

UNITED NATIONS

ECONOMIC
AND
SOCIAL COUNCIL



LIMITED

E/CN.12/L.28
June 1967

ENGLISH
ORIGINAL: SPANISH

ECONOMIC COMMISSION FOR LATIN AMERICA
Santiago, Chile

THE INDUSTRIAL DEVELOPMENT OF PARAGUAY

prepared by the
Government of Paraguay

and submitted by the secretariat of the
Economic Commission for Latin America

Note: This document has been distributed in Spanish for the United Nations International Symposium on Industrial Development, Athens, 29 November-19 December 1967, as document ID/CONF.1/R.B.P./3/Add.12.

EXPLANATORY NOTE

Resolution 250 (XI) of 14 May 1965, adopted by the Economic Commission for Latin America (ECLA) at its eleventh session, requested the Latin American Governments "to prepare national studies on the present status of their respective industrialization processes for presentation at the regional symposium". With a view to facilitating the task of the officials responsible for the national studies, the ECLA secretariat prepared a guide, which was also intended to ensure a certain amount of uniformity in the presentation of the studies with due regard for the specific conditions obtaining in each country.

Studies of the industrial development of fourteen countries were submitted to the Latin American Symposium on Industrial Development, held in Santiago, Chile, from 14 to 25 March 1966, under the joint sponsorship of ECLA and the Centre for Industrial Development, and the Symposium requested ECLA to ask the Latin American Governments "to revise, complete and bring up to date the papers presented to the Symposium".

The work of editing, revising and expanding the national monographs was completed by the end of 1966 and furthermore, two new studies were prepared. The ECLA secretariat attempted, as far as possible, to standardize the presentation of the reports, in order to permit comparison of the experience of the different countries with regard to specific problems, particularly in the field of industrial policy.

The national studies on industrial development, to be presented to the International Symposium relate, in alphabetical order, to the following countries: Argentina, Bolivia, Brazil, Central America, Chile, Colombia, Cuba, Ecuador, Guyana, Mexico, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay and Venezuela.

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Chapter I

HISTORICAL OUTLINE

Industrial activity is relatively new in Paraguay. The first manufacturing establishments organized as such appeared in the country approximately a hundred years ago (1850-1860). Before this period, and especially during the colonial era, with the basically agricultural economy of the guaranis, manufactured goods' production was entirely in the hands of craftsmen. After the Independence (1811), when the country was isolated from its neighbours, the craft system and that of domestic production became even more established, due to the strong necessity for a national system of self-supply.

The first industrial firms organized between 1850 and 1860 were related to iron founding, shipbuilding and ship repairs, the manufacture of wood and leather and of maté, all intended to create the basic conditions for obtaining the country's foreign market after more than twenty years of isolation. This first attempt ceased completely at the end of the War of the Triple Alliance (1865-1870) which terminated activities and drastically reduced the market.

After the Great War, and especially during the period 1900-1950, the largest industries, which exist in Paraguay at the present time, were established with foreign capital, to process national raw materials for export. Other intermediate and small industries were also set up destined to supply the home market, some of which developed with the expansion of local demand.

Chapter II

RELATIVE IMPORTANCE, STRUCTURE AND GENERAL CHARACTERISTICS OF THE MANUFACTURING INDUSTRY

1. General considerations

There are three manufacturing systems in the country with completely different characteristics: rural and domestic crafts, crafts of the urban type and organized manufacturing. Generally speaking, each one of these systems produce goods for different income level consumer groups.

The manufacturing industry is composed of large firms, together with medium-sized and small factories, the latter including those with more than four workers. Large industry consists of a limited number of firms which produce export articles and certain domestic consumption goods which have a dynamic growth. They are more advanced technologically, more efficient in their production and relatively modern. There is very little inter-relationship between them and even less between them and the smaller firms.

The medium-sized and small factories basically produce domestic consumption goods, with little utilization of technique and with low productivity. They are many in number, not dynamic in nature and are great labour consumers.

The urban type of crafts consists of a group of independent workers and small workshops of up to four workers. Its importance is considerable, due to the special type of demand its production satisfies and the extraordinary amount of employment it provides. They are workers on subsistence salaries and to a considerable extent avoid tax pressure and social liabilities, which to some degree compensates for their lack of efficiency in competition with the medium sized and small industries. This type of activity mainly arises when certain goods can be produced manually and on a small scale, usually low quality final consumption articles, stimulated by the demand of a large number of low income consumers.

The rural and domestic crafts productive system is one of a marginal nature; it constitutes a complementary activity on the part of women or small farm workers, to improve their low income level. This system is very generalized and due to low labour costs, organized industry finds it difficult to compete.

/The most

The most important aspects of the industrial situation are the following:

- (a) Industrial production is directed fundamentally to supplying domestic consumption (80 per cent).
- (b) Since there are no valuable metallurgical resources in the country, industrial activity depends basically on the agricultural and forestry sector, with little reciprocal integration. Large establishments even tend to produce their own subsidiary inputs and to complete their semi-prepared raw materials in their own additional installations.
- (c) Demand for intermediate manufactured goods in the agricultural and forestry sector is slight. Capital goods production for industry is low and is reduced mainly to construction material.
- (d) The domestic market is small due to low population, low income level and its uneven distribution. Quality requirements are generally lower than in the foreign market.
- (e) The country's competitive possibilities in the foreign market derive more from its natural resource advantages than from its industrial efficiency. Industries supplying the domestic market have difficulty in adapting themselves to foreign market demands.
- (f) The economic and monetary crises of frontier countries, the instability of international prices, and changes in consumer preferences with respect to basic manufactured goods, have constituted limiting factors in national production and in exports, apart from cutting off the domestic market because of unforeseen competition, resulting from exchange situations and frontier traffic which have been difficult to control.
- (g) The heavy industrial dependence of seasonal raw materials and the irregularity of transport for imports and exports, have meant that operating capital must be relatively high in the greater part of industry.
- (h) The dynamic industries have tended to become concentrated in a limited number of firms, which process a few products for export or for import substitution. These are the most modern and the most efficient; they expand and capitalize at significantly higher rates than the rest and usually they are larger, although they can be found at some of the lower levels. Those producing for export are generally financed by foreign capital.

/(i) The

(i) The less dynamic industries are those which supply the domestic market with a wide range of consumer goods, generally at a slow rate of growth. They are firms of the medium and small type, with low capital density, limited technological level, their production equipment is generally obsolete and their operating capital small.

(j) The independent workers' sector (urban crafts and rural and small workshops) covers the demand for final consumption goods of inferior quality, closely tied to the low-income consumer group. Its productive efficiency is very limited, but it competes with organized industry on the basis of low prices as a result of low salaries, the absence of capital costs, and especially, low tax pressure resulting from the non-payment of taxes and social contributions.

(k) In many instances existing production capacity should be considered totally or partially obsolete. Greater idle capacity is to be found in the medium-sized and small industries, due to the slow rate of growth of demand for the goods they process and because of the persistent tendency to augment the number of new productive units, as a result of the relative ease to organize them, which increasingly disperses this group of industry.

(l) Industry is strongly concentrated in the central area of the country, especially in the capital and its surroundings. A great number of the larger concerns are to be found in the interior, usually close to raw material sources.

(m) There is a strong trend towards self-production of energy in the large and medium-sized establishments, because of availability and supply costs. Long distances for the transport of wood are gradually increasing its substitution with liquid fuel, which is more economical.

(n) In general terms, industry utilizes a small number of specialized workers, technicians and professionals. These are few and their training slow.

(o) The manufacturing sector has been un-dynamic in increasing employment level. Rationalization has tended more to increase man productivity rather than the number of employed. A high percentage of the labour force is employed in crafts, with low remuneration and productivity. This sector absorbs labour which cannot find employment in the organized industries.

/(p) Business

(p) Business saving is to be found mainly in the large, modern concerns which are more dynamic and which also absorbed the greater part of the new investments of the period. In the medium-sized and small industries, saving possibilities are less, but the investment of new capital at this level is relatively easy.

(q) The capital market is practically inexistent and the association of capital is operated on the basis of personal friendship or family groups. There are practically no organized systems for attracting savings towards industry.

(r) Generally speaking, concerns are under-capitalized and depend to a high degree on credit. Many establishments cannot fully utilize their installed capacity because of the lack of sufficient operating capital.

(s) The credit system is organized basically on loans of a commercial and not industrial nature. Credit for operating capital is expensive because of administrative costs and is generally short term; credit for long term investment, with local resources, did not exist until the recent incorporation of the National Development Bank. Credit for financing exports is fundamentally of the commercial type and does not correspond, therefore, to specific programmes.

(t) Direct credit from foreign sources was generally channeled into large concerns. Recently, credit obtained from international financial institutions is making it possible for this to reach the other industrial levels.

(u) There is a legal control system of development and there are guaranties for foreign investment, but the placing of capital was very limited during the period. Stimuli for national concerns are mainly derived from tax exemptions for the importation of investment goods and for infra-structural works.

(v) In the most important industries management is in the hands of a professional administrative body. In the smaller concerns the patriarchal administrative system prevails. Nevertheless, there does exist a group of businessmen which could constitute a dynamic sector disposed to assume greater responsibility in the face of new prospects.

(w) ALALC has awakened a certain amount of hope among businessmen, but has resulted in little change in the organization of concerns and production, due to its insecurity.

(x) Export quality control is still not quite efficient. Generally speaking, export products are subject to prior permits, at each stage of operation, in order to ensure domestic consumption and the necessary industrial raw materials.

(y) There is a system of industrial development, which basically derives from tax exemption on the importation of investment goods, exemption from export duties and sales tax reduction.

2. Gross product of the manufacturing industry
within the total gross product

Participation of the industrial sector in the gross geographical product was 16.4 per cent in 1962, having the third place therefore in relation to the most important sectors of the economy (agriculture, 24 per cent, trade, 21.5 per cent). During the period 1955-1962, no changes in the level of participation of the industrial sector were recorded.

The gross manufactured product in 1962 was 7,169.3 million guaranis, 77 per cent in the manufacturing industry and 23 per cent in crafts. With regard to the base year 1955, industry experienced an accumulative annual rate of growth of 3.3 per cent, slightly higher than the whole economy.

The most important industries consist of five large groups which, taken as a whole, provide 73.7 per cent of the gross industrial product; food, 26.7 per cent; chemical products, 18 per cent; textiles, 14.3 per cent; footwear and clothing, 9.3 per cent and beverages, 5.4 per cent. This situation indicates the very slight diversification which exists and the slight relative importance of the other industrial sectors.

Most dynamic in growth between 1955 and 1962 were tinned meat, flour, sugar and edible oils in the food industries which constitute the bulk of the industrial production of the country; coconut and tung oil, soap, paint and essential oils in chemical products and thread and cotton fabric in textiles.

Other manufactured goods, on the main part, experienced slight growth during the period under consideration.

Table 1

PARAGUAY: INDUSTRIAL AND TOTAL DOMESTIC GROSS PRODUCT

(Millions of guaranis at 1962 prices)

Year	Total Economy	Industrial Sector	Percentage	
			Total Economy	Industrial Sector
1955	36 175.7	6 102.0	100	16.9
1956	35 746.5	6 068.8	100	17.0
1957	38 233.4	6 421.4	100	16.8
1958	40 263.0	6 647.2	100	16.5
1959	40 134.8	6 886.5	100	17.1
1960	40 802.2	6 494.1	100	15.9
1961	43 118.3	7 112.0	100	16.5
1962	43 786.8	7 169.3	100	16.4

Source: Technical Planning Secretariat.

3. Participation of the principal industrial branches within the total manufacturing industry

Tables 2 and 3 show the participation of the principal industrial branches in the total manufacturing industry.

Table 2

PARAGUAY: PARTICIPATION OF THE PRINCIPAL INDUSTRIAL BRANCHES IN THE TOTAL MANUFACTURING INDUSTRY

(Production values in percentages)

Industrial branches	1956	1958	1960	1962
Food	38.2	46.5	47.5	44.1
Beverages	4.9	4.3	4.2	4.1
Textiles	15.0	13.5	10.1	12.7
Footwear and clothing	7.1	6.2	6.6	6.3
Chemical products	13.3	11.7	13.7	14.4
Others	21.5	17.8	17.9	18.4
<u>Manufacturing industry</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: Technical Planning Secretariat.

Table 3

PARAGUAY: PARTICIPATION OF THE PRINCIPAL INDUSTRIAL
BRANCHES IN THE TOTAL MANUFACTURING INDUSTRY

(Gross product in percentages)

Industrial branches	1956	1958	1960	1962
Food	22.2	29.3	27.5	26.7
Beverages	6.1	5.7	5.6	5.4
Textiles	14.7	15.3	13.2	14.3
Footwear and clothing	10.1	9.5	10.2	9.3
Chemical products	15.3	14.7	17.2	18.0
Others	31.6	25.5	26.3	26.3
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: Technical Planning Secretariat.

Table 4

PARAGUAY: INDUSTRIAL EMPLOYMENT WITHIN TOTAL
ACTIVE POPULATION

(In thousands of persons)

Year	Economically active population	Total Manufacturing Sector	Manufacturing sector	Crafts sector
1955	512.9	78.2	34.4	43.8
1956	519.6	79.3	34.8	44.4
1957	540.3	82.4	35.2	47.1
1958	554.6	84.6	35.7	48.9
1959	569.1	86.8	36.1	50.7
1960	584.0	89.1	36.5	52.5
1961	599.6	91.5	37.0	54.5
1962	615.6	94.0	37.4	56.5

Source: Statistics and Census Board, prepared by the Technical Planning Secretariat.

Table 5

PARAGUAY: EMPLOYMENT IN THE PRINCIPAL INDUSTRIAL BRANCHES
WITH RELATION TO THE TOTAL MANUFACTURING INDUSTRY

Industrial branches	Persons employed 1955	Per-centage	Persons employed : 1958	Per-centage	Persons employed 1962	Per-centage
Food	8 896	25.8	9 536	28.3	11 870	31.7
Beverages	1 989	5.8	2 102	6.2	2 190	5.9
Textiles	2 917	8.5	2 710	8.1	3 144	8.4
Footwear and clothing	2 994	8.7	3 251	9.7	3 624	9.7
Chemical products	8 082	23.5	5 916	17.6	4 765	12.7
Others	9 571	27.7	10 103	30.1	11 821	31.6
<u>Total</u>	<u>34 449</u>	<u>100</u>	<u>33 618</u>	<u>100</u>	<u>37 414</u>	<u>100</u>

Source: Technical Planning Secretariat.

4. Industrial employment within total active population

The manufacturing sector provides employment for 15.3 per cent of the economically active population. In 1955, it employed more than 78,000 people, about 44,000 of which were estimated as pertaining to crafts. It has been calculated moreover, that between 1955 and 1962 employment in this sector increased by 15,800, only 3,000 of which were absorbed into the manufacturing industry, the rest into crafts. This means that employment in the manufacturing sector increased at the same rate as the economically active population (3 per cent annually) while in the manufacturing industry the annual increase was slightly over 1 per cent. Craftsmen therefore, became the refuge of considerable numbers of new workers who possessed few alternatives for better paid employment. (See table 4.)

The highest levels of employment are to be found in the food industries, chemical products, textiles, footwear and clothing. In recent times, there was considerable restructuring of the employment sources, motivated by the paralization of some plants, for example the chemical industry, which lost about 40 per cent of its workers, although this situation was compensated by the reactivation of other concerns. Excluding the chemical industry,

/employment in

employment in the other industries increased 3 per cent during the period under analysis, which indicates the influence exercised by that sector in determining the employment pattern during this period. (See table 5.)

In 1955 the employment structure was as follows:^{1/}

	<u>Percentage</u>
Owners and relatives	13
Administrators and technicians	10
Workers and apprentices	57
Domestic workers	20

Productivity per man employed in the manufacturing industry rose 15 per cent between 1955 and 1962, increasing from 127,100 to 146,995 guaranis per person. The reason for this is that larger concerns, absorbing relatively less labour with a greater use of technology, had a more dynamic growth during the period under consideration. Moreover, during that same period, large establishments closed down, creating unemployment among a considerable number of workers, with no apparent parallel fall in supply of the corresponding products.

5. Foreign trade with reference to the manufacturing sector

(a) Import analysis

The most outstanding import group is manufactured goods, which represents 85 per cent. The remainder is made up of products from other sectors, mainly wheat (for flour), salt, onions, livestock, etc.

As can be seen in tables 6 and 7, transport material which is usually composed almost entirely of cars and which varies between 5 and 10 per cent, rose in the years 1960, 1961 and 1962 to between 15 and 18 per cent due to the importation of ships for the Merchant Marine. The same applies to machinery imports, which have varied from year to year between 2 and 5 million dollars and their relative importance between 6 and 13 per cent.

Nevertheless, changes have been noticed in the behaviour of certain branches over the last eight years. For instance, in food it can be seen that a 13.4-12.4 per cent in 1956 and 1957 was reduced to 3.0-5.6 per cent in the following years. This was due to the fact that in the earlier years flour imports were considerable, while in later years these were substituted by wheat imports.

^{1/} Source: "Industrial Census 1955.

^{1/} Apparently the

Apparently the same happened with textile imports which in the first three years stood at about 8 per cent and in the latter ones dropped to 5 per cent. Actually, these figures reflect the considerable volume of fabric imports from Brazil in recent years as uncontrolled trade which, therefore, do not appear in the official statistics.

Table 6

PARAGUAY: CIF VALUE OF MANUFACTURED IMPORTS
(Thousands of dollars)

Industrial branches	1956	1958	1960	1962	1963
Food	3 664	1 689	1 204	1 386	2 123
Textiles	2 520	3 498	1 575	2 245	1 800
Chemical products	851	1 689	1 601	2 090	2 063
Oil by-products	3 445	4 336	4 622	5 185	5 860
Basic metals	1 774	2 947	2 250	1 775	2 462
Machinery	2 557	5 055	4 650	4 510	3 366
Transport material	1 565	3 697	6 110	5 881	3 907
Others	6 668	9 878	13 585	9 804	9 983
<u>Total</u>	<u>23 044</u>	<u>32 789</u>	<u>35 597</u>	<u>32 876</u>	<u>31 564</u>
Other sectors	4 269	4 456	5 209	6 863	6 071
<u>Country's total</u>	<u>27 313</u>	<u>37 245</u>	<u>40 806</u>	<u>39 739</u>	<u>37 635</u>

Source: Technical Planning Secretariat.

Table 7

PARAGUAY: STRUCTURE OF MANUFACTURED IMPORTS
(Percentages)

Industrial branches	1956	1958	1960	1962	1963
Food	13.4	4.5	3.0	3.5	5.6
Textiles	9.2	9.5	3.8	5.6	4.8
Chemical products	3.2	4.5	3.9	5.3	5.5
Oil by-products	12.6	11.6	11.3	13.0	15.7
Basic metals	6.5	7.9	5.5	4.5	6.5
Machinery	9.4	13.6	11.4	11.3	8.9
Transport material	5.7	9.9	15.0	14.8	10.4
Others	24.4	26.5	33.3	24.7	26.4
<u>Total</u>	<u>84.4</u>	<u>88.0</u>	<u>87.2</u>	<u>82.7</u>	<u>83.8</u>
Other sectors	15.6	12.0	12.8	17.3	16.2
<u>Country's total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: Technical Planning Secretariat.

/Imports of

Imports of chemical products, which in the early years were 0.8 million dollars per year, in 1963 rose to 2 million dollars.

This increase was due to the greater need for chemical products in industry and the wider application of fertilizers and insecticides in agriculture.

Both in this group as in oil by-products, a persistent increase is shown, without sharp changes from year to year, as a result of the wide market distribution.

Oil by-products, which were 3.4 million dollars in 1956, rose to 5.9 million in 1963, thus showing an annual accumulative increase of 8 per cent during this period, which indicates the growing demand for imported fuel. (See table 8.)

Table 8

PARAGUAY: VALUE OF OIL BY-PRODUCT IMPORTS

(CIF value in thousands of dollars)

	1956	1958	1960	1962	1963
Petrol	1 655	2 036	2 260	2 205	2 226
Refined mineral oils	1 415	1 767	1 705	2 378	2 558
Lubricants	314	475	537	476	500
Asphalt	61	58	120	126	576
<u>Total</u>	<u>3 445</u>	<u>4 336</u>	<u>4 622</u>	<u>5 185</u>	<u>5 860</u>

The main groups were fuels which in 1963 represented 4,784 thousand dollars, approximately 13 per cent of total imports, a figure which reflects the distressing situation of the country with regard to available energy.

The greatest increase in imports has been seen in refined mineral oils, the relative importance of each one being shown in table 9.

Table 9

PARAGUAY: COMPOSITION OF REFINED MINERAL OIL IMPORTS

(Percentages)

	1957	1960	1963
Paraffin	39	40	29
Diesel-oil	31	25	20
Fuel-oil	30	35	51
<u>Total</u>	<u>100</u>	<u>100</u>	<u>100</u>

This table shows the increasing importance which fuel-oil imports have achieved in recent years, due to a greater consumption of this fuel, which has gradually substituted wood in certain industries and, fundamentally, in the generating of electric power.

The consumption of gas-oil and paraffin also increased considerably, although not as much as fuel-oil; the former as a result of its increased domestic consumption and the latter because of its greater use in motor-vehicles and in the generating of electric power by the private sector.

Asphalt imports, which had no significant value before 1960, acquired considerable importance in more recent years due to governmental road paving plans.

(b) Exports analysis.

An examination of manufactured product exports is worthwhile in view of their high proportion within the total value and because these products originate in the most important and most dynamic industries of the country.

The greatest possibilities for achieving increased industrial development lie in increasing production of traditional export goods and the production of new lines which the country is in a position to produce and for which there exists sufficient foreign demand.

A brief summary will be made in this chapter of the export pattern of the principal products. (See tables 10 and 11.)

Food product exports are first in importance. In recent years they have reached almost a third of the value of total exports, and they consist mainly of livestock products such as: tinned meat, meat extract, concentrated broth and frozen meat.

/Exports of

Exports of preserved meat, which is the main line among the livestock products, increased considerably after 1958, as a result of the lifting of the restrictions on livestock slaughtering, rising from 5.3 million dollars to the record figure of 8.6 million in 1963, and thus becoming the main export product. Exports of meat extract also had a substantial increase, rising from 360,000 dollars in 1958 to 1.2 million in 1963, that is, a threefold increase in five years. Exports of cured salt meat were made only in 1958 and 1959 and stood at about one million dollars. These exports were suspended when the United States closed its market for this product.

Exports of frozen meat, sporadic and of little importance until 1963, increased from 1964 onwards, as a result of the growing demand on the part of various European countries. Exports of other food products have been very irregular.

During the period under analysis, new product lines began to be exported. Sugar from 1958 and tinned palmitos after 1962.

Exports of beverages are composed solely of cane syrup with an insignificant participation in the total.

Exports of cotton fibre, which in 1956 reached the significant figure of 5.6 million dollars, fell steeply after that date dropping to less than 300 thousand dollars in 1960 due to deficiencies in agricultural production. From this year onwards, cotton fibre exports rose again to a value of 3.2 million in 1963.

Exports of sawn timber fluctuated between 1 and 2 million dollars, the volume of Argentine trade having considerable influence. The low value of sawn timber exports as compared to logs should be stressed, exports of the latter having reached 3.5 million dollars in recent years.

Prospects offered by the freeing of Paraguayan wood exports by certain countries of the ALALC, especially the Argentine, should increase them considerably.

After food products, chemicals rate next in importance within exports, varying around 20 per cent of the total. Their structure experienced considerable changes. The main export product in this group, which was tannin, dropped from 6.5 million dollars in 1956 to 2.5 million in 1962, because of a deterioration in the price of quebracho extract in the

/international market

international market, resulting from competition given by mimosa extract. Nevertheless, agreements made between producers of quebracho extract and mimosa extract as regards price fixing has resulted in a stabilization of the export value of this product.

Opposite and fundamental changes occurred in industrial oil exports. From 1.4 million dollars in 1956 they rose to 4.4 in 1963. This was due to the increased production of almond oils and coconut pulp, and the increased demand for tung oil resulting from the frost that affected tung plantations in the United States during 1962 and 1963.

Exports of castor oil dropped because it became more convenient for regular purchasers to buy seed instead of oil.

Exports of essences showed no great changes. These consisted chiefly of petit-grain essence, and in recent years those of Palo Santo and Menta grew in importance.

Cement exports, initiated in 1960, although low in value, could in the future constitute an important line of exports, given the freedom of duties granted by the Argentine to this product.

Various industrial products actually consist of elemental changes of the raw materials, thus constituting a small aggregate value. If all these products are taken into consideration, the result is that within total exports manufactured goods occupy about 65 per cent. Nevertheless, products such as cotton fibres, sawn timber, frozen and cured meat, occupy a high proportion. Due to this fact, the situation is explained more clearly in tables 12 and 13, where export products have been classified according to their greater or lesser degree of development.

Table 10

PARAGUAY: FOB VALUE OF MANUFACTURED EXPORTS

(Thousands of dollars)

Industrial lines	1956	1958	1960	1962	1963
Food	4 858	9 078	7 396	7 929	12 973
Textiles	5 744	3 837	423	2 600	3 323
Timber	1 646	1 667	1 192	2 008	1 208
Leather	2 006	1 983	2 204	1 689	1 520
Chemical products	9 055	5 778	5 510	5 938	8 503
Others	-	429	122	199	145
<u>Total</u>	<u>23 309</u>	<u>22 772</u>	<u>16 847</u>	<u>20 363</u>	<u>27 672</u>
Other sectors	13 382	11 330	10 131	13 102	12 519
<u>Country's total</u>	<u>36 691</u>	<u>34 102</u>	<u>26 978</u>	<u>33 465</u>	<u>40 191</u>

Table 11

PARAGUAY: STRUCTURE OF MANUFACTURED EXPORTS

(Percentages)

Industrial lines	1956	1958	1960	1962	1963
Food	13.2	26.6	27.4	23.7	32.3
Textiles	15.7	11.3	1.5	7.8	8.3
Timber	4.5	4.9	4.4	6.0	3.0
Leather	5.5	5.8	8.2	5.0	3.8
Chemical products	24.7	16.9	20.4	17.7	21.1
Others	-	1.3	0.5	0.6	0.4
<u>Industrial total</u>	<u>63.6</u>	<u>66.8</u>	<u>62.4</u>	<u>60.8</u>	<u>68.9</u>
Other sectors	36.4	33.2	37.6	39.2	31.1
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: Technical Planning Secretariat.

Table 12

PARAGUAY: EXPORT FOB VALUE ACCORDING TO DEGREE OF
DEVELOPMENT OF THE MANUFACTURED PRODUCT

(Thousands of dollars)

	1956	1958	1960	1962	1963
1. <u>Slightly developed manufactured products</u>	9 660	9 878	4 405	7 155	7 147
a) Consumer goods	-	1 050	13	53	8
b) Intermediate products	9 660	8 829	4 392	7 102	7 139
2. <u>More developed manufactured products</u>	13 649	12 893	12 442	13 208	20 525
a) Consumer goods	4 594	7 115	6 932	7 270	12 022
b) Intermediate products	9 055	5 778	5 510	5 938	8 503
3. <u>Products from other sectors</u>	13 382	11 330	10 131	13 102	12 519
<u>Total</u>	<u>36 691</u>	<u>34 102</u>	<u>26 978</u>	<u>33 465</u>	<u>40 191</u>

Source: Technical Planning Secretariat.

Table 13

PARAGUAY: EXPORT STRUCTURE ACCORDING TO DEGREE OF
DEVELOPMENT OF THE MANUFACTURED PRODUCT

(Percentage on the total)

	1956	1958	1960	1962	1963
1. <u>Slightly developed manufactured products</u>	26.3	29.0	16.3	21.4	17.8
a) Consumer goods	-	3.1	-	0.2	-
b) Intermediate products	26.3	25.9	16.3	21.2	17.8
2. <u>More developed manufactured products</u>	37.2	37.8	46.1	39.4	51.1
a) Consumer goods	12.5	20.9	25.7	21.7	29.9
b) Intermediate products	24.7	16.9	20.4	17.7	21.2
3. <u>Products from other sectors</u>	36.5	33.2	37.6	39.2	31.1
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: Technical Planning Secretariat.

/6. Credit

6. Credit

In Paraguay, credit is obtained mainly through the banking system, which consists of an issuing bank, a state bank and six private banks.

Private banking showed a significant increase in the granting of credit during the period 1958 to 1963, reaching 5,900 million guaranis in 1963 compared with 1,357 million in 1958 (both at current prices).

Credit composition has varied considerably during this period. Both as regards contracted credit as with balances, private banking has been channeled to a greater extent into the commercial sector, which in 1963 received 54 per cent of the amount of credit allowed, while industry received 32.6 per cent. (See table 14.)

Table 14
PARAGUAY: CREDIT GRANTED BY THE PRIVATE BANKS
ACCORDING TO FINAL END
(Percentages)

Sectors	1958	1959	1960	1961	1962	1963
Industrial	51.20	43.10	41.50	26.30	21.80	32.60
Agricultural	1.40	1.50	1.10	1.10	1.40	1.00
Livestock	11.90	9.40	11.50	9.80	9.30	9.40
Commercial	34.30	42.80	44.30	59.70	65.90	54.40
Construction	-	0.02	-	-	0.05	1.40
Others	1.20	3.12	1.60	3.10	1.55	1.20
<u>Total</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>
	(Balances)					
Industrial	56.80	49.00	47.40	33.00	36.50	36.30
Agricultural	2.70	1.50	1.20	1.30	1.40	0.90
Livestock	18.60	12.70	14.00	13.10	12.50	10.30
Commercial	19.80	33.90	34.70	47.10	47.50	50.00
Construction	-	-	-	-	0.06	0.04
Others	2.20	2.90	2.70	5.50	2.04	2.09
<u>Total</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>

/The main

The main characteristic of credit facilities of the private banks is that they are short term, generally 90 days, in some instances 180 days with a relatively high rate of interest, of 12 per cent annually.

These conditions adapt themselves better to the commercial rather than the industrial sector, which has received the same treatment. Mostly, this credit could only be applied to working capital, that is to say, for stocking of raw materials and marketing.

The National Development Bank, set up in 1961, is divided into four departments: development, agricultural, commercial and savings, and administrative. The assistance given by this bank to the private sector, and mainly to the producing sectors with longer term loans and lower interest rates, is answering a strongly felt need.

Although credit operations of this entity began recently at the end of 1961, the total volume of loans has increased considerably, reaching the sum of 911 million guaranis in 1963, which represents 13 per cent of the total credit granted by the whole group of banks in the country.

The Development Department has granted credit to the industrial sector in the value of 60.6 million guaranis, as follows:

for three years	2,778,000
for five years	53,003,000
for more than five years	4,863,000

Eighty-eight per cent of this credit was financed with foreign funds.

Credit granted by the Commercial and Savings Department was fundamentally commercial in character and on short term, except a credit of 94.5 million guaranis for five years, in which the National Development Bank acted as intermediary. The Paraguayan Meat Industry S.A. was the beneficiary of this credit granted by foreign private banks to the Central Paraguayan Bank.

Other credit facilities of this Department to the industrial sector were for marketing and purchasing of raw materials, to a total of 253.6 million guaranis:

for 180 days	148,394,000
for 1 year	10,735,000
for 5 years	94,500,000

/The total

The total amount which the National Development Bank granted to the industrial sector was 314,274,000 guaranis; on the other hand, all the private banks taken together only lent 1,936,000 guaranis to this sector. From this can be seen the great importance of the National Development Bank for industry. Prior to its creation, the industrial sector could be considered an orphan with regard to investment credit. Furthermore, taking into account the participation of Paraguay in the ALALC, its activities are most opportune since they will make it more possible for industry to enter this broadened market with a greater possibility of success.

Through the same National Development Bank, the Federal German Government granted Paraguay a 12 million marks loan to finance capital goods for small and medium-sized industries. There is also the possibility of a credit agreement of 4 million dollars with the Interamerican Development Bank to cover the needs of the industrial sector.

7. Size of industrial establishments

In Paraguay there is a strong predominance of small industries and crafts. According to the industrial Census of 1955, medium-sized and large industries, which employed 50 or more workers, represented only 3 per cent of the total 2,790 establishments in existence that year. In spite of the fact that between 1955 and 1962 certain changes did take place, through the disappearance of some establishments and the installation of others, this structure continues practically unaltered, which makes it possible to point out that the trend to dispersion of small activities is strong, while the formation of medium-sized and large concerns is still a relatively slow matter. (See tables 15 and 16.)

Table 15
PARAGUAY: INDUSTRIAL STRUCTURE IN 1963

Persons employed	Number of establishments	Percentage of establishments	Accumulated percentage
1 to 4	4 322	74.0	74.0
5 to 19	1 323	22.6	96.6
20 to 49	131	2.2	98.8
50 to 99	38	0.7	99.5
100 and more	31	0.5	100.0
<u>Total</u>	<u>5 845</u>	<u>100.0</u>	

Source: 1963 Industrial Census.

/Table 16

Table 16

PARAGUAY: SIZE OF INDUSTRIAL ESTABLISHMENTS IN 1963,
MEASURED IN INSTALLED H.P.

Motor power group	Number of establishments	Percentage	Accumulated percentage
No motor power	4 013	68.66	68.66
Less than 5 HP	559	9.56	78.22
From 5 to less than 10 HP	455	7.79	86.01
From 10 to less than 20 HP	341	5.83	91.84
From 20 to less than 30 HP	115	1.97	93.81
From 30 to less than 50 HP	151	2.58	96.39
From 50 to less than 100 HP	93	1.59	97.98
From 100 to less than 250 HP	50	0.86	98.84
From 250 to less than 500 HP	24	0.41	99.25
500 and over	44	0.75	100.00
<u>Total</u>	<u>5 845</u>	<u>100.00</u>	

Source: 1963 Industrial Census.

8. Industrial location

Seventy per cent of the industrial production of the country is concentrated in the Central Department, including the Capital, which is the only industrial nucleus of any importance in actual existence.

The factors which have contributed to this great concentration of industry are many, such as means of communication between the interior and the outskirts of the country, more resources in the way of qualified, technical labour force, the existence of public services such as electricity, communications, transport and especially the fact that the population in the central region enjoy a higher income level and therefore provide the highest demand for the products of mills, bakeries, pasta producers, shoe making and clothing industries, etc. which constitute a considerable part of total industrial production.

Even though there are no other industrial nuclei, nor any specialization in the manufactured goods production, a marked regionalization of certain industries is to be found in certain areas of the country, especially those which, through their nature, are established preferentially in raw material producing areas.

This is particularly true of the industries whose main inputs are of forestry or mineral origin, such as the tannin factories in Alto Paraguay,

/those of

those of lime and cement in the Department of Concepción, the saw mills in the Departments of San Pedro, Caaguazú, Itapúa and Alto Paraná, those of coconut oil in the Central Department and the packers of palmito in Alto Paraná.

Table 17 shows the low level of production outside the Central Department. Nevertheless, the number of establishments of importance for their size is considerable.

The main characteristics of the Departments with the highest industrial production are:

Concepción: It represents approximately 3 per cent of the total gross value of industrial production. In this Department can be found the only cement factory, which represents a considerable amount of total production; the leading producers of lime, two small factories of coconut oil and a flour mill.

Guairá: In this Department are found the three largest sugar refineries of the country, whose production represents about 70 per cent of the total sugar production and 80 per cent of the alcohol production. The influence of these refineries within the total production of the Department is considerable, constituting about half the total production. There is a regional specialization in the preparation of wine. About 40 of the 100 wine cellars in existence in the country are to be found in this Department.

Itapúa: This Department is the main producer of the maté herb and it also produces wine and possesses saw mills and cotton mills. Moreover, approximately half the production of tung oil and practically the total production of soya are prepared in the two oil production plants.

Central Department and the Capital: As has been seen, it is here that practically the total of industry is concentrated. It prepares 80 per cent of the coconut oil, possesses the largest flour mill (which prepares 90 per cent of national production), the three meat packers, the only beer factory, the three cigarette factories, all the spinning and weaving mills, except the one in Pilar, cotton mills, and practically all the printing, pharmaceutical and soap industries.

Neembucú: Its relative importance is due to the fact that the largest textile establishment of the country is to be found there, providing 80 per cent of the national production of cloth. Moreover, it produces one third of the cotton oil production.

/ Boquerón: Its

Boquerón: The relative importance of this Department was 8 per cent in 1955, falling to as little as 4.9 per cent in 1963. This is due to the difficult situation of quebracho extract producers as a result of the low quotations for this product in the international market. Of the four factories in operation in 1955, only two remain active. Nevertheless, their production is considerable and constitutes the most important activity of the Department. It also possesses an oil factory which prepares peanuts, a cotton mill and two mills for palo santo essence.

Table 17
PARAGUAY: INDUSTRIAL LOCATION, 1955 AND 1963

Departments	1955			1963		
	Number of establishments	G.P.V. ^{a/} (millions of guaranis)	Per-cent-ages	Number of establishments	G.P.V. ^{a/} (millions of guaranis)	Per-cent-ages
Central	1 441	2 522.6	66.8	2 356	10 321.6	71.0
Guairá	244	245.6	6.5	267	915.0	6.3
Neembucú	58	154.9	4.1	92	761.4	5.2
Boquerón	10	300.5	8.0	157	718.4	4.9
Itapúa	127	117.2	3.1	433	545.2	3.8
Concepción	137	138.0	3.7	163	390.0	2.7
Others	715	297.0	7.8	2 330	883.9	6.1
<u>Total</u>	<u>2 732</u>	<u>3 775.7</u>	<u>100.0</u>	<u>5 798</u>	<u>14 535.5</u>	<u>100.0</u>

Source: Industrial Censuses of 1955 and 1963.

a/ Gross production value.

Chapter III

PRINCIPAL SECTORS OF THE MANUFACTURING INDUSTRY

1. Apparent consumption of manufactured goods

Of the total of manufactured goods produced in the country, about 20 per cent are exported. About one third of available manufactured goods ^{1/} are imported. (See table 18.)

The greater part of available manufactured goods, that is 75 per cent, is for final demand, 80 per cent corresponding to consumer goods.

The relative importance of fuels and lubricants for the consumption of the different productive sectors and services is considerable, constituting 12 per cent of the total of goods destined for these sectors. The remainder corresponds to intermediate products, which are mostly absorbed by industry and only 20 per cent by other sectors, especially the agricultural sector.

In order to visualize the different products, the behaviour of which is entirely different according to their final ends, a more detailed analysis is made hereunder of their different characteristics.

(a) Consumer goods

As can be seen from table 19, total consumer goods available in 1962 was 8,567 million guaranis, of which 1,468.7 million, approximately 15 per cent, corresponded to imported manufactured goods.

Of the consumer goods produced in the country, almost 80 per cent derives from only four industrial lines which, in order of importance are, food, textiles, footwear and clothing, and beverages. Another three, tobacco, printing and chemical products, cover 15 per cent, each one having an almost equal distribution of 5 per cent.

The participation of goods destined for food is about one half of the total of consumer goods. They are constituted mainly of such articles as tinned meats, sugar, edible oils, bakery products and others which, although of considerable weight within the total, are actually products of slight development, such as those of the mills, wheat flour, prepared rice and maté herb.

^{1/} National production, less exports and plus imports.

Table 18

PARAGUAY: COMPOSITION OF DEMAND FOR MANUFACTURED PRODUCTS, 1962

(Millions of guaranis)

	National	Imported	Total
Production	12 726.5	-	12 726.5
Imports	-	4 596.1	4 596.1
Exports	2 787.3		2 787.3
<u>Availability</u>	<u>9 939.2</u>	<u>4 596.1</u>	<u>14 535.3</u>
(a) <u>Final demand goods</u>	<u>7 792.8</u>	<u>3 162.2</u>	<u>10 955.0</u>
Consumer goods	7 098.3	468.7	8 567.0
Capital goods	694.5	1 568.2	2 262.7
Fuels and lubricants		125.3	125.3
(b) <u>Intermediate demand goods</u>	<u>2 146.4</u>	<u>1 433.9</u>	<u>3 580.3</u>
Intermediate products	2 146.4	921.8	3 068.2
Destined for the manufacturing sector	-		
Destined for other sectors	1 930.3	482.3	2 412.6
Fuels and lubricants	-	512.1	512.1
Destined for the manufacturing sector	-	99.9	99.9
Destined for other sectors	-	412.2	412.2

Source: Technical Planning Secretariat.

Within the beverage lines the greater part is made up of soft drinks, beer and alcohol for domestic consumption.

The preparation of wine, especially from grapes, represents about 10 per cent of the total beverage line. Wine production from other fruit is insignificant.

Products of the most outstanding lines include cigarettes, fabric, footwear and clothing.

Among the imported manufactured goods, the principal are those from the food industries, the textiles and transport material industries, these three lines representing half of the total of imported manufactured goods. The chief foodstuffs imported included dairy products, wheat flour and edible oils.

Textile imports reached more than 230 million guaranis, of which an important part corresponds to illegal imports.

/Imports of

Imports of other consumer goods include a very wide and varied range of products, principally metal and electric products for domestic use, such as kitchen utensils, refrigerators, radios, ventilators, etc., the majority of which have little probability of substitution.

(b) Intermediate products

As is pointed out in table 20, of the total of manufactured inputs destined for the various sectors, 30 per cent corresponded to imported goods.

Of the intermediate products of national origin, the great majority come from the food, textile, leather and chemical products industries. From the food line, the majority are represented by wheat flour, destined for bakeries and pasta factories, and the industries for special foods for birds and animals.

The textile products participate especially with seeds and cotton fibres from the mills and destined for the manufacture of oil and fabrics, respectively, with material for the clothing industry and to a great extent with cotton bags for packaging a wide variety of products. A large number of the products from the tanneries are destined for the footwear manufacture.

The chief chemical products used in the other sectors are oils from coconut pulp and copra used in the manufacture of soap, and tannin used in the tanneries.

Among the principal imported intermediate products should be mentioned malt, for beer making, jute sacking for packaging, newsprint, chemical products such as fertilizers and insecticides for agriculture, and various other products for industrial uses, especially sodium carbonate. Imports of metals destined for intermediate consumption reach almost 120 million guaranis, being mainly aluminium, tin and lead.

(c) Capital goods

As can be assumed, in an insufficiently developed economy, the majority of the capital goods are of foreign origin. (See table 21.) In fact, the only types of capital goods produced are construction materials such as clay, lime, cement and wood supports.

The participation of imported capital goods, which is 70 per cent of the total available, is largely constituted by those goods destined for industry, for the generating of electric power and for motor vehicles engaged in cargo and passenger transport.

Imports of ships were only outstanding during the years 1960 and 1962, when new units were incorporated into the Merchant Marine.

Imports destined for the agricultural and forestry sectors are of less importance, although a greater utilization of mechanized equipment is foreseen for them.

(d) Fuels and lubricants

In view of the absence of oil refineries in the country, the fuels and lubricants under consideration are all imported.^{2/} The other fuels are represented mainly by wood coal and timber, which therefore do not appear in table 20.

Table 19

PARAGUAY: AVAILABILITY OF MANUFACTURED CONSUMER GOODS, 1962

(Millions of guaranis)

Product	Availability (Total value)	National		Imported	
		Value	Per- centage	Value	Per- centage
Foodstuffs	3 501.5	3 217.0	91.9	284.5	8.1
Beverages	695.5	655.0	94.2	40.5	5.8
Tobacco	411.2	388.1	82.2	73.1	17.8
Textiles	1 171.7	939.1	80.1	232.6	19.9
Footwear and clothing	916.4	844.3	92.1	72.1	7.9
Furniture	139.1	139.1	100.0	-	-
Paper	54.9	-	-	54.9	100.0
Printing	383.0	382.6	98.6	5.4	1.4
Leather	31.0	31.0	100.0	-	-
Chemical products	388.5	373.9	96.2	14.6	3.8
Metal products	121.3	84.0	66.8	40.3	33.2
Machinery	68.7	-	-	68.7	100.0
Electrical equipment	66.8	-	-	66.8	100.0
Transport materials	222.1	-	-	222.1	100.0
Others	390.3	97.2	24.9	293.1	75.1
Total	<u>8 567.0</u>	<u>7 098.3</u>	<u>82.9</u>	<u>1 468.7</u>	<u>17.1</u>

Source: Technical Planning Secretariat.

^{2/} In August 1966, the first oil refinery was installed in Paraguay, with a capacity for 5,000 barrels per day.

Of the total amount of fuel consumed, 20 per cent corresponds to automobile consumption and paraffin for domestic use.

The sector which shows the highest utilization of fuels derived from oil is the transport sector, with a consumption of over 300 million guaranis and representing about one half of the total available.

The demand for fuel by public services for generating electric power is very dynamic, due in part to the higher production of electricity and, especially, to the substitution of wood for fuel-oil in the country's largest plant, which supplies electricity to the capital.

Table 20

PARAGUAY: AVAILABILITY OF INTERMEDIATE PRODUCTS, 1962

(Millions of guaranis)

Product	Availability (Total value)	National		Imported	
		Value	Per- centage	Value	Per- centage
Foodstuffs	962.9	959.6	99.7	3.3	0.3
Beverages	21.8	-	-	21.8	100.0
Textiles	622.5	449.7	72.2	172.8	27.8
Wood	45.6	45.6	100.0	-	-
Paper	24.4	-	-	24.4	100.0
Printing	29.3	20.1	68.6	9.2	31.4
Leather	320.9	320.9	100.0	-	-
Chemical products	405.3	164.2	40.5	241.1	59.5
Mineral non-metal products	50.8	32.3	63.6	18.5	36.4
Metals	115.9	-	-	115.9	100.0
Metal products	28.0	-	-	28.0	100.0
Electrical apparatus	38.3	-	-	38.3	100.0
Others	402.5	154.0	38.3	248.5	61.7
<u>Total</u>	<u>3 068.2</u>	<u>2 146.4</u>	<u>70.0</u>	<u>921.8</u>	<u>30.0</u>

Source: Technical Planning Secretariat.

Table 21

PARAGUAY: AVAILABILITY OF CAPITAL GOODS, 1962

(Millions of guaranis)

Product	Availability (Total value)	National		Imported	
		Value	Per- centage	Value	Per- centage
Wood	128.4	128.4	100.0	-	-
Rubber products	116.1	34.9	30.1	81.2	69.9
Mineral non-metal products	350.2	323.9	92.5	26.3	7.5
Metals	107.7	-	-	107.7	100.0
Metal products	61.1	8.7	14.2	52.4	85.8
Machinery	499.6	-	-	499.6	100.0
Electrical apparatus	112.1	-	-	112.1	100.0
Transport material	711.1	189.2	26.6	521.9	73.4
Others	176.4	9.4	5.3	167.0	94.7
<u>Total</u>	<u>2,262.7</u>	<u>694.5</u>	<u>30.7</u>	<u>1,518.2</u>	<u>69.3</u>

Source: Technical Planning Secretariat.

2. Obstacles to industrial development

The industrial sector has played a relatively secondary role in the Paraguayan economy and in the last ten years, the growth rate of the manufactured product has only slightly exceeded that of the economy as a whole.

This fact can be attributed to endogenous and exogenous variables of the actual industrial sector. Within the former are to be noted: entrepreneurial capacity, labour force training, production techniques and among the latter, insufficient domestic market, foreign market problems, and auxiliary services such as the means of communication, energy, fuel, etc.

(a) Entrepreneurial capacity

The majority of entrepreneurs in Paraguay carry out all their activities themselves without the assistance of individuals or specialized groups which might facilitate their work and avoid failures as a result of initial errors, through production planning based on market research and research on plant size, equipment selection, localization, etc.

/In many

In many cases, the provision of capital is in the hands of the very same entrepreneurs with whom total investment risk lies. Difficulties in obtaining long term financing for investment and short term for exploitation capital were, in earlier years, an enormous hindrance to industrial development, since there was no capital market nor any financial tradition among the population, which contributed to perpetuate the family system of organization among business concerns.

(b) Inadequate domestic market

The slow rate of growth of Paraguayan industry can to a considerable extent be attributed to circumstances relating to the domestic market, such as the limitations of the market due to low population, the low income level per inhabitant together with an inadequate income distribution. Nevertheless, contrary to other countries, there are no sectors which are absolutely marginal to the monetary economy.

It cannot be denied that these factors have affected the industrial structure, limiting investment incentives and finance possibilities of new industrial activities, apart from restricting the possibilities of selecting production techniques and adequate size plants.

(c) Foreign market problems

Even though only 20 per cent of industrial production is for the foreign market, exporting industries have enjoyed a dynamic rate of growth. This could have been higher and Paraguayan exports could have been diversified, had it not been for the uncertain economic situation of neighbouring countries. Changes in the monetary values of those countries, in many instances resulted in illegal competition against national products, with considerable damage to national industry.

(d) Raw materials

As was pointed out in previous chapters, 70 per cent of the raw materials utilized in the manufacturing industry are national. Among the primary sectors, agriculture is the largest supplier to industry.

In many cases, insufficient supply and the high cost of the raw material limit production possibilities. This occurs with industrial plants for meat, cotton gins, and gins for some oleaginous seeds, etc.

Very often, raw material production prices are very high, which means that the industrial product is badly placed in the international market.

/In that

In that sense, the sectors which supply the raw materials can contribute to increasing the industrial potential of the country, provided they manage to improve quality and increase efficiency.

Serious research work is being carried out together with a study of the natural resources which should make possible a much improved utilization of these resources, and also it might be possible to diversify industrial production upon the confirmation of the existence of certain minerals.

The supply of raw materials of foreign origin is affected by the navigation conditions of the Paraguay River, which can prevent normal passage in certain times of the year.

(e) Electric energy

Another obstacle to the country's industrial development is the lack of electric energy availability, to the extent required by industry.

The rate of growth of electricity consumption by industry is almost 7 per cent (annually accumulative), which is higher than the rate of growth of the industrial product (3.3 per cent), thus reflecting the growing demand for electric energy and a certain displacement of other forms of energy by electricity, through the tendency towards a wider electrification of the manufacturing processes.

Most of the electric energy consumed by the manufacturing establishments is generated by the same industry. In 1955, this self-supply was 58.4 per cent of the total amount consumed, and it rose to 66.0 per cent in 1962.

The fact that the establishments have to acquire their own electric generating equipment acts unfavourably on the rentability of the concerns and on production costs.

The only electrical centre dedicated to public services capable of supplying large plants is situated in the capital. The other centres, much more limited in size, can only supply establishments with less volume and at high prices, which forces industries located far from the capital to resort to a system of self-supply.

(f) Fuel

Among the fuels, the price for the consumer is very high, since the country must import oil by-products in view of the absence of a national production. This, as far as possible, has brought about a consumption of

national fuel of vegetable origin, such as wood and wood coal, and in certain industries, the use of sub-products.

National fuels, especially wood, increase each year in price due to the exhaustion of supplies in the vicinity of the consuming plants, which therefore have to be supplied from a considerable distance at a much higher cost.

3. Prospects for industrial development

The prospects of Paraguay for obtaining a more dynamic industrial development are favourable. A great effort is being made, both by the private sector as well as by the public sector, to accelerate the development process which has been initiated in the country.

The encouragement which the National Government has given to the realization of basic infra-structure works necessary for the economic development of the country must be pointed out. The national and international roads, which favour the economic integration of vast regions of great productive potential, will make possible an improved utilization of the national resources and will result in increased exchange of trade with neighbouring countries.

The huge expansion of the transport capacity of the merchant fleet, the considerable improvement in the supply of electric energy, both in the capital and in other cities, are important factors which will have a positive effect on industrial development.

The beneficial effect on industry of the establishment of the National Development Bank is considerable. For the first time, in the national banking system, development credit has been given on medium term of 3 to 5 years and even 6. Credit is granted on the basis of an analysis of projects and according to their merits and their technical and economic justification.

The line of credit for development granted by the National Development Bank has resulted in the fact that together with the Technical Planning Secretariat and the Ministry of Industry and Commerce industrial development plans and programmes are being carried forward, taking into account the participation of Paraguay in the ALALC.

The Technological Institute was established to collaborate in the improvement and uniformity of export goods; that is to say, to set down norms, carry out research and offer consultancy services to industry, and to promote a greater evaluation of the natural resources of the soil (aerophotogrametry) and of the subsoil.

/In the

In the face of the chaotic financial and monetary situation of neighbouring countries, Paraguay maintains a stability which makes it possible for the country to face fearlessly new investments in national and foreign concerns.

There are numerous public and private projects, many of which are already in the course of execution and their finalization will have favourable repercussions on the industrial development of the country. Among these should be pointed out the installation of an oil refinery, the expansion of a cement factory and the construction of a hydroelectric centre on the Acaray River.

The incorporation of Paraguay as a member of the ALALC may have most beneficial results, since one of the major obstacles to industry is thus removed; that is, market limitations. Nevertheless, it must be admitted that until the present day there are many hindrances on the part of the member countries, which make it impossible to fully utilize the advantages obtained during the conferences.

As the Paraguay River is one of the most important trade routes with the other countries, and since for some time serious navigation problems have been encountered, a possible channelization of the river is under study, together with the problems of cost and finance entailed.

CHAPTER IV

INDUSTRIAL DEVELOPMENT PLANS OR PROGRAMMES

1. The general strategy of industrial development

In a country such as Paraguay, with a private business economy, the majority of economic decisions are left in the hands of private initiative and they are the ones which determine, in the last instance, the fulfilment of the proposed goals, the public sector only being able to have an indirect influence on these decisions by means of general norms, such as fiscal measures, credit channeling, export promotion, expansion of technical education at the secondary and upper level, etc.

In order to put the programme into effect, a high volume of financial resources are necessary for which, together with credit obtained from international sources, domestic support is necessary. Since capital is one of the most scarce factors in the country, the credit institutions carry out a selection of the industries which request financing, according to the priorities established in the development plans. The same applies with respect to the requests for benefits granted by law for industrial development and the incorporation of foreign capital.

2. Industrial programming

On July 5th, 1965, by resolution N° 4, the National Board of Economic Co-ordination approved the National Plan for Economic and Social Development for the two-year period 1965-1966, presented by the Technical Planning Secretariat of the Presidency of the Republic. In this plan, a chapter referring to the industrial sector is included.

The main objectives worthy of note in the programme are the following:

- (a) to achieve a more dynamic development of the manufacturing sector;
- (b) to promote an increase of manufactured goods exports and to increase the degree of development of exported goods;
- (c) to substitute imports when their volume allows the installation of firms of adequate size and technical processes;
- (d) to maintain a domestic supply of manufactured goods sufficient to cover demand;

/(e) to

- (e) to rationalize, modernize and expand the traditional industries with priority in the plan.
- (f) to promote new lines of industrial production compatible with the existence of resources and markets; and
- (g) to create new sources of employment in industry.

3. Executive bodies in industrial development

The bodies which have executive responsibility for industrial development in Paraguay are the Ministry of Industry and Commerce and the National Development Bank.

The functions corresponding to the Ministry of Industry and Commerce, according to Law N° 904/63, are the following:

- (a) to adopt, in co-ordination with other official bodies, the most suitable economic policy for the country, in relation to the sources of supply of goods and services, the volume of present demand for these and the foreseeable future demand, the commercialization of the goods and transport problems;
- (b) to propose plans and programmes of industrial and commercial development;
- (c) to promote, protect and develop industrial activity and domestic and foreign trade of the Republic;
- (d) to consider the requests for privileges for the installation of new industrial plants and the expansion and modernization of existing plants, giving priority to those which will benefit the national economy;
- (e) to oversee the fulfilment of the obligations arising from the laws granting privileges or preferential treatment to industrial concerns;
- (f) to patronize and stimulate, in co-ordination with other official bodies, the research and evaluation of the available natural resources for industrial use;
- (g) to promote the formation and aid the development of basic industries, such as those of solid and liquid fuel and the use of sources of energy;
- (h) to carry out research and economic analyses on the industrial and commercial development of the country;
- (i) to establish, with the collaboration of other State and/or private bodies, industrial technical norms, specifications and other conditions to which the raw materials and manufactured articles will be submitted in order to ensure the proper preparation for use in industry and commerce, and to control the proper application of these norms.

/(j) to

- (j) to put into effect, in cases of emergency as declared by the Executive Power, the measures necessary for the normal supply of raw materials, intermediate products and finished goods, of national and foreign production, in order to avoid dealings which tend to their monopolization, in undue speculation on their prices to suppress free trade, and to face up to an eventual situation of scarcity of these, regulating their production and their internal commercialization, their importation and/or exportation;
- (k) to grant and protect invention patents, factory and business trade marks, industrial models and designs and trade names and mottos;
- (l) to participate in international studies, meetings or negotiations in relation to the industrial and commercial development of the country, such as in negotiations for the establishment of duty free zones and free ports, within and outside the country;
- (m) to compile, prepare and publish, in co-ordination and with the co-operation of other public and/or private institutions, continued basic industrial and commercial statistics;
- (n) to support and/or organize, in collaboration with other State and/or private bodies, exhibitions, fairs, congresses and seminars of an industrial and commercial nature;
- (o) to represent the State in bodies of mixed economies and serve as a link between the Executive Power and the self-sufficient entities which develop industrial and commercial activities;
- (p) to participate on advisory boards, in commissions and working groups established for industrial and commercial ends;
- (q) to inspect commercial and industrial establishments, warehouses and stores to fulfil the legal requirements, and
- (r) to demand the showing of trade books and documents of industrialists and traders when necessary for investigating production costs of manufactured articles, their commercial prices and the prices of goods of general necessity, under the obligation, on the part of the intervening officials, to maintain absolute security. The showing referred to will be demanded in each case through an express resolution.

The National Development Bank, through the Development Department, attends to credit requests for investment at medium and long term.

The selection of industries to be granted credit facilities is carried out on the basis of an evaluation of their projects and according to priorities established jointly by the Technical Planning Secretariat and the Ministry of Industry and Commerce.

Generally speaking, there are no requirements with respect to a request for permission to instal a new establishment other than the obligation to register in the corresponding books, such as Income Tax, Societies, Social Security, etc., with the exception of certain industries which are ruled by special laws, as in the case of the Oil Refinery, the Cane and Alcohol Distilleries, etc.

4. Programmes and bodies with sectorial responsibility

At the margin of the overall and sectorial plans and programmes, prepared by the Technical Planning Secretariat, there has been formed a National Commission of Programmes by Products, with the participation of the Ministries of Industry and Commerce, Agriculture and Livestock, and of the National Development Bank, the Central Bank of Paraguay, and the Paraguayan Industrial Union, under the co-ordination of the Technical Planning Secretariat. This Commission has selected certain products on priority bases to prepare development programmes, and these studies should include agricultural, industrial and commercialization aspects. These studies are presented to the Advisory Board on Economic Co-ordination for their analysis, approval and execution through the bodies responsible.

5. Private initiative in industrial programming

The Paraguayan industrialists are grouped together in an association which functions under the name of the Paraguayan Industrial Union, to which the Technical Planning Secretariat has recourse requesting its collaboration for the preparation of plans and programmes in general or by products.

Chapter V

INDUSTRIAL DEVELOPMENT POLICIES

1. Government action

As was indicated in previous chapters, State action in industrial promotion is only indirect, the main institutions being the direct instruments.

Through the National Development Bank investment credit is channeled; tax exemptions on foreign capital, on the installation of new industries and on the expansion of existing industries. The granting of these benefits is in the hands of the Ministry of Industry and Commerce and the National Advisory Board of Economic Co-ordination.

2. Industrial credit policy

Medium- and long-term industrial investment credit comes from international credit sources administered by the National Development Bank. The terms of these credit facilities vary between 3 and 12 years, with an annual rate of interest of 9 per cent, with some extensions depending on the case. In general terms, the National Development Bank insists that 50 per cent of the investment be self-supplied. In exceptional cases, up to 80 per cent of credit is granted on the total amount of the investment.

Private banking participates granting credit on short term, 90 to 180 days, for working capital.

The policy of the National Development Bank with respect to industrial credit is based on priorities indicated in the economic development programme.

3. Tax policy as a means of promoting and directing industrial investment

There is an industrial development law (N° 202) which favours the installation of new industries, the modernization and expansion of already established industries, by means of: (a) exemption from customs duties, additional duties and any other tax on the importation of industrial machinery, its accessories and spare parts, provided they cannot be acquired in the country; (b) exemption from duties on the exportation of products or sub-products of new industries; (c) technical and economic advice by State institutes.

4. Legal control of foreign firms and capital

Foreign firms and capital which are established in Paraguay can fall back on Law N° 246/55 which grants them certain guaranties and benefits, provided that capital is placed in investments suitable to the economic and social development of the country, according to Government plans.

The benefits and guaranties which foreign capital can enjoy are the following:

- (a) release from customs and additional duties which are charged on the importation of machinery, accessories and spare parts, instrumental equipment, transmission elements and equipment, communication and transport elements and equipment, as well as on other capital goods introduced by research workers, professional technicians and workers, for use in work of a permanent nature;
- (b) release from customs and additional duties on exports of products and sub-products, provided they were not on the list of regular exports at the date the law was passed;
- (c) exemption from taxes which are charged on the formation of firms, association contracts, registration in the Public Trade Register and others related to shares and debentures;
- (d) reduction of 25 per cent on income tax;
- (e) permission to obtain regularly in the Central Bank of Paraguay the necessary foreign currency for interest payments, utilities and dividends; privileges and rights in the use of trade names and patents, such as for the return of capital, in a proportion not higher than 20 per cent of registered capital annually;
- (f) exemption, for not longer than 5 years, from the obligation of employing a legal percentage of Paraguayan staff.

Foreign capital could be incorporated in any of the following ways:

- (a) in foreign currency;
- (b) in the form of machinery, accessories and spare parts in the quantity required to ensure the activity of the firm during the period that the benefits are granted;
- (c) communication and transport instrumental equipment and transmission elements necessary for the firm's activity;

/(d) in

- (d) in raw materials and semi-manufactured products which are not produced in the country, or which are produced in an insufficient quantity, for a volume sufficient to cover full production of the industry during a period no longer than one year;
- (e) in elements and equipment for the transport industry;
- (f) in patents, trade marks and privileges;
- (g) in the form of other goods, the incorporation of which can contribute to an increase in the national property.

The time period for the duration of the benefits granted by law cannot be longer than 10 years.

5. Export promotion policy

As the increase of imports is one of the fundamental objectives of the economic policy developed by Paraguay, institutions such as the Ministry of Industry and Commerce, the National Development Bank and the Ministry of Foreign Affairs have established various departments in order to study the possibilities offered by traditional and new markets; with this object in mind, meetings have been carried out at various levels with representatives of the private sector; thus, for example, the Ministry of Industry and Commerce declared in its organizational constitution that one of its objectives was to promote domestic and international trade; for this reason, it has a Trade Department

In order to study and offer suggestions on the commercial policy of the country, it has also published booklets in various languages indicating the opportunities which Paraguay has to offer.

The National Development Bank has established a Project Study Department, not only for evaluating projects presented but also to discover and prepare possible studies. Because of the importance of the ALALC, the National Development Bank has a department which handles exclusively the compiling of all the information which may be useful to national entrepreneurs regarding the new opportunities which exist for the country in the ALALC market.

6. Regional industrial development policy

In this respect laws are being studied, in order to direct industries towards certain regions of the country, granting them special tax exemptions. For this, use will be made of the instruments of industrial

/policy which

policy which are in co-ordination with the bodies responsible for community development.

7. Labour training programme

Most of the industries existing in the country are small or medium-sized and work is rudimentary and primitive in many of them. The majority of the workers in these industries have a low level of instruction and lack sufficient technical training, which is shown by the low productivity levels. Nevertheless, it must be noted that the Paraguayan worker is most adaptable to industrial work and has the capacity to acquire in a relatively short time the necessary knowledge, as can be observed in those industries where the processes have required more specialization. Those industries have decided to train their own personnel. It must be taken into account that the lack of sufficient training of future workers could be a serious obstacle to industrial development.

Technical training in the country is developed with difficulty due principally to the lack of educational establishments, financial resources, workroom and laboratory equipment and the scarcity of technicians trained to teach.

At the secondary level there are two establishments: the School for Industrial Technicians and the Vocational Technical School. The former, founded in 1940, is the first establishment for imparting technical training. Training lasts six years, and covers Civil Construction, Industrial Chemistry, General Mechanics and Electricity. This establishment, through lack of means, is unable to fulfil its functions satisfactorily. Especially so, its lack of equipment in the workshops and laboratories has a negative effect on professional training.

The Vocational Technical School has better resources, good equipment and, in general, is better organized. This school was founded in 1948 with the assistance of the Interamerican Co-operative Educational Service, and from that time on has developed with a marked and steady progress. The executive and teaching functions are carried out by individuals who have specialized abroad, principally in the United States. The training cycle is three years and is divided into ten specialities: Leather art, Graphic art, Automobile mechanics, Carpentry and cabinet making, Iron work and soldering,

/General mechanics

General mechanics, Electricity, Plumbing, Radio and refrigeration and Air conditioning.

These two establishments are situated in the capital. At the upper level, technical training is given only in the National University, in the Faculty of Physical Science and Mathematics. This Faculty has three branches: Topography, Civic Engineering and Industrial Engineering. The training cycle in each branch of engineering is six years. The Faculty develops with insufficient means, the laboratory equipment is not adequate for training demands and, therefore, theoretical teaching predominates.

Apart from these bodies, there are also others of a religious or private character, which offer technical training with programmes similar to the above and which also encounter financial problems.

8. Productivity services

Plans have been drawn up for the establishment of a productivity centre under the auspices of the Paraguayan Industrial Union and the Circle of Firms' Directors, and with the collaboration of the Economic Mission of the United States of America. This centre will be similar to the others that are functioning with outstanding success in various Latin American countries. It will constitute a specialized training school, as much for the entrepreneurial level as for accelerating the means of production as a result of professional improvement. The principal characteristic of this body will be that its direction and organization will be in the hands of the private sector.

9. Technological research

For technological research there exists the Science Institute, which was set up as a result of co-operation between the National University of Asunción and the Science Programme of the UNESCO. It is a centre at university level, which fulfils two main functions: (a) to teach, that is, to train teachers in the exact and the natural sciences, and (b) to carry out pure and applied research seeking ways to apply the country's resources and to improve the utilization of those already in use. The National Technological Institute is an autonomous body with a legal standing, ruled by Law N° 862/63 and having the following objectives:

/(a) to

- (a) To carry out research and studies designed to improve techniques for preparing raw materials, their application and processing, and to reduce production costs, to reduce and eliminate risk, promote and develop the use of materials and raw material of national origin or the use of the most economical ones, to utilize sub-products in an integral way, and to carry out soil analysis, to rationalize and improve agricultural production.
- (b) to encourage the industrialists in the country so that they may undertake studies to improve and increase production, inducing the formation of research centres with the participation of the sectors interested;
- (c) to propose methods and norms for the verification and regulation of the quality of the raw materials and the prepared products;
- (d) to take charge of research work requested by official or private bodies which may wish to utilize the services of the Institute;
- (e) to undertake or participate in the preparation, publication and distribution of useful technical information to national producers;
- (f) to maintain direct contact with the producers of the whole country, through their organizations and research centres, and
- (g) to maintain relations with national and foreign universities and with private or State research bodies, national or foreign, with the object of obtaining information on their work and of supporting and collaborating with those which are of interest for the development of national production.

Chapter VI

FOREIGN ASSISTANCE TO THE INDUSTRIAL SECTOR

Paraguay has received foreign financial assistance for industry from international institutions such as the Interamerican Development Bank, which has lent 3,000,000 dollars, a little over 1 million dollars corresponding to the industrial sector, and from the Government of the German Federal Republic, 12 million marcs, equivalent to approximately 3 million dollars.

With regard to technical assistance, Paraguay has a United Nations Resident Representative through whom requests for technical assistance in the different branches of industry are channeled. These requests are made through the Ministry of Industry and Commerce.