumer expenditure absorbed by textiles. It was concluded that the first three countries mentioned spent approximately 20 per cent more than that proportion on the sample of textiles concerned, and Peru and Uruguay over 30 per cent more. Colombia, which spends 28 per cent less than the proportion of total consumer expenditure earmarked for textiles, correspondingly records the largest consumption growth of textiles, which shows an evident price elasticity. In other words, in Argentina, Brazil, and other countries where textiles are "dear", an equivalent monetary unit will purchase less than a proportional quantity of textiles, but more than a proportional quantity of foodstuffs or other consumer items. Conversely, in Colombia it will purchase more textiles, but less food and housing.

2. Structure of consumption

The bulk of consumption, in physical terms, is composed of cotton products, which account for nearly three-quarters of the total volume. However, wool products - even if in physical terms they constitute less than 10 per cent of total consumption - are more important than this percentage appears to indicate, because of their higher unit value compared with cotton products. The balance of the consumption of textiles consists of the artificial and synthetic fibres group, which has made most headway

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6/ ECLA, A measurement of price levels and the purchasing power of currencies in Latin America, 1960-1962 (E/CN.12/653).

in recent years. Table 2 shows the consumption trends followed by the various fibres and the latter's effect on the structure of consumption. It will be seen that the relative importance of wool textiles has declined and that this loss is practically equal to the increase in the share of synthetic fibres.

The trends towards a new structure of consumption are even more manifest if its composition is analysed not only by fibre but also in terms of the fineness of the product and, lastly, of consumer expenditure. Although complete data are not yet available for this type of analysis, it can nevertheless be affirmed that both production value and consumer expenditure are increasing faster than consumption, in terms of kilogrammes. The tendency to make finer, and therefore lighter, products would have the effect mainly of reducing the weight consumed, in relative terms, but of increasing the price per metre of fabric. Similarly, the steadily growing importance of synthetic fibres would tend to reduce the weight consumed, as they are so light, but would give rise to a larger consumption, in terms of metres, and a higher unit price per metre.

It should not be forgotten that the introduction of new fibres and products has a stimulating effect which, in fact, is reflected in the above trends. It can safely be assumed that this effect will continue for some time, inasmuch as - in comparison with the industrialized countries - synthetic products still account for a modest share of Latin America's consumption. No slackening in the rate at which synthetic fibres are invading the market is visualized for the time being, although it must be borne in mind that once a certain level is reached the rate of increase will be slower than at present, even though in absolute terms the increments are larger.

Generally speaking, it can be stated that the textile industry is embarking on a new phase of its existence, which will perhaps mean a structural reform both of its market and of its operating conditions.

3. Preliminary demand projections

The foregoing considerations add a further element of uncertainty to those inherent in any projection of future demand; therefore, the following figures, which are subject to revision, should be taken purely as indicators of possible orders of magnitude. On the basis of a consumption of 900,000 tons in 1960 and assuming that the recent trends will persist, it is estimated that consumption will reach some 1,250,000 tons in 1970 and 1,500,000 tons by 1975. The trends showed that total consumption increased by 3.6 per cent annually, which is only slightly faster than the population growth of 3 per cent. In monetary terms, consumption would represent a value of the order of 6,000 million dollars (at 1960 factory prices), on the assumption that the quality and composition of the products remains unchanged. This is a minimum projection, therefore, since the composition of consumption is evolving towards goods of a higher unit value, which would raise the figure for the future value of production.

/Table 2

Table 2

LATIN AMERICA: EVOLUTION AND COMPOSITION OF CONSUMPTION

Type of textile	1955		1960		1962	
	Consumption	Consumption as a percentage of total	Consumption	Consumption as a percentage of total	Consumption	Consumption as a percentage of total
Cotton	100	75.3	114	75.8	118	76.2
Wool	100	9.6	84	7.1	77	6.3
Artificial fibres	100	17.5	118	15.1	113	14.0
Synthetic fibres	100	0.6	401	2.0	714	3.5
Total	100	100.0	113	100.0	117	100.0

As stated previously, 10 per cent of consumption is at present covered by imports and, if this proportion is maintained in the future, imports in 1975 would represent about 600 million dollars at market prices.7/ The magnitude involved and the fact that at the moment the bulk of these imports are from outside the region, prompts the need to examine these prospects with a view to channelling at least part of this trade into intra-regional flows. In the cotton sector, most countries have achieved almost complete self-sufficiency, and such countries as Venezuela which still import considerable quantities are rapidly expanding their production capacity. Although the proportion of imports of wool products is higher, they are supplied in part by the region itself, which opens up possibilities for intensifying this trade. The best opportunities for regional trade as a result of import substitution lies in the field of artificial and synthetic fibres, in which, particularly in the case of the latter, the region is still heavily dependent upon imports.

This preliminary projection of demand will be revised later in the light of the considerations on operating conditions and textile prices and costs. They will deal with a dynamic instrument for stepping up consumption, through a programme for the modernization and reorganization

7/ Textile imports between 1960 and 1962 averaged some 190 million dollars annually, at c.i.f. prices, i.e., excluding the customs duties and other costs which would allow this figure to be compared with the value of domestic production. The total does not include Cuba, the Dominican Republic and Haiti, which in 1963 recorded substantial imports, but were gradually replacing them, especially Cuba.

/of the

of the industry. This would bring about reductions in costs and prices and the consequent expansion of consumption, thereby affording an ample margin for specialization of production and intra-regional trade.

B. OPERATING CONDITIONS

The move towards modernization and rationalization upon which Latin America's textile industry is just embarking and which took place in Europe after the Second World War, is consistent with the recognition that existing conditions in this industry will bring it to a standstill unless drastic measures are taken to remedy them. Its stagnation was reflected in the slow growth of consumption during the fifties, and not until the early sixties did it seem to take a more favourable turn, precisely because of the innovations made, either in terms of products or technology.

There is no doubt that one of the most pressing requirements of Latin America's textile industry is the rationalization of its structure of production, inasmuch as the output attained so far is far from satisfactory, and is also far below that which could in many cases be obtained with existing equipment. In general, the data given below reveal that, considering its degree of up-to-dateness, the machinery is under-utilized, both in terms of the total number of hours of operation and the unit output obtained. Likewise, labour productivity indexes are very low, the main reasons being inadequate training and the deficient organization of enterprises. These factors, together with excessive wastage of raw materials and the dispersal of production owing to the smallness of the market, raise costs over and above the limits which the region could afford.

Defective operations, although largely attributable to the organization of the enterprises concerned, are also influenced by the degree of up-to-dateness of the available machinery. Accordingly, wherever there is a substantial amount of obsolete machinery internal reorganization must be accompanied by a selective re-equipment which will enable satisfactory outputs to be obtained. Such a process of modernization should be in keeping with certain technical and economic criteria within the context of an investment policy which will be outlined below.

In summing up the following data relating to operating conditions, four well-defined categories emerge which synthetize the position of the eleven countries studied with reference to cotton and wool spinning and weaving mills.

The first relates to a well-balanced situation with a high degree of up-to-dateness side by side with a high level of operating efficiency, as reflected in the productivity levels concerned. Few countries present this ideal situation; only Colombia and Paraguay attain it in so far as cotton spinning and weaving mills are concerned, and only Colombia as regards wool spinning.

/The second

The second category includes those situations where a high degree of up-to-dateness is not accompanied by a parallel efficiency, i.e., as manifested in an adequate use of capital. This type of imbalance may be corrected by organizational changes, without additional investment in machinery. These characteristics of medium or low productivity despite the existence of modern machinery were observed in cotton spinning and weaving mills in Argentina, Chile, Uruguay and Venezuela.

Countries maintaining an intermediate level of up-to-dateness and operating efficiency constitute a third category, in which both organizational changes and re-equipment on a moderately intensive scale are required. This situation applies to wool spinning mills in Argentina, Brazil and Ecuador, wool weaving mills in Colombia and Venezuela, and cotton spinning mills in Ecuador and Mexico.

The fourth and largest category covers situations where little of the equipment is up-to-date and operating efficiency is low. It includes eight of the eleven countries studied and involves one or more of the processes considered: Argentina (wool weaving), Bolivia (cotton spinning, and wool spinning and weaving), Brazil (cotton spinning and weaving, and wool weaving), Chile (wool spinning and wool weaving), Ecuador (cotton and wool weaving), Mexico (cotton weaving, and wool spinning and weaving), Peru (cotton and wool spinning and weaving), and Uruguay (wool spinning and weaving). The size of this category shows how far obsolete equipment is responsible for the level of output obtained in Latin America and indicates the vast scale on which re-equipment is required. Intensive re-equipment will have to be undertaken, combined with an equally intensive programme for reorganizing the industry and carrying out structural reforms.

Briefly, in virtually all the Latin American countries measures are needed for reorganizing the industry and placing it on a sounder footing. In some, these measures might suffice for certain processes, but in most countries they should be supported by a modernization process varying in intensity according to the circumstances of each case. It would appear that the situations requiring a modest degree of modernization are relatively fewer than those where an intensive programme is needed, and that the latter might facilitate a change in the structure of the industry along lines which will increase its efficiency and strengthen its competitive position in a future integrated regional market.

Below are a few brief comments on the main indicators relating to operating conditions in a number of countries studied by ECLA, 8/ both from the standpoint of the fibres processed - cotton and wool - and of the process used, whether spinning or weaving. These data cover the degree of up-to-dateness of the equipment, its utilization in relation to the number of working hours, labour productivity and unit output of machinery.

8/ See ECLA, La industria textil en América Latina, op. cit.

In the above-mentioned studies, the definition of an "up-to-date machine" takes into account its age, the degree of automation, production capacity and other technical criteria, such as, size of spindles and loom speed. This definition of "up-to-dateness" is also implicit in the standards of unit output of machinery and labour productivity. The standard adopted for utilization was three daily shifts (two eight-hour shifts and one six-hour night shift) in 300 working days a year, i.e., a total of 6,600 machine/hours per year. Labour productivity has been defined as the physical output of one operator in one hour and, to facilitate comparison between mills or between countries, the nominal values noted are converted to, or weighted in terms of, and equivalent product. 9/

As a point of reference, a so-called "standard for Latin America" has been established, which is considered to be a feasible level under prevailing Latin American conditions of manpower training, conventional up-to-date machinery and available raw materials. It should be noted that this standard is far below the United States level of productivity and considerably lower than Europe's. 10/

Lastly, unit output, defined as the ratio between the physical volume of output and the number of machine/hours required to achieve it, also relates to a standard for Latin America consisting in the production capacity of equipment regarded as modern. The figures, reduced to indexes or percentages, refer to the average for the industry in each of the countries studied. It should be borne in mind that these averages logically conceal the variations from the mean in all countries, which is more marked in some than in others. Accordingly, while the relative position of the indicators concerned provides a preliminary assessment of the situation in every country, an analysis of the peak level reached in each will enable conclusions to be drawn in respect to both the country's actual potential and the competitive position of a specific group of dynamic enterprises in the world market. The following figures relate to different years (1960-1963), since the surveys were carried out successively, but this does not significantly affect the results since operating conditions did not alter much, nor was equipment replacement effected on a massive scale.

9/ For example, cotton yarn is converted to yarn count Ne 18, and cotton fabrics to a fabric with 2,000 picks per metre.

10/ The respective values of the standards are shown in the relevant tables. They were based on conventional up-to-date equipment, i.e., that commonly available on the world market, without the technological innovations that have emerged in recent years, some of which are still in the experimental stages.

1. Cotton spinning mills

Cotton spinning, as the basic process for the fibre most widely consumed, also represents the largest investment among the various branches of the textile industry, and its operating conditions largely reflect the state of the rest of the industry. It is therefore important to determine how far the machinery - i.e., spindles - installed in this sector is up to date. Table 3 shows that five of the eleven countries considered have a high proportion - over 80 per cent - of modern machinery. In three countries the machinery could be said to be fairly up-to-date, and another three, where fewer than half the spindles are modern, have a low level of up-to-dateness.

First place is taken by the fairly recently installed cotton spinning mills in Venezuela, 98 per cent of whose spindles are modern. Next in order are Uruguay and Colombia, where the percentage of up-to-date equipment is also over 90 per cent, as shown in table 3. The countries with the highest level of obsolescence include Brazil, where barely 20.8 per cent of the spindles are modern, which places its cotton spinning mills last among the countries considered; and Peru, which, like Brazil, is in essence a country possessing plentiful cotton resources. While establishment of this industry in the early phases of industrialization was thus facilitated, it was not properly modernized at later stages.

The output obtainable is obviously dependent upon the existing degree of up-to-dateness; hence, a comparison between the two variables would provide an indication of the utilization of capital, which under Latin American conditions is the factor in short supply.

If an examination is made of the output obtained, in terms of productivity, it will be seen that productivity levels are low in seven countries, medium in two, and satisfactory in only two other countries, i.e., Colombia, whose average productivity is higher than the standard for Latin America, and Paraguay, where the predominance of an important and well-managed enterprise strongly influences the over-all results. By contrast, the seven low-productivity countries fluctuate at around half the standard for Latin America, a far from satisfactory level since the standard itself is not high. It will be seen from the foregoing that, broadly speaking, productivity levels are inconsistent with the degree of up-to-dateness, and it would be as well, therefore, to analyse the relationship between the two factors in the different countries. Of the five countries with a high level of up-to-dateness, only Colombia has a correspondingly high level of productivity. The rest record medium and even low productivity levels, such as Venezuela and Argentina in the first instance, and Chile and Uruguay in the second. It can be inferred, therefore, that except in the one equally balanced situation as regards high levels of productivity and up-to-dateness, capital is manifestly under-utilized; but this could be remedied if appropriate action is taken to rationalize and reorganize the industry in the four countries concerned.

/Table 3

Table 3

INDEXES OF OPERATING CONDITIONS IN COTTON SPINNING MILLS

(Percentages)

Country	Up-to-dateness a/	Productivity b/	Utilization c/	Unit output d/
Standard for Latin America	100.0	100	100.0	100
Venezuela	98.0	74	87.6	82
Uruguay	95.6	45	76.3	86
Colombia	90.6	127	104.6	86
Argentina	87.7	66	56.1	86
Chile	81.3	45	72.6	86
Mexico	65.2	79	92.9	63
Ecuador	60.1	53	65.0	68
Paraguay	57.3	83	90.7	93
Peru	31.3	55	72.0	81
Bolivia	26.5	26	65.5	77
Brazil	20.8	46	85.3	64
United States		290		
Europe		128		

Source: ECLA, La industria textil en América Latina, I. Chile, III. Colombia, IV. Uruguay, V. Perú, VI. Bolivia; and The textile industry in Latin America, II. Brazil; the studies on Argentina, Venezuela, Ecuador, Paraguay and Mexico are in course of preparation.

Note: These figures are subject to revision in the regional report on the textile industry in Latin America.

a/ Completely modern machinery = 100 per cent.

b/ Grammes per man/hour; standard for Latin America = 4,300.

c/ Utilization: 6,600 hours per year = 100 per cent.

d/ Grammes per spindle/hour; standard for Latin America = 22.

/The output

The output of countries with reasonably modern equipment - Ecuador, Mexico and Paraguay - is generally consistent with the type of equipment available. Attention should be drawn, however, to the case of Mexico and Paraguay, where provisional data show that a relatively high level of productivity was attained with only fairly up-to-date equipment; in other words the productivity index is higher than the up-to-dateness index. Reorganization can remedy only part of the defective operations in these countries, some degree of modernization being required, too, if optimum results are to be obtained. Lastly, the group of countries with a low level of up-to-dateness comprises Brazil, Bolivia and Peru, whose productivity levels are equally low. An increase in productivity, unaccompanied by the replacement of equipment, would have little chance of success in this group because of the limitations of the existing equipment and the obsolete structure of production. Accordingly, intensive re-equipment and reorganization programmes are what is needed in these cases.

To sum up, cotton spinning presents a fairly discouraging picture as regards the average productivity obtained with existing equipment. However, the fact that one country - Colombia - has been able to match and even exceed the standard for Latin America proves that this standard is a realistic target whose attainment should not be beyond the reach of other countries. Another favourable point comes to light if the optimum productivity recorded in each country is considered separately. It will then be seen that in practically all of them the productivity of the most successful mills is above the standard. The implications in this fact for a rationalization policy are very clear and open up broad prospects for an improvement in the textile industry's operating conditions. Conversely, the productivity levels of some enterprises are far below the average for the country and, therefore, are only a fraction of the standard. This situation also deserves to be thoroughly examined, with a view to offering practical solutions to these enterprises which might benefit the textile industry as a whole. The co-existence in one and the same country of enterprises whose ratio of productivity is 5 to 1, 10 to 1 and even 12 to 1, also raises the question as to how far costs are influenced by market forces and how far by institutional and operational factors. In other words, it would appear that the absence of real competition enables less efficient concerns to survive, and that factors having nothing to do with operation, such as the purchase of raw materials during periods of inflation or their importation at preferential exchange rates, bring benefits that make up for operating inefficiency.

The utilization of machinery in terms of the number of working hours, on the basis of three shifts, fluctuates slightly between one country and another, as a result of temporary conditions in some cases and the degree of up-to-dateness of the machinery in others. Other factors are the organization of enterprises and their production policy with respect to a third shift at night. As may be seen from table 3, practically all countries work, on an average, at least two shifts in cotton spinning, but only Colombia has reached, and even exceeded, the standard of 6,600 hours per year. The countries with the highest level

of up-to-dateness are not necessarily those which utilize their machinery on the most intensive scale; thus, Brazil has a relatively high utilization index considering the obsolescence of its equipment.

The disparities between countries are not so marked in the unit output of spindles, inasmuch as the machinery usually operates according to its degree of up-to-dateness, which determines its production capacity. It should be pointed out, however, that a high level of up-to-dateness of machinery, while also implying a larger production capacity, is mainly reflected in a reduction in the number of operators required and a consequent increase in labour productivity. Thus, the disparities in unit output between old and new machines are far less marked than the difference in the number of operators for those machines. Only in the case of extreme equipment obsolescence, as in Brazil, is there a substantially lower unit output. Elsewhere, the recent installation of new equipment and the necessary period of adjustment might temporarily result in indexes lower than expected, as in the case of Venezuela.

2. Cotton weaving

The situation with respect to cotton weaving is similar to that noted in the case of cotton spinning mills in so far as up-to-dateness of machinery is concerned. In seven of the eleven countries considered, over 80 per cent of the installed machinery is modern. This figure can be regarded as satisfactory in the case of weaving, whose operating and organizational characteristics are not strictly comparable with those of spinning mills, since the process permits of the existence of small - frequently semi-artisan - units for whose highly specialized output, or very short production series, old equipment can be used. Table 4 indicates the relative percentage of up-to-dateness, and again it will be noted that Brazil takes last place with only 31.5 per cent of its looms classified as modern. Peru is also once again at a disadvantage, which confirms that the two countries, both with a long tradition in the cotton textile industry, have failed to take suitable action to modernize it, in contrast to other countries whose industries were established more recently.

The cotton weaving output obtained is also shown in table 4, as well as the degree of up-to-dateness and productivity. Labour productivity in weaving falls far short of the standard adopted for Latin America and, therefore, is of course much lower than the levels attained in such countries as the United States and Japan. The majority of the Latin American countries concerned show productivity indexes of about one-third of the standard; only two - Peru and Paraguay - produce over 50 per cent of the standard, and only Colombia actually exceeds it. The conclusions in this case are the same as for spinning, in which Colombia was also the only country whose average productivity exceeded the standard. There are also even sharper disparities between the various weaving plants than in the case of spinning, the ratios being 20 to 1 and even 30 to 1 between the lower and higher productivity

Table 4

LATIN AMERICA: INDEXES OF OPERATING CONDITIONS IN COTTON WEAVING MILLS

(Percentages)

Country	Up-to-dateness a/	Productivity b/	Utilization c/	Unit output d/
Standard for Latin America	100.0	100	100.0	100
Colombia	99.6	107	102.2	95
Venezuela	90.5	37	78.2	64
Argentina	89.0	33	57.1	55
Uruguay	88.2	31	73.1	67
Bolivia	85.5	34	58.0	75
Chile	82.8	43	70.1	80
Paraguay	81.9	79	93.6	96
Mexico	51.7	47	84.7	53
Ecuador	46.4	22	59.0	55
Peru	44.1	54	60.0	81
Brazil	31.5	30	76.7	54
United States		289		
Japan		112		

Source: ECLA, La industria textil en América Latina, I. Chile, III. Colombia, IV. Uruguay, V. Perú, VI. Bolivia, and The textile industry in Latin America, II. Brazil; the studies on Argentina, Venezuela, Ecuador, Paraguay and Mexico are in course of preparation.

Note: These figures are subject to revision in the regional report on the textile industry in Latin America.

a/ Completely modern machinery = 100 per cent.

b/ Metres per man/hour; standard for Latin America = 27.

c/ Utilization: 6,600 hours per year = 100 per cent.

d/ Metres per loom/hour; standard for Latin America = 5.40.

/mills. However,

mills. However, this process is influenced by the quality and stage of processing of the fabric, which is not usually as enterprises standardized as cotton fabrics. Unlike conditions in spinning mills, the weaving with the highest productivity fall short of the standard, except of course for Colombia and, possibly, Argentina.

If the up-to-dateness of cotton weaving mills is compared with the productivity attained, the inefficiency of the process is clear, since only two of the seven countries possessing highly up-to-date looms record high productivity levels. These are Colombia, whose looms are nearly all modern and are utilized intensively, achieving a higher than standard productivity, and Paraguay which with an up-to-dateness index of 82 per cent obtains a productivity equal to 79 per cent of the standard. The five remaining countries, 80-90 per cent of whose looms are modern, show very low outputs ranging between 30 and 40 per cent of the standard for Latin America. Thus the under-utilization of capital is far greater than in cotton spinning, and once again attention is drawn to Colombia, which has shown that the standard productivity targets are feasible. Here, too, as in the cotton spinning mills, emphasis is placed on the need for large-scale co-ordinated action to rationalize production in order to obtain outputs in keeping with the up-to-dateness of the machinery. This category should include Argentina, Bolivia, 11/ Chile, Uruguay and Venezuela, as inferred from the data in table 4.

A second group of countries, consisting of Brazil, Ecuador, Mexico and Peru, has a low proportion of up-to-date looms, and output is dependent upon the particular type of machinery used. The productivity of Mexico and Peru is higher than in most countries possessing modern equipment, i.e., they make intensive use of their capital within the limits imposed by the obsolescence of their machinery. The productivity of this group of countries could be raised through modernization of their equipment, accompani by a programme of reorganization.

The utilization of machinery is usually dependent upon its degree of up-to-dateness, Colombia taking first place as regards both these indicators. That lowest level of utilization should be recorded by Argentina is explained by the fact that the Argentine economy was in the throes of a recession at the time of the survey on which the data are based. The

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11/ In Bolivia, as distinct from other countries, the non-automatic loom was considered up-to-date owing to the country's small market and widely diversified production, which preclude obtaining all the advantages of automatic looms. Thus the comparison with the productivity obtainable by using automatic looms does not reflect the utilization of capital in the same way as in other countries.

percentages of utilization registered by the remaining countries represent about two working shifts. It should be noted that in the Brazilian weaving mills - as in spinning - the utilization of machinery is relatively high considering the degree of loom obsolescence. Other countries with a high level of obsolescence, such as Ecuador and Peru, show lower utilization indexes than Brazil, although the degree of obsolescence of their machinery is not as high.

The machinery unit output indexes are, in general, very low and bear no relation to the up-to-dateness of the looms. This circumstance is no doubt attributable to the prevailing type of production which requires frequent stoppage of the looms in order to change the products' designs. The smallness of the domestic markets is often a determining factor of this type of operation, which has a clearly negative effect on the utilization of factors of production and, consequently, on production costs.

3. Wool spinning

The data available hitherto on wool spinning mills reveal that such countries with a long wool tradition as Argentina and Uruguay, and on a lesser scale Chile and Peru, have a fairly obsolete inventory of machinery. As shown in table 5, only about half the spindles in Argentina and Uruguay can be considered up to date; in Colombia, on the other hand, 84 per cent of the wool spindles are modern and it takes first place as regards degree of up-to-dateness. However, it is interesting to note from the same table that utilization of this equipment is more intensive in Brazil, and that Uruguay and Chile, with less modern machinery than Colombia, nevertheless equal that country's utilization indexes. The lowest degree of utilization is recorded in Ecuador and Argentina, where the economic depression affected the wool sector more seriously than the cotton sector.

Notwithstanding the depression in Argentina's wool sector, labour productivity is maintained at 76 per cent of the standard for Latin America, Colombia being the only country to exceed it. Uruguay comes next with 63 per cent of the standard, although the data for that country were also influenced by the depression during which the survey was conducted. The same applies to the unit output of machinery, in which Colombia is followed by Uruguay and Argentina, the remaining countries failing to attain even half the standard.

To sum up, three situations are noted with respect to operating conditions in wool spinning mills. Firstly, a well-balanced situation with high levels of efficiency and up-to-dateness, as in the case of Colombia. Secondly, equally balanced degrees of up-to-dateness and operating efficiency at an intermediate level, which can be said to apply to Argentina, Brazil and Ecuador. This situation implies the need for re-equipment and reorganization on a reasonably intensive scale. The third category comprises countries with a low proportion of modern machinery and equally unsatisfactory operating conditions. In these cases,

/Table 5

Table 5

LATIN AMERICA: INDEXES OF OPERATING CONDITIONS IN WOOL SPINNING MILLS

(Percentages)

Country	Up-to-dateness a/	Productivity b/	Utilization c/	Unit output d/
Standard for Latin America	100.0	100	100.0	100
Colombia	84.4	103	64.7	72
Ecuador	64.0		34.0	.
Argentina	56.7	76	35.9	53
Brazil	51.9	47	74.5	42
Chile	43.8	41	67.0	32
Uruguay	40.5	63	66.3	55
Mexico	37.0	49	52.3	44
Peru	27.3	53	60.0	44
Bolivia	0.0	19	56.6	15

Source: ECLA, La industria textil en América Latina, I. Chile, III. Colombia, IV. Uruguay, V. Perú, VI. Bolivia, and The textile industry in Latin America, II. Brazil; the studies on Argentina, Venezuela, Ecuador, Paraguay and Mexico are in course of preparation.

Note: These figures are subject to revision in the regional report on the textile industry in Latin America.

a/ Completely modern machinery = 100 per cent.

b/ Grammes per man/hour; standard for Latin America = 2,400.

c/ Utilization: 6,600 hours per year = 100 per cent.

d/ Grammes per spindle/hour; standard for Latin America = 52.5.

/which include

which include Chile, Uruguay, Mexico, Peru and Bolivia, a highly intensive re-equipment and reorganization programme would be required if the industry is to attain satisfactory operational levels.

4. Wool weaving

The level of up-to-dateness of wool looms in Latin America is even lower than that of spindles and, as in the cotton sector, reflects the types of operation in the wool weaving mills. These are even less satisfactory in the wool sector, in view of the high unit value and fairly limited consumption of wool products. Table 6 shows the up-to-dateness indexes for the various countries; Colombia, 75 per cent of whose looms are modern, once again takes the lead, followed by Venezuela which, thanks to the industry's recent installation and its facilities for purchasing equipment, possesses comparatively modern looms. These are operated intensively, Venezuela attaining the highest utilization of all the countries under review. At the other end of the scale is Argentina, where the recession already referred to caused a sharp reduction in the number of hours worked per loom. The degree of up-to-dateness of the looms is also one of the lowest recorded.

The conditions described above are reflected too, in the levels of output, Colombia and Venezuela attaining far higher productivity levels than the rest of the countries concerned. In both countries the relatively favourable productivity levels - compared with the other countries, since they are still far below the standard - are accompanied by similar unit output indexes per loom. By contrast, Peru and Uruguay, whose unit output is equal to that of Colombia and Venezuela, attained only half the productivity levels of those countries.

In wool weaving the low degree of up-to-dateness observed in nearly all countries is also reflected in their productivity levels, which are the lowest attained in the four processes concerned - cotton spinning and weaving, and wool spinning and weaving. However, there is a fairly stable relationship between the outputs obtained and the degree of up-to-dateness of the machinery; hence, the former are usually dependent upon the limitations of the equipment. Therefore, in order to obtain results more in keeping with future market requirements and to be able to withstand more intensive competition, reorganization will not suffice but will have to be accompanied by a reasonable degree of modernization in Colombia and Venezuela, and intensive modernization in Ecuador, Chile, Brazil, Argentina, Peru, Uruguay, Mexico and Bolivia.

/Table 6

Table 6

LATIN AMERICA: INDEXES OF OPERATING CONDITIONS IN WOOL WEAVING MILLS

(Percentages)

Country	Up-to-dateness a/	Productivity b/	Utilization c/	Unit output d/
Standard for Latin America	100.0	100	100.0	100
Colombia	73.3	56	57.6	64
Venezuela	56.8	50	82.2	62
Ecuador	50.8	10	38.0	17
Chile	45.0	29	58.0	56
Brazil	37.8	33	53.0	57
Argentina	26.0	27	26.6	55
Mexico	25.3	18	42.5	45
Peru	24.5	24	49.0	66
Uruguay	22.9	26	50.3	62
Bolivia	5.9	14	36.0	18

Source: ECLA, La industria textil en América Latina, I. Chile, III. Colombia, IV. Uruguay, V. Perú, VI. Bolivia, and The textile industry in Latin America, II. Brazil; the studies on Argentina, Venezuela, Ecuador, Paraguay and Mexico are in course of preparation.

Note: These figures are subject to revision in the regional report on the textile industry in Latin America.

a/ Completely modern machinery = 100 per cent.

b/ Metres per man/hour; standard for Latin America = 7.00

c/ Utilization: 6,600 hours per year = 100 per cent.

d/ Metres per loom/hour; standard for Latin America = 3.50.

5. General conditions

In addition to the labour and machinery factors, stress should be laid on the influence of raw materials on operating conditions. Latin America has abundant resources of cotton and wool, but the quality of the raw material earmarked for the domestic textile industry often has flows which entail considerable wastage in the production process. In Brazil, for example, the wastage in cotton spinning averages 50 per cent more than what is considered normal, 12/ which naturally makes the final product dearer. This also applies to wool in several countries of the region.

The diversification of production is another negative feature of operation. The frequent changes in product design and type imposed by a limited market represent time lost for the machines and are an additional factor influencing production costs. The small mills are the most seriously affected by this situation, since it has been proved that in weaving mills whose monthly output is below 100,000 square metres, the unit output declines in proportion to the increase in the number of items manufactured. As the number of products gradually increases to thirty, unit output drops progressively until it is 25 per cent below the normal output obtained when only about five items are manufactured. Unit output falls by 45 per cent with respect to its normal level when the range of products is increased to over thirty.

Lastly, brief mention should be made of the institutional factors affecting operating conditions. These include the complex and unstable nature of the official regulations adopted, which distract the manufacturer's attention from the operational side of the business and whose repercussions can be so far-reaching as to more than offset the benefits of efficient operations. Another factor worth mentioning is the system for importing machinery and spare parts, whose impact on the modernization and maintenance of equipment is, in the last analysis, reflected in the output obtained.

12/ 21.4 per cent compared with the standard of 14 per cent.

C. PRICES, COSTS AND TARIFF PROTECTION

As has been seen above, Latin America's consumption of textiles has remained at a standstill owing largely to their relatively high prices in comparison with other consumer goods. It has also been noted that, in general, the industry's operating conditions are deficient and, by raising production costs, result in high prices at both the factory and consumer level. The comparison in question provided useful criteria for explaining the weakness of demand for textiles in each individual country and in the region as a whole. An attempt is made below to compare textile prices and costs in the various countries of the region, with the object of gaining some idea of their competitive position in the event of the establishment of a common market. Such a comparison is exceedingly complex in view of the dissimilar nature of some of the textile products, accentuated by the differences in climate, besides the monetary problems at times when both domestic price levels and exchange rates are changing swiftly, but at a varying tempo. Below are three types of comparisons which might shed some light on the countries' relative position, though it should be borne in mind that the data are not strictly comparable and are sometimes fragmentary.

1. Prices at the consumer level

The first comparison covers textile consumer prices in 1962, i.e., including the marketing margins of a selection of the most comparable products between one country and another. It also takes into account both the free market and parity exchange rates, 13/ with the results shown in table 7. An analysis of prices at the prevailing rates of exchange highlights the favourable position of Colombia, whose prices are substantially lower than those of other countries. Ecuador takes second place, possibly influenced by the unregistered textile imports from Colombia and the consequent need to maintain competitive prices. Mexico follows, still in a considerably more advantageous position than the remaining countries, whose prices are progressively higher, i.e., more than twice as high as those of Colombia, Peru, Venezuela, Brazil and Uruguay.

If the comparison is made at what have been assumed to be parity exchange rates, the order of the countries is still virtually the same, but the wide disparities noted in the comparison at the free exchange rate are considerably reduced. Even so, there are still marked differences,

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13/ In countries where two or more exchange rates existed, the free rate was related to that of other countries. The parity exchange rate was defined as that equalling the general price levels of the countries reviewed. See ECLA, A measurement of price levels and the purchasing power of currencies in Latin America, 1960-1962, op. cit.

/Table 7

Table 7

LATIN AMERICA: TEXTILE PRICES AT THE CONSUMER LEVEL

(Index: Colombia = 100)

	At the free market exchange rate June 1962	At the parity exchange rate June 1962
Argentina	176	182
Bolivia	183	160
Brazil	256	232
Chile	193	179
Colombia	100	100
Ecuador	128	149
Mexico	141	129
Paraguay	198	169
Peru	204	187
Uruguay	274	212
Venezuela	213	124

Source: ECLA, A measurement of price levels and the purchasing power of currencies in Latin America, 1950-1962 (E/CN.12/653).

/but if

but if the two extreme cases - Colombia, which retains first place in this comparison too, and Brazil, in the last place - are not considered the variation between the highest and the lowest prices will amount to about 100 per cent. The most notable changes, if based on the parity exchange rate, affect Argentina, which drops from fourth to eighth place, and Venezuela, which climbs from ninth to second place.

2. Unit prices of inputs

The second comparison relates to the unit prices of the two principal inputs, raw material and labour, which together account for over 60 per cent of the fabric's cost and more than 70 per cent of the cost of the yarn. This comparison, expressed in terms of indexes, is based on the local currency prices of the factors concerned, converted to dollars at the exchange rate prevailing at the time of the survey. Since the latter was not carried out simultaneously in the various countries, it should be noted that the figures are only relatively comparable, being presented mainly for illustrative purposes, and subject to future revision. Table 8 sums up the findings which show the favourable position of Argentina and Brazil as regards cotton prices, and of Brazil, Bolivia, Ecuador and Chile as regards labour. By contrast, Uruguay recorded the highest prices for raw materials, as well as for labour, including social security contributions.

If Latin American prices are compared with those of the United States and Japan, sharp disparities are evident with respect to United States labour, whose remuneration is from twice to eight times the level paid in Latin America, while in Japan wages are the same as in Brazil, Chile and Peru. As regards raw materials, prices in the two countries mentioned above are equal to about the average for Latin America.

By combining the two factors in question and weighting them according to their relative importance in hypothetical production costs, it is possible to calculate the hypothetical part-cost, relating to a structure of standardized costs evaluated at the input prices of each individual country. The last column of table 8 contains an estimate of such costs resulting only from the prices of these two inputs, which facilitates an assessment of the various countries' potential comparative advantages. This comparison does not take into account labour productivity or wastage in the use of raw materials, i.e., the efficiency of their utilization, since that subject will be dealt with in the following section on real costs. Among the Latin American countries, the unit prices of these inputs (raw materials and labour) indicate a clear advantage for Brazil, followed by Bolivia, Argentina, Ecuador and Peru, while Colombia, Chile and Uruguay register the highest prices. These data further reveal that under identical operating conditions, raw material and labour costs could amount to nearly half those obtaining in the United States. In fact, in all the countries considered, except Uruguay, the hypothetical part-costs are lower than in the United States. Likewise, in several Latin American countries, raw material and labour prices are lower than in Japan.

/Table 8

Table 8

UNIT PRICES OF THE PRINCIPAL INPUTS IN THE TEXTILE INDUSTRY

(Colombia prices = 100)

Sector	Raw material (1 kg)	Labour (1 man/hour)	Hypothetical part-cost a/
	(1)	(2)	(3)=(1)+(2)
Cotton			
Argentina	71	108	84
Bolivia	93	39	74
Brazil	74	58	68
Chile	121	65	101
Colombia	100	100	100
Ecuador	104	51	85
Peru	91	80	87
Uruguay	132	152	139
United States	99	311	175
Japan	99	67	87
Wool			
Argentina	59	97-111	68-71
Bolivia	87	35	75
Brazil	69-83	52	65-76
Chile	75-149	81	76-134
Colombia	100	100	100
Ecuador	178-183	46	148-152
Peru	75	49	69
Uruguay	43	133	63
United States	111	278	148

Source: ECLA, La industria textil en América Latina, I. Chile, III. Colombia, IV. Uruguay, V. Peru, VI. Bolivia, and The textile industry in Latin America, II. Brazil: the studies on Argentina, Venezuela, Ecuador, Paraguay and Mexico are in course of preparation.

a/ The imput prices in each country are weighed in terms of a standardized cost structure for a particular fabric.

/In the

In the wool sector, Uruguay has access to cheap raw material, an advantage which is not offset by its high wage levels; hence it occupies first place if the two factors are taken together. The same applies to Argentina, as can be seen from table 8, which shows the position of the various countries with respect to Colombia. In certain cases, given the types of wool manufacturing processes, several prices are recorded for both raw materials and labour, which are presented with the reservation expressed above as regards their comparability. In this sector, too, most of the Latin American countries have potential comparative advantages over the United States.

3. Production costs

The third type of comparison is based on current production costs for a selected category of products, taking into account the cost of raw material, including wastage, and labour costs in terms of wages and productivity, both in the spinning and in the weaving industries. Since the data come from the same source as those presented in table 8, it should once more be stressed that they must be interpreted as a first attempt to provide indicators of approximate magnitudes. In all cases, they relate to the part-cost of raw material and labour.

Raw material has a preponderant incidence on costs in the spinning industry, as is shown in table 9, from which it can be seen that Argentina, although its labour costs are twice as high as Colombia's nevertheless produces yarn more cheaply, thanks to exceptionally low cotton prices. In Brazil, too, the advantages enjoyed in respect of raw material offset the low productivity which raises the cost of labour. Again with the exception of Uruguay, cost differences are not very striking, in view of the fact that the two components considered represent about 70 per cent of total costs. Similarly, it must be pointed out that several Latin American countries seem to be in a position to compete with the United States and Japan (see again table 9).

In the cotton weaving industry Colombia takes first place; this bears out what has already been said in connexion with the prices paid for textiles by the consumer. It is of interest to note the effort on Colombia's part implied by its attainment of this position, since - as could be seen in the comparison of input prices - neither raw material nor labour can possibly be described as cheap. The Colombian industry has achieved its present status rather by virtue of intensive utilization of its resources, as was pointed out in the section of operational conditions. In contrast, Argentina and Brazil have not taken full advantage of theirs, particularly in the weaving industry, with the result that their production costs are higher than those of Colombia, Chile and Uruguay. In the last two instances some influence is probably exerted by the rate of exchange. In Uruguay's case, however, the difference is so great that even with a more realistic exchange rate it has not been possible to approach the cost levels prevailing in the other countries. Here again it is noteworthy

/Table 9

Table 9

INDEX OF PART-COSTS IN THE SPINNING AND WEAVING INDUSTRIES

(Costs in Colombia = 100)

Country	Cotton spinning industry	Weaving industries	
		Cotton	Wool
Argentina	85	123	82
Bolivia	103	110	190
Brazil	88	110	101
Chile	123	139	208
Colombia	100	100	100
Peru	100	112	112
Uruguay	171	223	126
United States	106	111	128
Japan	92	90	

Source: ECLA, La industria textil en América Latina, I. Chile, III. Colombia, IV. Uruguay, V. Perú, VI. Bolivia, and The textile industry in Latin America, II. Brazil; the studies on Argentina, Venezuela, Ecuador, Paraguay and Mexico are in course of preparation.

/that if

that if the Latin American industry succeeded in improving the efficiency of its operational conditions, it would be able to compete with the United States, and possibly with Japan. For example, it is estimated that Chile could reduce its cost by over 40 per cent, given the ideal operational conditions envisaged as the standard for Latin America, 14/ and that the potential decreases in the case of Colombia and Brazil would be 17 and 13 per cent, respectively. Although this seems an encouraging conclusion, it implies the application of co-ordinated measures to realize these potentialities, since in existing conditions there are no signs of such reductions being put into effect.

The data for the wool industry are much more fragmentary, besides relating to an activity which is not characterized by standardized products for mass consumption. Consequently, over and above the reservations already made in connexion with the cotton sector, it must be added that the figures for woven goods are less comparable than those for cotton fabrics.

Once more Colombia can be seen to register the lowest costs, despite the fact that the prices it pays for its raw material are among the highest in the region. Argentina's wool industry lost its vantage-ground between 1961 and 1963, and its part-costs rose to a level 17 per cent above the Colombian industry's. Uruguay, with the least expensive raw material, nevertheless shows higher costs than the countries referred to, owing to the disproportion between wage levels and productivity, which means that labour costs are heavy. Costs in the wool industry are lower in most of the Latin American countries, than in the United States (see again table 9).

From the foregoing observations - formulated in brief outline, since the question will be analysed in greater detail in the regional report on the textile industry which ECLA is preparing - several conclusions can be drawn as regards a future textile industry policy in Latin America. In the first place, it seems that the countries best endowed in respect of manpower and/or raw material are not necessarily those where production costs are lowest, and that this is due to the operational inefficiency of the industry in most of the countries concerned. Secondly, the differences in costs from one Latin American country to another are apparently not great enough to constitute an obstacle to the liberalization of trade in textiles, and could be reduced still further through the more efficient utilization of the factors of production; thirdly, part-costs in both the cotton and the wool sectors suggest that Latin America is in a position to compete with industrialized countries and that the outlook for future exports of these products is promising. But the potential cost advantages are often wiped out by high sales prices, partly attributable to unsatisfactory marketing systems and to the deficiencies of the market itself.

14/ In respect of the up-to-dateness and performance of the machinery, the selection and utilization of raw material, and the productivity of manpower.

/It should

It should also be noted that the differences registered in relation to industrialized countries become greater if the prices rather than the costs of the products in question are compared; in other words, the margin between production costs and ex-factory prices is wider in the Latin American industry.

4. Tariff protection

Import duties on the products of the textile industry are extremely high, both for intra-regional imports and for purchases from third countries, since, with few exceptions, these goods are not yet accorded preferential treatment in the existing Free-Trade Area. Furthermore, quantitative restrictions are in force in a number of countries - for example, Chile and Colombia -, which prohibit imports of certain products, such as textiles, whether based on cotton, wool or man-made fibres. In other countries like Ecuador and Mexico import permits or special authorization are required, while in Brazil the system of auctioning foreign exchange to finance imports implies a surcharge in addition to tariff duties. Customs tariff data, therefore, illustrate only one aspect of the difficulties affecting imports.

In the light of the foregoing conclusions, the present policy of protection for industry, including very high tariff levels, does not seem to be justified either on the basis of production costs or from the standpoint of revenue, since the virtual exclusion of imports simply means that the Treasury does not receive the corresponding duties, and it could hardly be contended that, at the regional level, cost differences among the Latin American countries are so great as to warrant some of the import duties in force (see table 10). Even if costs in Japan and the United States are taken as benchmarks, it is difficult to find cost differentials whose magnitude is commensurate with the customs protection given to cotton textiles in Argentina (338 per cent) and in Brazil (135 per cent). To illustrate this point, table 11 presents Latin American costs in relation to Japan's for cotton goods and to those of the United States for woollen products. Import duties are also given, together with the percentage by which they exceed production costs in the Latin American industry. The gradual reduction of these duties, at the regional level, far from causing distortions in the industries of the various Latin American countries, will enable them to rationalize their production during the period in which liberalization is taking place, and to secure a share in the expanded market commensurate with their potential.

/Table 10

Table 10

IMPORT DUTIES ON SELECTED PRODUCTS OF THE TEXTILE INDUSTRY

(Customs duties and others of equivalent effect, expressed in terms of percentages ad valorem)

Product	Argentina a/	Brazil b/	Chile	Colombia	Mexico c/	Peru a/	Uruguay a/
Continuous-filament yarns	258	75	140.5 LI	56 LP		71	48
Continuous-filament fabrics (100 grs/m2)	203	135	IP	IP		445	208
Combed wool yarns (undyed), not conditioned for retailing	198	75	107 IP	121 LP		80	
Woollen fabrics (320 grs/m2)	328	135	IP	67 LP	126	163	297
Woollen fabrics (250 grs/m2)	328	135	131 IP	67 IP	126	163	297
Undyed cotton yarn (Ne 18)	178	115	58 IP	62 LP		62	67-89
Cotton fabrics (gray goods)	338	135	51 IP	82 IP	76	83-155	472
Standard cotton fabrics, plain or fancy weaves (230 grs/m2)	323	135	128 IP	82 IP	142	96	
Synthetic fibre yarns, not conditioned for retailing	163	75	LI	50 LP			42

Source: ECLA, on the basis of ALALC/SI.T/di.3.

a/ Legal system: duty-free imports.

b/ Legal system: auctioning of foreign exchange.

c/ Legal system: import permits.

LI: duty-free imports.

LP: import permits.

IP: imports prohibited.

/Table 11

Table 11

RELATION BETWEEN TARIFF PROTECTION AND PRODUCTION COSTS

(Percentages)

Country	Cotton yarns			Cotton fabrics			Woollen fabrics		
	Cost differences in relation to Japan	Tariff protection	Percentage over and above cost a/	Cost differences in relation to Japan	Tariff protection	Percentage over and above cost a/	Cost differences in relation to Japan	Tariff protection	Percentage over and above cost a/
Argentina	-8	178	186	+37	338	301	-36	328	364
Brazil	-5	115	120	+22	135	113	-22	135	157
Chile	+33	58	25	+54	124	70	+62	131	69
Colombia	+8	62	54	+11	82	71	-22	67	89
Peru	+8	62	54	+25	155	130	-13	163	176
Uruguay	+85	89	4	+149	472	323	-2	297	299

Source: ECLA, on the basis of the preceding tables.

a/ On the assumption that the specific product is imported from Japan, and that the differences in the part-cost remain the same for the total cost.

b/ On the assumption that the specific product is imported from the United States, and that the differences in the part-cost remain the same for the total cost.

D. PROSPECTS FOR THE INDUSTRY

The textile industry has now reached a new stage in its development, in which an important role will be played by technological innovations in the production process and changes in the composition and level of demand. While the highly-industrialized countries are taking active steps to modernize this industry and those in the initial stages of industrialization are installing it in line with the latest technical advances, the Latin American countries whose textile industry was established at the beginning of their industrialization process are at a disadvantage today, inasmuch as their plant is obsolescent and their operational practices are out-of-date. It may be noted, likewise within the region, that the textile industries installed in more recent periods are tending to leave the traditional producers behind. In order to compete in Latin American - and ultimately in extra-regional - markets, the industries concerned should undertake adequate programming of the operational conditions in which future production and expansion will take place. At the same time, they must bear consumption trends in mind, both as regards the various fibres, and in relation to quality and type of product.

Against this background, the movement towards regional integration is emerging, and opens up several different possibilities for the textile industry's participation in the prospective Latin American common market. If liberalization measures based solely on instruments of trade policy were applied, the rate at which duties were reduced or eliminated would inevitably be very slow, on account of the existing disparities between costs in the various countries and the understandable reluctance to expose the industry to the likelihood of distortions on a considerable scale. An alternative formula would consist in the more rapid liberalization of trade accompanied - and in some respects preceded - by a regional programme designed to increase the competetive capacity of the countries and sectors of the industry that are at the worst disadvantage, and including investment and technical assistance measures to promote the modernization of the industry within a predetermined time limit. Under such a programme, the provisions for the elimination of duties and the technical assistance and investment measures would complement and reinforce one another. Technical assistance and investment would place the industry on a competitive footing, and the introduction of competition by gradual degrees would create the hitherto non-existent incentive to modernize and rationalize the textile industry. Again, the liberalization programme might also be devised on such lines that it would be applied within the margin of additional market expansion, over and above the predicted natural growth, that would result from the cost and price reductions to which modernization gave rise.

/1. Modernization

1. Modernization of the industry and expansion of the market

A rapid expansion of the market is an essential prerequisite for the introduction of the changes in structure and thinking that have become indispensable in the industry. Given a more rapid growth of demand in the future than in the past, liberalization commitments could be scheduled in such a way that, during an interim period which admittedly would have to be fairly long, the increase in trade resulting from competition and specialization would primarily influence the margin of extra expansion of each individual country market. Thus, each country's industry would be certain of a definite and even a growing aggregate market. Respect for the status quo, however, would be compatible with the progressive regional integration of the markets in question. How this result could be achieved, in terms of the specific liberalization and other measures that would have to be adopted, is a matter outside the scope of the present chapter. But careful consideration must be given to the problem of how the market could be expanded.

An additional stimulus to demand would be provided by a reduction in relative prices for textile products, which would be feasible if the factors of production were more rationally utilized. In most of the Latin American countries, there are still large population groups whose consumption of textiles is negligible and which would react favourably to a relative price decrease. Such a development - an increase in consumption secured by means of price reductions - has already been noted in countries with high income levels. In Latin America, this price-elasticity of demand is greater still, and it may be assumed that a 10-per-cent decrease in the relative prices of textiles would generate an increase of 8 per cent in consumption. Consequently, by the use of the price instrument, the growth rate of demand could be speeded up considerably in relation to earlier periods. By way of illustration, on the assumption that greater operational efficiency, with lower costs, would be reflected in an annual reduction of 4 per cent in relative textile prices, and that the price-elasticity of demand would be -0.80, as indicated above, consumption would increase by 3.2 per cent per annum, that is, by 37 per cent in 10 years. This increment would be additional to the expansion resulting from the growth of per capita income at an assumed annual rate of 2.5 per cent. If a very low income-elasticity (0.80) is adopted, demand would expand by 4.8 per cent annually and by 60 per cent in 10 years. The total increase in consumption would therefore be approximately 97 per cent, a figure which denotes the dynamic evolution of the textile industry that could be achieved on the basis of co-ordinated effort at the regional level.

On this hypothesis, consumption would expand almost twice as fast as in recent periods, when its growth has been barely sufficient to match the increase in the population. Consequently, the figures indicated in the first projection, based on the past evolution of the rate in question - about 6,000 million dollars by 1975 - would have to be revised as the objectives implicit in the hypothesis propounded were gradually attained.

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It can be deduced from table 12 that in the conditions established by hypothesis II - which would entail an ambitious programme covering reorganization, renewal of equipment and reduction of prices within a relatively short space of time - consumption might reach about 8,200 million dollars by 1975. This figure is 2,300 million dollars higher than the estimate for the same year formulated in accordance with hypothesis I, which assumes that the rate of growth would remain the same as in the preceding decade. If these possibilities are to materialize, however, an intensive programme will have to be launched very shortly indeed. Otherwise - that is, if the programme is not started quickly enough or is on the cautious side -, a third growth hypothesis might be postulated which would reflect these limiting circumstances. This hypothesis III, presented in table 12, assumes that income would increase at the same rate as hypothesis II but envisages, that the relative prices of textiles would be reduced by only 2 per cent yearly. Even so, in 10 years the consumption increment would total 77 per cent, which would bring the figure up to about 7,400 million dollars by 1975, as compared with the 6,000 million estimated for hypothesis I.

Table 12

GROWTH HYPOTHESES FOR CONSUMPTION OF TEXTILES UP TO 1975

(Millions of dollars at 1960 prices)

	1960	1965	1975	Total growth 1965-75 (Percentage)	Annual growth rate (Percentage)
Hypothesis I	3 488	4 165	5 928	42	3.6
Hypothesis II	3 488	4 165	8 205	97	7.0
Hypothesis III	3 488	4 165	7 372	77	5.9

These data show the industry's great potential as regards expanding its markets and facilitating integration, and the preponderant role incumbent upon operational efficiency and price reductions in the attainment of these objectives.

/2. Liberalization

2. Liberalization of intra-regional trade within an expanded market

At the present time, the share of the products of the textile industry in inter-Latin American trade is of little significance, owing to the heavy customs duties to which these goods are subject. In the shelter of a level of tariff protection which virtually places an embargo on all imports, inefficient enterprises have grown up; there has also often been a lack of balance in investment, with the result that some branches of the industry have too much installed capacity and others too little. It has also been shown that the level of tariff duties and extra surcharges is much higher than would be necessary to protect the industry against competition from outside the region.

The expansion of demand will facilitate intra-regional trade by providing industry with a much bigger market than was originally contemplated. For example, a commitment to allocate to inter-Latin American trade an annual percentage of production equivalent to the increase in consumption generated by the reduction of prices would represent, according to the hypothesis formulated above, 3.2 per cent per annum (or the equivalent of about 130 million dollars at the consumption levels estimated for 1965), and would make no difference to each country's traditional market. This procedure would be conducive to a substantial trade in textiles, similar to that observable in Western Europe. Sufficient proof that the effects of price levels on consumption may be favourable is afforded, as far as Latin America is concerned, by the case of Colombia, where, alongside the lowest costs and prices, the highest increase in consumption was registered. Care must of course be taken that reductions in production costs are passed on to the consumer and that the marketing systems which nowadays force up the prices of textile products are rationalized and made less costly. But this end would undoubtedly be served by the atmosphere of healthy competition in which Latin America's textile industries would gradually come to operate.

A regional market for textile products would also help to solve the problem of industrial exports in the less developed Latin American countries, whose textile industry usually constitutes their most important group of manufacturing activities.

3. Trade with the rest of the world

In trade with the rest of the world, imports predominate; exports are effected sporadically and in small quantities. It has already been pointed out that about 10 per cent of the region's total consumption of textiles is satisfied by means of imports, and were this trend maintained, external purchases would amount to approximately 600 million dollars by 1975. At present, these imports come almost in their entirety from countries outside

the region, especially the United States, the countries of Western Europe and Japan. Foremost among them are synthetic fibres, production of which in Latin America does not yet supply as much as one-half of current consumer requirements. Others include special yarns and some fancy goods whose unit prices are high.

As regards export prospects, the increasingly manifest tendency of the industrialized countries to rely on imported textile products for growing proportions of their supplies is encouraging as regards Latin America's export trade prospects, since the region enjoys the comparative advantages in respect of raw material and labour that have already been set forth. Suffice it to quote the 1961 data published by OECD, according to which the imports of yarns, woven goods and clothing effected by the countries members of OECD attained the impressive figure of 3,848 million dollars. It is of interest to note, for its implications in relation to the future of inter-Latin American trade, that out of this total, 2,860 million dollars corresponded to trade among the OECD countries themselves. Imports from other countries, which came mainly from Asia, amounted to 988 million dollars; Latin America's contribution was barely 27 million dollars, 15/ i.e., less than 3 per cent of the total for this group. Thus, it would seem that Latin America has excellent chances of playing a more active part in world trade in textiles, and becoming a net exporter instead of an importer of such products. It will be necessary, however, to draw up and implement a consistent programme to ensure that the potential advantages are turned to full account, and that the operational and institutional stumbling-blocks which are impeding the progress of the region's export trade are removed.

4. Investment policy

In the light of existing operational conditions in the textile industry, as well as future prospects for consumption and trade, it is clearly advisable to adopt an investment policy consonant with integration objectives.

This policy will differentiate between two basic types of investment: one for the purpose of expanding capacity, and the other aiming at the modernization of the industry in order to reduce production costs and facilitate its participation in a more keenly competitive market than at present. While investment in expansion projects is essentially the responsibility of each individual country, investment for modernization purposes might be incorporated in a textile industry agreement, in combination with technical assistance measures and trade policy provisions. In

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15/ In practice, out of this total about 20 million dollars consist of exports of henequen yarns and rope from Mexico, which makes Latin America's share in textiles for clothing even more insignificant.

principle, consideration should be given to the possibility that the countries members of the Latin American common market might assume collective responsibility for the investment required to remedy inequitable situations deriving mainly from the degrees of obsolescence of their textile machinery. At the same time, the tariff concessions established within the said market might, in some extreme cases, be made contingent upon the provision of technical and financial assistance to lessen the existing disparities.

Both types of investment, however - in the expansion of capacity and in modernization of the industry through the replacement of obsolete equipment -, must be effected in accordance with certain general principles, especially as regards the selection of production techniques that will be appropriate to the conditions prevailing in Latin America, and in the light of current experience with respect to the utilization of existing installed capacity.

In other ECLA documents 16/ an attempt has been made to analyse the effects of selection of techniques on the investment required per unit of product, on production costs and on employment levels. In brief, several technological alternatives are open to the textile industry, as the outcome of the rapidity with which new machinery has been developed in recent periods to meet the needs of the highly industrialized countries. These, in view of their relative shortage of manpower, tend to use machinery which is above all labour-saving, improvements in respect of the speed of the machines and the quality of the finished product being relatively less significant than reduction of manpower requirements. But conditions in Latin America still differ widely from those prevailing in Europe, both as regards the relative shortage of manpower which induces the European industry to seek labour-saving techniques, and with respect to the supply of capital, the price of which is much higher in Latin America. It will therefore be essential to evaluate the relative influence on costs exerted by the saving of labour in one direction and the increase in amortization payments in another. Given the relative prices of the two factors, costs, far from dropping as a result of the application of up-to-date techniques, might actually rise, since in such circumstances the increase in amortization payments would outweigh the saving in manpower.

The indiscriminate introduction of machines of the labour-saving type in Latin America, to replace those now obsolete, would mean the employment of less manpower than at present, with the ensuing social consequences. Accordingly, the selection of techniques - with due regard to all the possibilities for replacement with machines that are up-to-date but differ in their degrees of automation - will have a decisive influence

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16/ See Selection of techniques and manpower absorption (ST/ECLA/Conf.11/L.3) and Elementos de una metodología para la programación sectorial de industrias tradicionales: La industria textil (ST/ECLA/Conf.11/L.21).

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on the level of employment. The selection of a technique for the replacement of machinery presupposes the prior consideration of another alternative, that of modernizing or maintaining the existing equipment, and the adoption of a decision as to the stage in the useful life of the equipment at which modernization should take place. Careful study will therefore be necessary to ensure that the investment proposed will be the most beneficial from the standpoint of the country's economic and social policy.

There is no denying that whatever the type of modern machinery selected to replace obsolete equipment, a certain amount of disemployment will always take place, but the impact can be cushioned if the renewal of equipment is graduated in such a way that the normal expansion of production reabsorbs the operatives laid off. In any case, modernization will substantially raise existing levels of productivity and wages.

Hence it would seem that proper programming, particularly of investment, is called for in the case of so complex a sector, where alongside old-established firms with obsolete machinery are to be found plants equipped with the latest technical improvements; where over against idle capacity in some establishments, intensive utilization of capital can be observed in others; and where, lastly, large-scale enterprises exist side by side with others virtually of the artisan type. In the past, this sector, which grew up in periods when the technique of programming had not yet been evolved, often developed without the necessary knowledge of the market and of operational conditions, under the aegis of strong tariff protection. The prospect of the regional integration of this industry and of intensified competition implies that the appropriate background information must be available on which each individual country can base the more rational use of its textile industry's potential. By this means, investment requirements in each country could be defined, the extent to which they are being met could be evaluated and the attainment of total investment targets could be promoted. For example, in the case of Brazil alone it is calculated that 200 million dollars should be invested in the replacement of obsolete machinery, irrespective of requirements for the expansion of capacity. In Uruguay, the cost of the necessary modernization has been estimated at about 10 million dollars, while other estimates indicate that the overhauling expansion of and production capacity in Peru would entail the investment of 30 million dollars. In physical terms, to judge from the incomplete data available at present, by 1970 demand for machinery would represent approximately 2 million spindles and 65,000 looms, mainly for the cotton sector. Since in 1962 the value of the textile machinery imported was about 100 million dollars, the saving in foreign exchange that could be achieved if textile machinery were manufactured in Latin America is obvious. This branch of manufacture, which would also meet the requirements of the region as regards levels of technology, has already been begun in some countries, and the possibilities and prospects of its expansion are under study.

16/ See Selection of techniques and manpower absorption (ST/ECLA/Conf.11/L.3) and Elementos de una metodología para la programación sectorial de industrias tradicionales: La industria textil (ST/ECLA/Conf.11/L.21).

5. Co-operation measures

In the textile industry, technical assistance in improving internal organization and increasing operational efficiency would be just as important a requisite as corrective investment for the effective application of liberalization commitments. In an industry like this, the purpose of the investment in question would be used to replace obsolete machinery, the proportion of which is very high in several countries of the region. But if the new equipment is to be efficiently utilized, comprehensive and continuing measures must be adopted to bring current methods of work completely up to date in respect of the organization of production, control of productivity and of plant operation, etc. Moreover, the need to avoid the serious disemployment which would inevitably result from the mass replacement of machinery by highly-automatized equipment means that replacement programmes must be extremely carefully graduated. For all these reasons, a technical assistance programme designed to improve standards of operational efficiency should be the chief instrument for enabling the textile industry to cope successfully with competition at the regional level.

In order to put such measures into effect, a promotion and technical assistance agency would be needed, to prepare, in collaboration with government bodies and private enterprise in each country, a diagnosis of the situation in the textile industry and translate it into terms of specific proposals for reorganization, expansion and reconditioning, as well as to formulate the corresponding investment budgets, which could be executed with the co-operation of the Inter-American Development Bank. Similarly, the programme would be implemented in close co-ordination with local agencies. This regional programme would be merely supplementary to the programming activities of each individual country, in those directions most likely to influence the regional integration of the textile industry, such as the modernization of equipment, the improvement of productivity and the organization of the enterprises concerned.

Action at the national level could be backed by international technical co-operation on the part of agencies specializing in the problems of the textile industry. In this connexion, ECLA, at its tenth session, 17/ held in May 1963, invited the international organizations interested in such matters to consider the possibility of providing co-ordinated collaboration with the competent national organs and relevant industrial bodies in implementing the plans of action of the countries concerned, and, if necessary, to visualize the establishment of an ad hoc working group to examine in each country, at its request, the technical and financial assistance that the said organizations might be able to provide in this connexion, in the light of the conclusions of the Commission's relevant studies, and thereafter to evaluate the progress made as a result of such assistance.

17/ Resolution 235 (X): "Problems of the textile industry".

Several countries are already taking steps to give the necessary support to the textile industry. In Chile, for example, a drive is being made to train personnel at the various levels, under the auspices of government bodies and with the co-operation of international agencies. Similarly, since 1963 the industrial sector, in conjunction with the Development Corporation and the Technical Co-operation Service - both of which are official agencies -, has been taking part in the analysis of specific problems of the textile industry, in what is known as the Operation Textile Sector (Operación Sectorial Textil). 18/ The questions under study include, inter alia, those relating to maintenance and spare parts for the industry. As regards the latter, it has been recommended that the large-scale manufacture of spare parts should be undertaken on a co-ordinated basis. The programme suggested by the Chilean Development Corporation contemplates activities both at the level of the mills themselves and at that of the industrial sector, its primary aims being to raise the efficiency of the machinery to normal levels, improve productivity, and secure closer co-operation among industrialists through such specific measures as, for example, the pooling of certain production media, whose capacity exceeds the requirements of the individual mills.

This programme has not yet been approved, and activities in the field of textiles have been confined to those referred to above. But the Chilean Government is devoting increasing attention to this sector under its economic development plan, and to the possibilities for the textile industry's participation in a regional market.

In Uruguay, the diagnosis of the industry clearly revealed the country's unfavourable situation as regards labour costs, arising from relatively high wages unaccompanied by a correspondingly high level of productivity. As a result of these conclusions, an agreement was negotiated in 1963 between trade unions and entrepreneurs, with a view to the improvement of labour productivity. The new collective labour contract for the textile industry also took into account the conditions indicated with respect to productivity and work-loads per operative. The ECLA textile study served as a basis for the industrial development programme which the Government agency responsible for promoting economic development (Comisión de Inversiones y Desarrollo Económico - CIDE) was formulating. In the preparation and implementation of the programme for the textile industry, special emphasis has been placed on productivity questions, and technical assistance has been obtained from various international agencies in formulating a programme for the sector, raising its productivity and giving direct advisory assistance to enterprises.

In Mexico, the Textile Industry Programming Committee (Comité para la Programación de la Industria Textil), formed by the Nacional Financiera S.A, the Banco de México, the Ministry of Finance and Public Credit, the Ministries of Industry and Trade, the Federation of Associations of Cotton Textile Manufacturers (Federación de Asociaciones de Industriales Textiles del Algodón) and the Mexican Wool Textiles Association (Asociación Textil Lanera Mexicana), is carrying out an exhaustive study of the textile

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18/ Instituto Textil de Chile, 2a. Memoria, 1963.

industry with a view to the development of a modernization programme. In both the cotton and the wool sectors, the proportions of obsolete equipment are very high, with the result that their potential advantages in respect of raw material and labour - particularly noteworthy in the cotton sector - cannot be turned to account. This programme is in line with the plan presented by the Government to Congress, which expressed the intention of completely modernizing Mexico's textile industry with a view to improving productivity, lowering prices and broadening external markets. To this end, a group of Mexican textile manufacturers visited various Latin American countries in order to study trade possibilities. Since 1964, the National Chamber of Textile Manufacturers (Cámara Nacional de la Industria Textil) in its turn, has been making efforts to induce the authorities to collaborate in individual and over-all plans for the integration, modernization and development of this important branch of the national economy.

A programme for the modernization of the textile industry was put into effect in the Nordeste region of Brazil, under the auspices of the Superintendencia de Desenvolvimento do Nordeste (SUDENE), after a detailed survey had been made in 1959 and the necessary background data has thus been obtained for the diagnosis of technical, economic, financial and administrative problems. The essential elements of the programme consist in supervised credit and intensive training courses for managers and foremen, designed to remedy the organizational and productivity deficiencies noted. Up to the present, projects have been approved to a value of 19,000 million cruzeiros, a sum which represents a substantial proportion of the total amount budgeted for in the programme.

It must be mentioned, however, that out of the total sum approved only 5,000 million cruzeiros have been taken up for specific operations. Manufacturers show a decided preference for contracting loans in local currency, owing to the exchange risks involved in foreign currency operations. Thus, the sums already borrowed represent 52 per cent of the total amount approved in local currency, and only 19 per cent of the approved foreign exchange financing. It should also be noted that the projects approved relate to 21 industrial establishments out of a total of 61 considered in the programme. The projects presented since the programme was launched number 33 in all, a relatively low figure for which an explanation can be found in the difficulties attendant upon loans in foreign currency, including high rates of interest and short amortization periods. Another of the reasons adduced is the low rate of return in textile activities as compared with other branches of industry, and the fact that many textile manufacturers hold more lucrative investments in other activities, with the consequent weakening of incentives to rationalize the textile industry. Other firms are so poorly-off for capital that they have not enough resources of their own to supplement the financing offered; and, lastly, some lack the administrative capacity to assume the responsibilities created by the complex machinery of the supervised credit system. The experience acquired in connexion with this programme furnishes valuable information on the problems likely to arise, which should be constantly borne in mind in the formulation of similar programmes, whether at the national or at the regional level.

In the Centro-Sul area of Brazil a National Commission for the Reorganization and Re-equipment of the Textile Industry (Comisão Nacional de Reorganização e Reequipamento da Indústria Textil) was set up by the interested entrepreneurs in 1962, as a result of the ECLA study on the textile industry in that region, 19/ to put into effect a basic reorganization and re-equipment plan. Subsequently, in 1964, an Executive Group for the Textile and Leather Industry (Grupo Executivo da Indústria de Tecidos e Couros - GETTEC) was established under the Industrial Development Commission of the Ministry of Industry and Trade. The chief aspects of the action proposed in this field include the replacement and reconditioning of equipment, the improvement of organization and management, the achievement of higher standards of labour productivity and the training of personnel. Similarly, provision is made for activities designed to improve raw material and reduce distribution costs. The effective application of this programme has not yet been embarked upon. However, the replacement of equipment, which is of fundamental importance in Brazil, since this country's machine inventory is the most obsolete in Latin America, may be facilitated by virtue of the recent arrangements made to grant loans for the purchase of machinery, including textile machinery, for periods ranging from 2 to 5 years.

Lastly, in Central America, under the Central American Economic Integration Programme, and with the technical assistance of the United Nations, a detailed study of the textile sector has been carried out and a specialization and development programme has been drawn up. Provision is made for continued technical assistance during the stage of implementation of the programme, and financial co-operation has also been obtained from the Inter-American Development Bank (IDB), which, since the end of 1961, has been giving a substantial impetus to the modernization and expansion of Central America's textile industry, through several institutions. The loans granted to the textile industry by IDB and the Central American Bank for Economic Integration up to the end of 1964 total 7 million dollars.

19/ ECLA, The Textile Industry in Latin America: II. Brazil, United Nations Publication, Sales No: 64.II.G.2.