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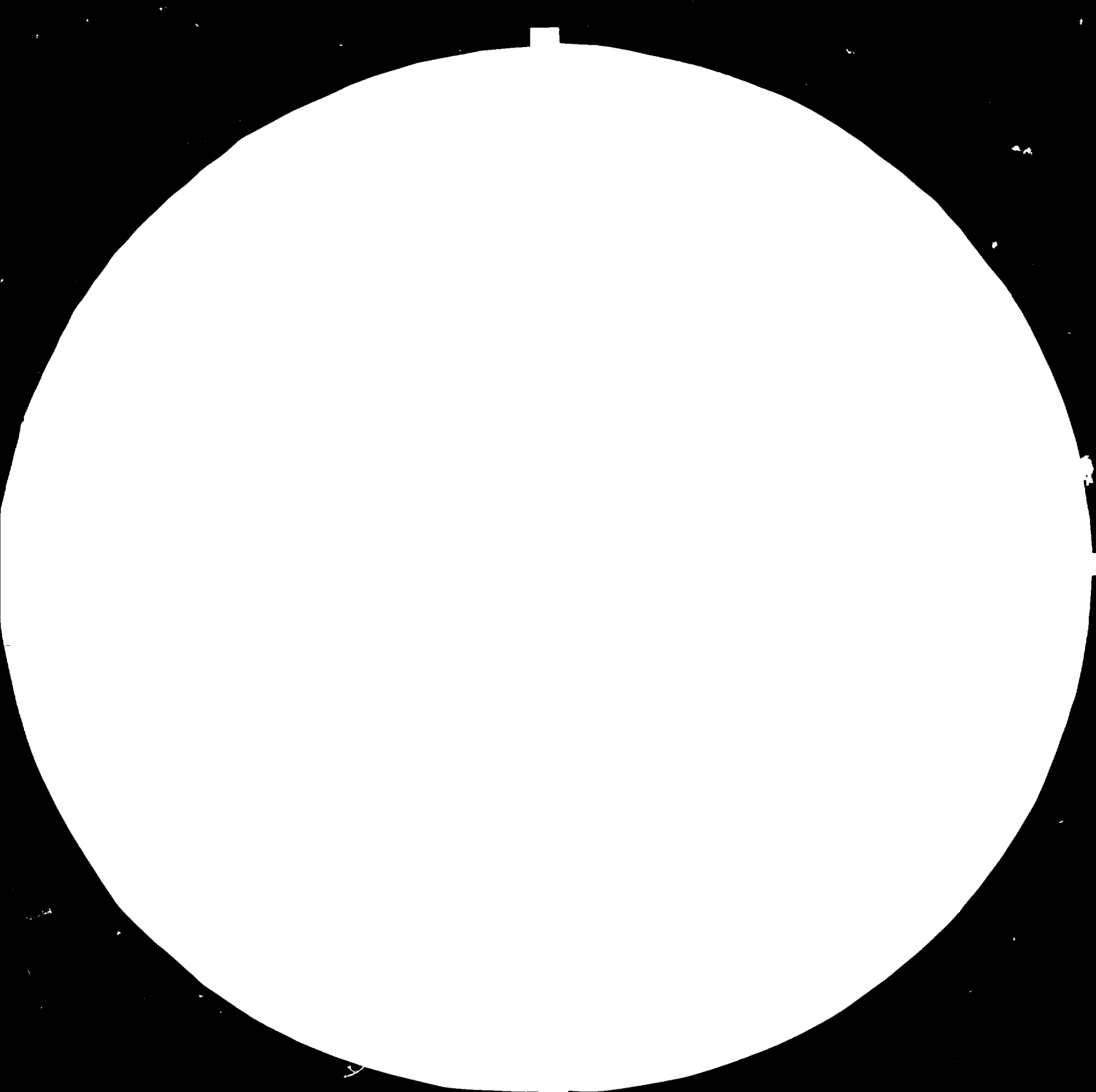
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Resolution Test Chart
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INDUSTRIAL DEVELOPMENT REVIEW.

PARAGUAY.

Eduardo White

1983

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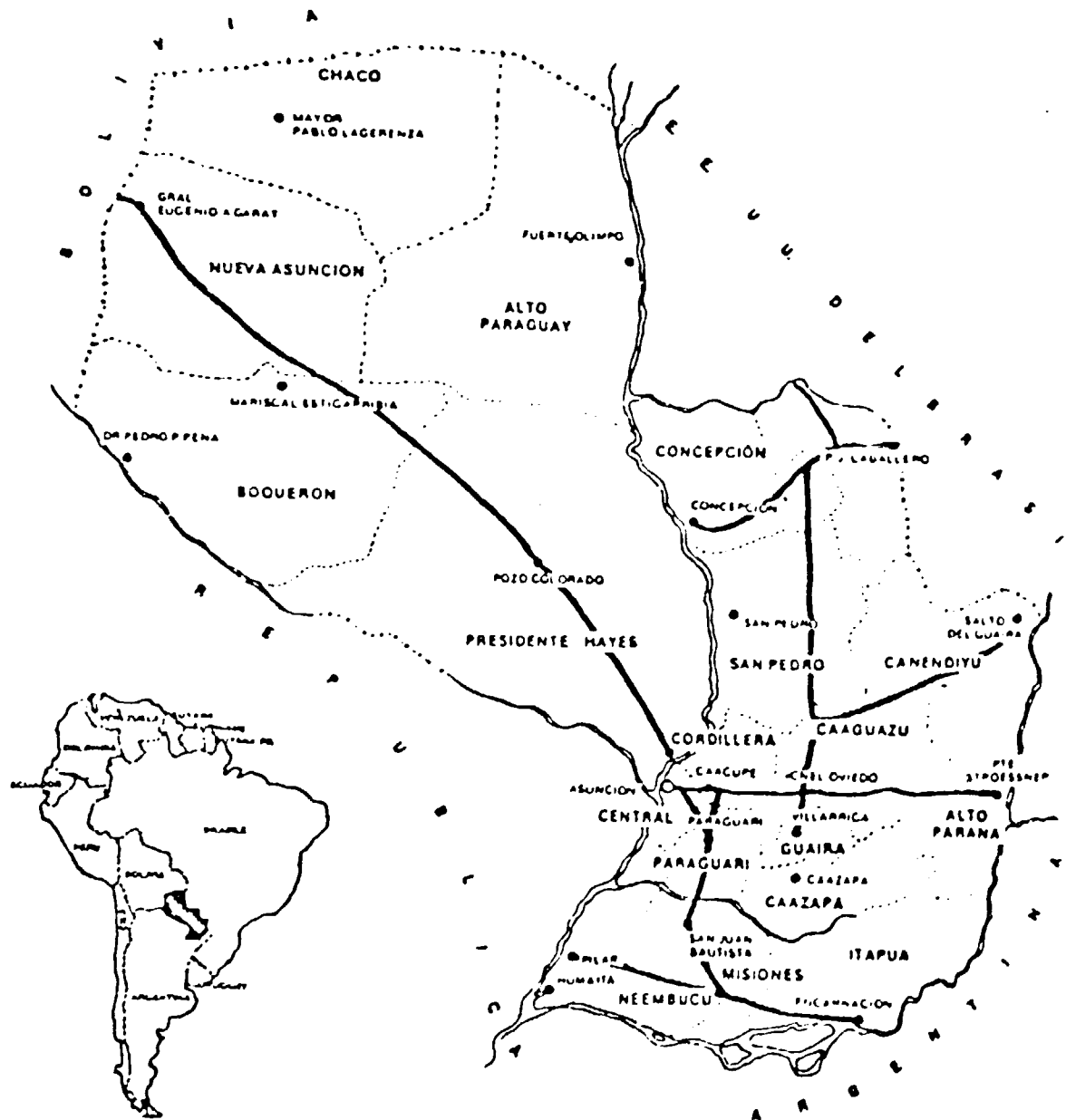
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MAP OF PARAGUAY



1. OVERVIEW OF PARAGUAY

1.1. The country and its people

Paraguay is a mediterranean country located in the center of South America. Two very different regions can be identified in Paraguay: the area at the East of the Paraguay River which covers 39% of the territory and holds approximately 98% of the population, and the larger area at the West which is virtually un-inhabited.

Area :	406.752 Km ²
Population number :	3.026.165 (1982)
density :	7,4 inhabitants per Km ²
labour force :	1.337.342 (1981)
adult literacy rate :	84 per cent (1977)
life expectancy :	65 (1980)
infant mortality :	3 per thousand (1980)
Independence :	14/15 - MAY - 1811
Language :	Guaraní, Spanish
Religion :	Roman Catholic
Political system :	Representative Republic
Head of State :	General Alfredo Stroessner

The Eastern area contains -- the most appropriate soils for agriculture, and also holds the - more valuable forests. The region has a significant hydroelectric potential in the Parana River. The total planned capacity of three hydroelectric projects, Itaipu (with Brazil), Yacyreta and Corpus (with Argentina) has been estimated in 20.000 MW.

The majority of the population of Paraguay lives in rural areas. The 1982 census indicated that the 31 % of the popula--- tion is concentrated in the Central Region and Asunción ---- (the main city) and its surroundings. The inhabitants of Paraguay

Resources:

cash crops: maize, rice, cotton, tobacco and soybeans.

livestock: total cattle population 5,2 million (1979).

forests: cover 60% of total land.

energy: the country has a significant hydroelectric potential in the Parana River.

Transport:

roads: 12.703 Km (1981).

railways: 441 Km (1981).

ports: Asunción, Encarnación, Pilar, Villeta, Concepción and Presidente Franco.

airports: Asunción (international), Presidente Stroessner.

are largely of Indian or Spanish origin. In average the live --- standard is similar and in some aspects higher than in other Latin American countries. Consumption of calories is 122% higher than the minimum requirements (107% is the average for Latin America), protein consumption is 80 gr per day (66 gr for the whole region), and life expectancy is the same as in the rest of the continent, that is: 64 years. On the other hand, infant mortality ^{*/} is relatively higher (47%o live births). Although reliable data are not available, income is known to be unevenly distributed, -- particularly in rural areas. Poor employment conditions predominant in the country for years have led migrants to settle in - Argentina.

^{*/} Corresponds to infants with less than one year

1.2. The Economy

In Paraguay the services and agriculture sectors are by far the two main contributors to the Gross Domestic Product. As illustrated by the graph, the share of agriculture has been declining from 1960 onwards while the contribution of construction has grown, especially since 1975.

After various decades of economic stagnation, Paraguay -- experienced a recovery in the sixties - growth rate of 4.2 % per year. This performance was improved in the 70's when the level of economic activity increased in 7% per annum during the first half and accelerated sharply since 1976 and up to 1980 -- when the country reached an exceptional growth rate of more than 11% per year. This extraordinary accomplishment was the product of a combination of events. On the one hand, Paraguay underwent a vigorous expansion of its agricultural output (particularly -- those crops such as soybeans with a solid external demand).

Gross Domestic Product: total	US\$ 5,624.5 mill. (1981)
per capita US\$	1,721 (1981)
rate of growth:	9,5% (average for 1974-81)

Structure of GDP ^{a)} - Agriculture ...	16,9 %
Livestock	7,8 %
Industry	16,7 %
Construction ..	6,6 %
Services	42,2 %

a) Measured in current prices, 1981.

Source: Banco Central del Paraguay "Cuentas Mac. 1974/81"

In 1981

Exports: total : US\$ 295,5 million

main goods: cotton, soybeans, woods, vegetable oils

main destinations: Argentina, Brazil, Germany F.R.,
Japan, U.S.A.

Imports: total : US\$ 725,0 million

main goods: mineral products, machinery, electrical
equipment, transport equipment.

main origins : Brazil, Argentina, U.S.A., Japan,
Germany F.R.

External Debt: US\$ 948,6 million

Debt service ratio of:

G.D.P..... 1.9 per cent

total exports. 36.9 per cent

Foreign currency reserves: US\$ 781,3 million

Inflation rate: average annual 1971/81: 13,4 per cent

National currency: Guaraní

Market rate: 1 US\$ = 126 ¢ (1981)

Source: Banco Central del Paraguay: "Boletín Estadístico Mar/
1983" - "Cuentas Nac. 1974/1981".

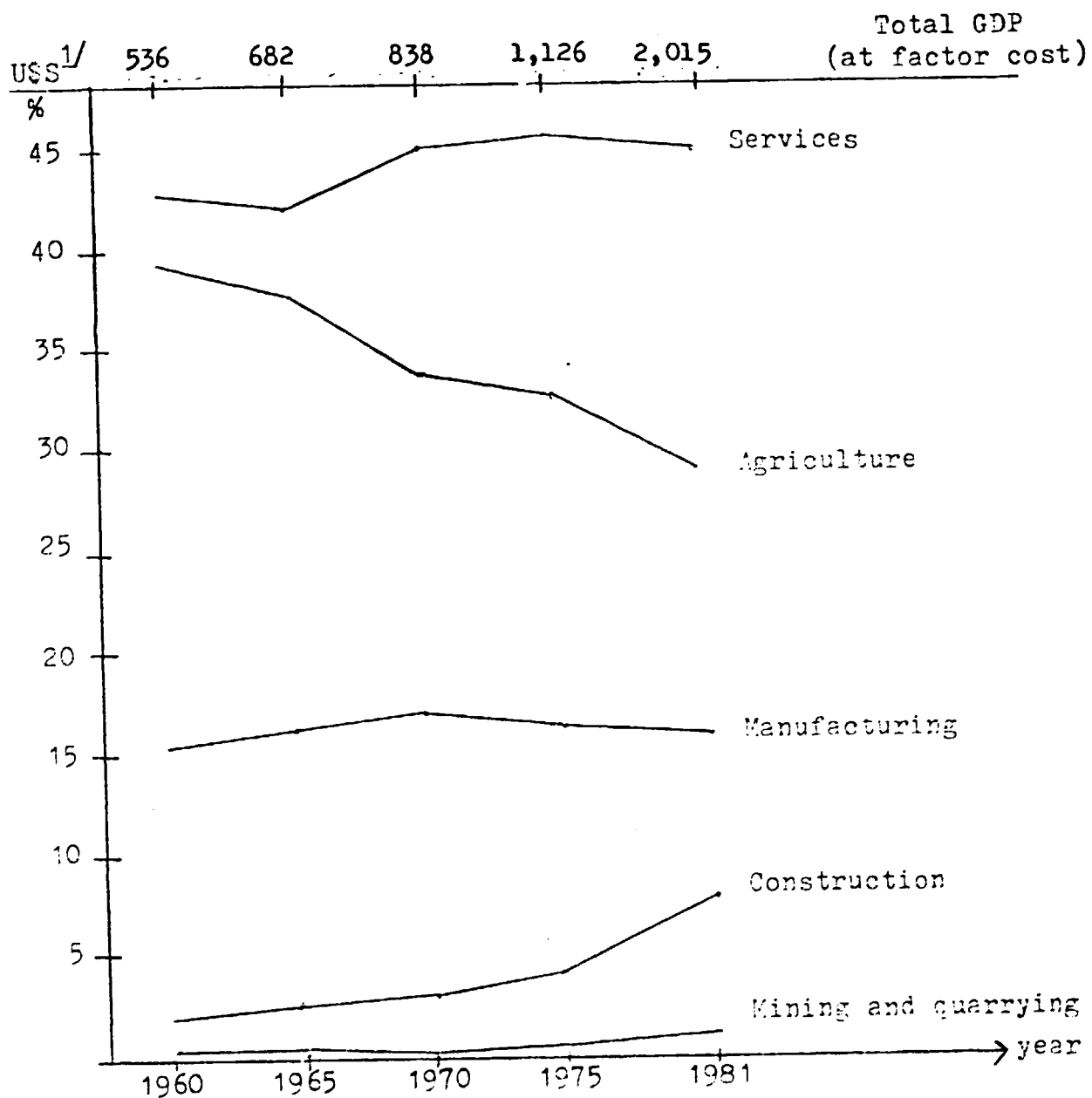
Paraguay 1.2.
June, 1983

On the other, the economy felt the stimulus of the construction - of the Itaipu dam, considered to be the biggest hydroelectric --- undertaking in the world, which began to generate power early in 1983. Yet during the first years of the eighties Paraguay went threw a deceleration of its growth rate and in 1982 it suffered a se-- vere recession.

Since 1973 Paraguay has had a widening deficit in its --- trade balance due to significant increases in the values imported and relative slower growth in exports. In recent years the gap - was financed by inflows of private capital and receipts derived - from the construction of Itaipu, which are considered as part of the external accounts of the country. However, in 1982 the ba-- lance of payments profile worsened as the positive net movement of capital flows was significantly reduced. As a result, Para-- guay gross external debt was estimated in that year in US\$ 1.350 million, an amount two times bigger than in 1979.

Future prospects are strongly related to the possibili-- ties offered by exports of energy to Brazil from Itaipu, since - half of the generating capacity of the dam corresponds to Para-- guay and the country is not in a position to make use of most of it. The external sector will be also affected by the investment schedule of the other two hydroelectric projects with Argentina and by the economic developments of it's two biggest neighbors.-

1.2. Graph. GDP by Economic Sectors 1960-1981



1/ At constant prices in million of US dollars of 1970

Source: ECLA, United Nations.

1.3. Manufacturing sector

The industrial sector's share of GDP has been relatively stable for the last two decades. In fact, in 1960 its contribution was 15.1%, in 1970 it increased slightly up to 17.5%, and went down in 1981 to 16.1%. For the period 1970-80 the annual growth rate of the manufacturing sector was 7.7%.

The development of the manufacturing sector in Paraguay -- faces a series of significant constraints. The small size of the internal market and the lack of sufficient infrastructure are -- among the most salient. At the same time, the strong competition offered by products originated in Argentina and/or Brazil - not hampered by an adequate protectionist mechanism - is also responsible for the limited development achieved.

The manufacturing sector depends heavily on the evolution of the agricultural sector and, as it will be seen, agrobased industries are its most important branches. On the other hand, -- the growth of the construction sector has also generated strong demand for certain manufactured products. In the coming years manufacturing in Paraguay would be heavily influenced by the --- availability of electricity that the country enjoys. In fact, - energy-intensive industries probably would receive a boost which will have an important impact on the future profile of this sector.

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Manufacturing value added (MVA):	US\$ 513,19 million (in constant 1977 prices) (1981)
MVA per capita	: US\$ 170,5
Employment (in industry)	
Number	: 207.787 persons (estimate 1981)
Percentage of labour force	: 15,5 per cent
MVA per employee	: US\$ 2.470
Exports of manufactures	
Value	: US\$ 231 million (1980)
Main goods	: cotton, processed goods, animal oils.
Destinations	: Argentina, Germany(F.R.) Holland, Brazil
Imports of manufactures	
Value	: US\$ 379 million (1980)
Main goods	: petroleum, machinery, transport equipment.
Origins	: Brazil, Argentina, U.S.A., Japan

Source: Banco Central del Paraguay.

2. STRUCTURE AND PERFORMANCE OF THE MANUFACTURING SECTOR

2.1. Growth and Structural changes of value added in manufacturing

Total manufacturing value added in 1981 was estimated in 513.2 million U.S. constant dollars (of 1977). Nearly 40% of it was the sole contribution of three agro-based branches, that is: food products, beverages and tobacco. Other important branches were petroleum refineries (16%), wood products (14.4%) and textiles (7.4%) (see Table 2). In terms of their final demand, the share of the different branches in the same year was as follows: consumer goods accounted for 52% of total value added; intermediate goods for 46%; and capital goods for only 2%.

For the period 1970-81 the development of the different branches of industry varied significantly. With respect to consumer goods their share in current values went down from nearly 3/4 of total manufacturing value added to one half. This performance was the result of slower growth rate (see Table 1), particularly for food products and tobacco. The opposite has occurred regarding intermediate goods. Their share has doubled in the period from less than 1/4 to approximately half of total value added. The main responsibility for this developments lies in two branches: i) wood products, which experienced an extraordinary expansion in part due to the demand originated from the construction of the Itaipú dam, and ii) petroleum refineries which increased its share from 5.2% in 1970 to 16.3% in 1983 as a result of the significant increases in its prices relative to other manufacturing goods.

The limited development of the industrial sector of Paraguay explains why for some years the growth rates of specific branches are so high. In fact, the three digit rate for glass products in 1978/79, for example, reveals the entry into operation of an industrial establishment. Other figures of somewhat unusual significance are also explained by the start-up of new establishments, the enlargement of existing ones or, in the case

Table 1 - Annual Growth Rates of New Manufacturing Value Added, 1940-1951
(Percentages on the basis of values in local currency at 1947 constant prices)

INDIC	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951
2100	10.9	5.9	11.2	-7.7	4.4	4.4	7.7	-13.2	14.4	4.0	5.7	24.3
2110	-2.4	2.4	14.5	7.9	7.3	7.3	34.6	34.6	14.8	13.6	4.3	9.6
2120	-0.2	16.2	2.6	3.5	-5.7	-5.7	-55.6	-55.6	2.0	-0.2	-25.3	7.3
2130	-13.6	23.3	9.6	-1.7	4.7	4.7	25.4	25.4	25.4	-76.3	-4.3	21.0
2140	-4.7	5.5	0.0	2.1	3.2	3.2	12.3	12.3	4.1	2.5	-36.0	1.6
2150	11.0	4.7	16.4	-6.0	4.3	4.3	-41.4	-41.4	3.0	-22.9	3.6	7.4
2160	11.7	2.9	3.2	2.1	5.3	5.3	3.0	3.0	2.0	9.9	17.7	24.0
2170	15.2	15.2	24.2	10.9	-12.0	-12.0	20.1	20.1	25.0	28.7	46.3	22.1
2180	3.7	4.7	5.7	3.2	7.5	7.5	4.5	4.5	7.0	4.0	10.5	17.4
2190	4.2	1.0	3.7	-3.0	3.4	3.4	-6.4	-6.4	4.1	4.8	15.5	13.7
2200	21.3	7.3	2.6	4.4	-14.7	-14.7	4.6	4.6	24.4	46.7	27.5	43.7
2210	5.9	2.2	2.6	38.6	15.2	15.2	24.1	24.1	9.9	-24.5	33.7	4.3
2220	3.7	2.8	3.9	15.0	23.7	23.7	-4.4	-4.4	-4.2	13.3	5.5	14.1
2230	6.2	13.0	-14.5	2.4	7.1	7.1	24.2	24.2	23.3	3.2	2.3	5.5
2240	2.7	2.4	2.7	2.7	23.4	23.4	15.6	15.6	5.2	2.6	14.7	14.3
2250	13.6	24.2	11.2	-13.2	15.0	15.0	17.7	17.7	4.6	29.0	64.2	74.3
2260	-	-	-	-	-	-	-	-	-	-	-	-
2270	4.1	21.2	59.1	-14.0	106.0	106.0	-43.1	-43.1	0.0	379.7	50.0	109.0
2280	13.3	14.6	14.6	22.3	1.7	1.7	-3.4	-3.4	7.6	-2.0	24.6	1.6
2290	23.2	26.2	6.0	1.3	23.9	23.9	7.5	7.5	7.5	15.7	24.6	34.3
2300	23.2	2.4	4.7	0.0	5.5	5.5	-22.7	-22.7	16.6	113.9	62.1	37.6
2310	23.2	2.4	4.7	3.5	9.7	9.7	-13.1	-13.1	35.1	5.4	4.3	26.6
2320	-	-	3.6	4.2	6.4	6.4	10.0	10.0	3.0	5.0	5.0	14.6
2330	0.2	4.0	7.4	2.3	9.3	9.3	14.7	14.7	6.3	23.2	26.9	24.7
2340	-26.2	-	11.7	24.1	30.5	30.5	14.7	14.7	6.3	5.4	4.5	25.0
2350	3.4	4.5	2.0	0.0	15.2	15.2	19.7	19.7	5.2	3.7	3.6	15.2
2360	4.1	2.3	3.3	3.7	19.6	19.6	12.3	12.3	2.0	31.0	14.3	35.4
2400	5.7	7.3	7.9	-9.0	3.6	3.6	7.1	7.1	20.7	7.7	12.1	7.3
2500	3.2	15.3	3.1	-25.2	23.9	23.9	46.2	46.2	19.1	2.4	17.1	15.6
TOTAL	5.6	7.0	7.4	-6.1	5.0	5.0	9.7	9.7	20.0	7.6	12.6	7.0

Source: Banco Central del Uruguay, Cuentas Nacionales 1940/1951, 1951, 1952/1953, 1954/1955, 1956/1957, 1958/1959, 1960/1961, 1962/1963

TABLE 2: Structural Changes of Value Added in Manufacturing, 1970-1982
(Sectoral shares (percentages) on the basis of values in national currency at current prices)

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ISIC	DESCRIPTION	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
31000	Food products	4.7	5.0	4.9	4.2	4.5	3.6	3.2	3.1	3.5	3.4	3.4	3.1	3.1
3110	Beverages	6.7	5.9	5.5	5.6	5.4	4.1	4.4	4.1	4.5	4.4	4.4	4.1	4.1
3120	Tobacco	4.1	3.8	4.0	3.3	3.2	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
3200	Textiles	6.7	6.4	6.5	7.3	6.7	6.8	7.2	6.7	6.7	6.7	6.7	6.7	6.7
3220	Wearing apparel, exc. footwear	3.0	3.4	3.2	3.0	3.7	3.7	3.7	3.7	3.6	3.7	3.7	3.7	3.7
3230	Leather prod., exc. footwear	4.9	4.5	4.9	4.0	4.2	4.3	4.6	4.7	4.6	4.7	4.7	4.7	4.7
3240	Footwear, exc. rubber or plastic	5.6	5.5	5.8	5.6	5.2	5.6	5.2	5.2	5.6	5.2	5.2	5.2	5.2
3300	Wood products, exc. furniture	4.3	4.5	4.6	4.0	4.7	4.7	4.3	4.3	4.3	4.3	4.3	4.3	4.3
3320	Furniture, exc. metal	0.9	0.9	0.8	0.9	0.9	0.6	0.9	0.9	0.9	0.9	0.9	0.9	0.9
3400	Paper and products	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3420	Printing and publishing	2.7	2.3	2.9	2.5	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
3500	Industrial chemicals	4.4	3.6	4.1	4.2	4.7	4.9	4.7	4.7	4.6	4.7	4.7	4.7	4.7
3520	Other chemicals	3.7	3.2	3.6	3.7	3.6	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7
3600	Petroleum refineries	5.2	5.3	5.2	6.7	4.4	4.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7
3700	Misc. petroleum and coal prod.	-	-	-	-	-	-	-	-	-	-	-	-	-
3800	Rubber products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3900	Plastic products	0.1	0.1	0.3	0.4	0.3	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7
3920	Pottery, china, earthenware	0.0	-	-	-	-	-	-	-	-	-	-	-	-
3930	Glass and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3940	Non-ferrous metal prod.	2.8	3.4	3.7	3.0	3.2	4.4	4.7	4.7	4.7	4.7	4.7	4.7	4.7
3950	Iron and steel	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3960	Non-ferrous metals	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3970	Fabricated metal prod.	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
3980	Machinery, exc. electrical	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
3990	Machinery electric	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4000	Transport equipment	4.2	4.8	4.8	4.3	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
4100	Professional and scientific equip.	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
4200	Rubber, miscellaneous products	0.0	0.0	0.4	0.4	0.3	0.7	0.4	0.7	0.7	0.7	0.7	0.7	0.7
5000	TOTAL MANUFACTURING	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
TOTAL VALUE (in millions of \$)		14,802	17,978	18,525	20,041	25,094	31,076	41,957	52,922	62,922	72,922	82,922	92,922	102,922
Credits (in millions of \$)		690	700	710	720	730	740	750	760	770	780	790	800	810
TOTAL (in millions of \$)		12,492	15,221	15,025	20,022	24,364	30,336	40,226	50,222	60,222	70,222	80,222	90,222	100,222

SOURCE: Banco Central del Paraguay "Cuentas Estadísticas 1970/1975" N° 14
"Cuentas Estadísticas 1976/1981" N° 16
"Cuentas Estadísticas 1982/1987" N° 18

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of negative values, by the slowdown in the output of a couple of industrial undertakings.

In concluding this brief characterization an important comment on Paraguay's industrial statistics is in order. The last census of the sector was carried on in 1963 and this source has been used to construct the sample from which the yearly estimates are derived. This entails that changes occurred in the production methods used by the industrial establishments since 1963 and the entrance of new firms are not adequately taken under consideration.

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MAIN INDUSTRIES (in volume)

	1979	1980	1981
	Tons	Tons	Tons
Cotton fabrics (thousand meters)	20.252	16.620	15.940
Wool fabrics (thousand meters)	38	46	100
Cotton fibres (thousand meters)	73.281	74.874	105.869
Bags (thousand meters)	3.557	1.761	905
Tannin	6.659	15.694	13.207
Mint (essential oil)	801	583	400
Petit grain and other (essential oils)	460	596	382
Quicklime	37.783	49.118	57.100
Cement	154.542	176.685	161.419
Cigarettes (thousand of boxes)	40.395	32.389	37.326
Beverages (thousand litres)	126.234	130.004	158.968
Sugar	68.477	89.236	76.518
Flour	82.333	81.837	100.671

Source: Banco Central del Paraguay

2.2. Geographical distribution of manufacturing enterprises

The unavailability of a recent industrial census leads to the utilization of other sources of information to derive data regarding the regional distribution of manufacturing. Fortunately an industrial survey was carried on in 1977 and from it some information can be obtained. It must be stated, anyhow, that the survey was conducted only for establishments located mostly in -- the urban areas of the country. At the same time, only a small -- sample of those undertakings with less than four employees was included.

The survey distinguished seven geographical zones (see table 3). The most important of them was Asunción and its metropolitan area. This region included firms that were responsible for 60% of the gross output of all the establishments included in the study. Those firms also paid 70% of all the wages and salaries. The other area --much less significant-- is the East and North-East which in the last years has experienced an important development due to the impact of the construction of the Itaipú dam. --- Mostly firms devoted to the manufacturing of goods for the construction industry have established in this region. Finally it -- can be said that the Encarnación area in the near future may witness the establishment of new firms to supply the requirements -- originated with the construction of the Yecyretá dam.

TABLE 3. Regional Shares in Manufacturing Gross Output, Wages and Salaries. Sample. 1976.

	Geographical zones	Gross Output (a)	%	Wages and Salaries (a)	%
1	Asunción & metropolitan area	19.686	60,5	3.180,99	70,3
2	Industrial basin of Asunción	3.584	11,0	225,09	5,0
3	Guairá	945	2,9	93,05	2,0
4	North & East-Central	1.034	3,2	96,47	2,1
5	East & North-East	3.186	9,8	462,65	10,2
6	Pilar	1.617	5,0	315,43	7,0
7	Encarnación	2.489	7,6	152,46	3,4
	TOTAL	32.541	100,0	4.526,14	100,0

(a) In millions of guaranies.

Source: "Encuesta Industrial Urbana - 1977", Ministerio de Industria y Comercio - División de Estadística y Censos, Asunción 1980.

Paraguay 2.3.
June, 1983

2.3. Manufacturing activity by size of enterprises

The survey referred to in the previous section is the only relatively recent source which contains data on size of firms. Unfortunately the survey only distinguished between establishments - with 5 to 19 employees and those with 20 or more. According to it, the first group of firms accounted to 679 and the second to 219 -- establishments. This means that 25% of all the undertaking interviewed, corresponded to those with more than 19 employees. The -- establishments with less than 5 employees are known to be relatively numerous in Paraguay but no sufficiently accurate estimate is - available.

The lack of data on this topic is particularly unfortunate in as much as it precludes the possibility of recording more subtle trends in the development of Paraguay's manufacturing. In fact, - knowledge about the birth and death of industrial establishments - but specially of those of small and medium size would lead to a - better understanding of some of the main characteristics of the -- evolution of this sector.

Paraguay 2.4.
June, 1983

2.4. Ownership and investment patterns

Role of the public sector

The present policy of the government is to limit the role of the public sector in the economy, and to promote the initiative of the private sector, including foreign investments. This approach is particularly strong with regard to industrial activities.

In fact, the basic infrastructure built in the past decades remains in the hands of the government through decentralized entities and public enterprises: electricity, housing, railways, fluvial transport, airlines, ports, telecommunications, water supplies, etcétera; yet, the overall participation of the public sector in the economy is moderate by developing countries standards: public expenditures represent about 12% of GDP, and the public sector accounts for about 9% of the global demand. The share of the public sector in gross capital formation is difficult to estimate since official statistics do not include data regarding hydroelectric projects, but a reasonable figure would be 25%.

Decentralized agencies and public enterprises have been decreasing their participation in the investments of the public sector (from 46,9% in 1972 to 36% in 1979 and from 65,2% to 58% in terms of fixed investments). On the other hand, industrial activities accounted for just about 2,3% of public expenditures in recent years.

The following list includes the public enterprises operating in the industrial sector. Until recently there were other two, the National Meat Corporation which was privatized, and the Sugar Mixed Commission.

LIST OF INDUSTRIAL PUBLIC ENTERPRISES

Name	Sector	Legal form	Date of creation	Ownership	Object	Current receipts (1979) - (in mil. lions of guaraníes)	Capital expenditures
1. Industria Nacional del Cemento	Cement	Autarchic entity	1969	100 % state	Production of Portland cement	2.824	361
2. Siderurgia Paraguaya (SI-DEPAR)	Steel	Descentralized entity	1974	100 % state	Production and commercialization of steel	- (+)	93
3. Acero del Paraguay (ACE-PAR)	Steel	Private law (S.A.)	1975	60 % state 40 % brazilian capital	Production of steel	- (++)	-
4. Administración Paraguaya de Alcoholes (APAL)	Chemical	Autarchic entity	1975	100 % state	Monopoly of production and sale of certain -- types of -- alcohol	2.088	222
5. Petroleos del Paraguay (PE TROPAR)	Oil	Mixed economy	1981	100 % state 40 % foreign	Refinery of oil	-	-

(+) Represents the government in ACEPAR
 (++) Not yet in operation

Paraguay 2.4.
June, 1983

With the exception of an expansion in the manufacture of cement, the present strategy doesn't foresee the undertaking of new industrial projects of large size which would imply the direct participation of the State, as was the case of the Steel -- Complex. On the other hand, the government has made explicit -- its support to the private sector through a variety of mechanisms of stimulation for domestic and foreign investments (see below, 3.2.).

Role of foreign investments

Since the early seventies, the combination of a high -- growth performance in the context of a politically stable regime and an explicit "open door" policy for foreign investors has --- given rise to a significant flow of direct investment to the eco-- nomy of Paraguay. The bulk of such investments was oriented to-- wards the agricultural sector and banking activities. In the in-- dustrial sector, agro-industries concentrated the vast majority of projects. (See below, 3.2.).

Table A shows the structure of foreign investments in the period 1975-1981, indicating the number of projects and the -- origin of the capital. It is interesting to note a significant -- participation of projects of brazilian and argentine origin. Most of the projects have been carried out in association with domes-- tic investors.

Table B reveals the distribution of foreign and domes-- tic capital in "new projects" in the period 1975-1980.

TABLE A

Net Direct Investment in Paraguay 1975-1981

Country of origin	Number of projects	Volume U\$S mill.	%
Brazil	34	52,5	23,1
FRG	18	51,4	22,6
U.S.A.	14	41,0	18,0
Portugal	5	20,4	9,0
Spain	10	14,1	6,2
Argentina	27	13,9	6,1
Japan	5	8,8	3,9
Italy	4	7,2	3,2
France	5	5,5	2,4
Canada	1	1,0	0,5
Other L.A.	10	4,8	2,1
Other Europe	7	4,7	2,1
Other Asia	3	1,8	0,8
	143	227,1	100,0

Source: Ministerio de Industria y Comercio.

TABLE B

Foreign Investment share in new projects
(millions of guaranies, 1975-1980)

Years	Domestic Capital	Foreign Capital	Total	Foreign Capital (%)
1975	2.295	709	3.004	26,6
1976	4.710	1.616	6.326	25,6
1977	5.237	5.406	10.643	50,8
1978	7.973	2.096	10.096	20,8
1979	13.289	13.199	26.488	49,8
1980	9.778	3.119	12.897	13,8
TOTAL	43.282	26.145	69.427	37,7

Source: Departamento de Promoción de las Inversiones.

2.5. Efficiency of the manufacturing sector

Unfortunately, data on some variables such as number of employees by branch, wages and salaries paid by branch, number of establishments by branch, and others, are not available for the -- manufacturing sector of Paraguay. This fact implies that an analysis regarding the performance of Paraguay's industrial efficiency is not possible at present.

The only two sets of data which are available have to do with gross output and value added by branch. From them it's possible to calculate a ratio which leads to some observations. Table 7 shows that the share of value added in gross output for all manufacturing branches increased from 1971 to 1981. (This is an interesting result since actually the opposite happened for developing countries taken as a whole (+)). At the same time, the figures demonstrate that the ratio raised significantly for wood -- products but remained without important variations for the other main branches such as food products or textiles. For petroleum -- refineries it actually fell.

It's interesting to note also that if a comparison is -- made between Paraguay's data and data for other developing countries at this respect, it comes out that in some branches such as food products Paraguay had in 1981 a higher ratio of value added to gross output than those countries. The opposite was true for beverages and textiles (+).

(+) See UNIDO, Handbook of Industrial Statistics, U.Nations, N.York, 1982.

TABLE 5: GROSS OUTPUT AND VALUE ADDED: VALUES IN NATIONAL CURRENCY (CURRENT PRICES), 1971 AND 1981 (IN THOUSAND OF G)

Paraguay 2.5.
June, 1983

ISIC	ISIC - DESCRIPTION	Gross output			Value added		
		1971	1981	1971	1981	1971	1981
310/3120	Food products	17 305	77 815	6 543	31 507		
3130	Beverages	1 664	16 802	763	8 012		
3140	Tobacco	767	1 542	454	971		
3210	Textiles	2 406	24 201	787	7 936		
3220	Wearing apparel, exc. footwear	339	4 496	117	395		
3230	Leather products	1 056	6 442	589	3 478		
3240	Furniture, exc. rubber or plastic	900	9 808	326	3 335		
3310	Wood products, exc. furniture	1 734	34 886	589	15 572		
3320	Furniture, exc. metal	206	2 376	115	1 242		
3410	Paper and products	53	317	16	92		
3420	Printing and publishing	348	6 229	290	4 423		
3510	Industrial chemicals	468	2 444	202	831		
3520	Other chemicals	4 253	4 003	281	1 404		
3530	Petroleum refineries	1 321	34 086	724	17 558		
3540	Misc. petroleum and coal products						
3550	Rubber products	9	66	5	36		
3560	Plastic products	19	2 960	18	7 599		
3610	Pottery, china, earthenware						
3620	Glass and products	5	423	3	203		
3730	Other non met. mineral products	927	8 660	428	4 753		
3710	Iron and steel	26	189	20	27		
3720	Non-ferrous metals	10	617	6	321		
3810	Fabricated metal products	568	3 425	351	1 418		
3820	Machinery, exc. electrical	58	293	34	182		
3830	Machinery electric	8	105	5	64		
3840	Transport equipment	224	1 656	105	1 027		
3850	Professional & scientific equip.	53	323	35	136		
3500	Other manufactured products	139	1 349	60	567		
3000	TOTAL MANUFACTURING	31 816	241 613	12 978	107 544		
	Crafts						
	TOTAL						

SOURCE: Secretaría Técnica de Planificación, for gross output

Paraguay 2.5.
June, 1983

TABLE 6: GROSS OUTPUT AND VALUE ADDED. BRANCH SHARES (IN PER CENT) IN TOTAL MANUFACTURING, 1971 and 1981

ISIC	ISIC - DESCRIPTION	Gross output		Value added	
		1971	1981	1971	1981
310/3120	Food products	54,3	32,2	50,8	29,3
3130	Beverages	5,2	7,0	5,9	7,5
3140	Tobacco	2,4	0,6	3,8	0,9
3210	Textiles	7,6	10,0	6,1	7,4
3220	Wearing apparel, exc. footwear	1,1	0,5	0,9	0,4
3230	Leather products	3,3	3,7	4,5	3,2
3240	Footwear, exc. rubber or plastic	2,8	4,1	2,5	3,1
3310	Wood products, exc. furniture	5,4	14,4	4,5	14,4
3320	Furniture, exc. metal	0,7	1,0	0,9	1,1
3410	Paper and products	0,2	0,3	0,1	0,1
3420	Printing and publishing	1,1	2,6	2,3	4,1
3510	Industrial chemicals	1,5	1,0	1,6	0,8
3520	Other chemicals	3,9	4,7	3,2	4,3
3530	Petroleum refineries	4,1	14,1	5,6	16,3
3540	Misc. petroleum and coal products	—	—	—	—
3550	Rubber products	0,0	0,0	0,0	0,0
3560	Plastic products	0,2	1,2	0,1	1,5
3610	Pottery, china, earthenware	—	—	—	—
3620	Glass and products	0,0	0,2	0,0	0,2
3690	Other non met. mineral products	2,9	3,3	3,4	4,4
3710	Iron and steel	0,2	0,2	0,2	0,2
3720	Non-ferrous metals	0,0	0,3	0,0	0,3
3810	Fabricated metal products	1,8	1,4	2,7	1,3
3820	Machinery, exc. electrical	0,2	0,2	0,3	0,2
3830	Machinery electric	0,0	0,0	0,0	0,0
3840	Transport equipment	0,7	0,7	0,2	1,0
3850	Professional & scientific equip.	0,2	0,1	0,3	0,1
3860	Other manufactured products	0,1	0,6	0,2	0,5
3000	TOTAL MANUFACTURING	100,0	100,0	100,0	100,0
	Crafts				
	TOTAL				

TABLE 7

SHARES OF VALUE ADDED IN GROSS OUTPUT
BY BRANCHES, 1971 AND 1981

ISIC	ISIC - DESCRIPTION	Shares of value added in gross output a)	
		1971	1981
310/3120	Food products	38,1	40,5
3130	Beverages	46,2	47,9
3140	Tobacco	64,4	62,9
3210	Textiles	32,7	33,0
3220	Wearing apparel, exc. footwear	34,5	33,0
3230	Leather products	55,8	54,0
3240	Footwear, exc. rubber or plastic	36,2	34,0
3310	Wood products, exc. furniture	34,0	44,5
3320	Furniture, exc. metal	55,8	51,0
3410	Paper and products	30,2	29,0
3420	Printing and publishing	83,3	71,0
3510	Industrial chemicals	43,2	34,0
3520	Other chemicals	22,4	35,2
3530	Petroleum refineries	55,3	51,5
3540	Misc. petroleum and coal products	-	-
3550	Rubber products	55,6	54,5
3560	Plastic products	44,7	51,0
3610	Pottery, china, earthenware	-	-
3620	Glass and products	64,0	48,0
3690	Other non met. mineral products	44,2	60,0
3710	Iron and steel	46,9	14,2
3720	Non-ferrous metals	60,0	52,0
3810	Fabricated metal products	61,8	56,0
3820	Machinery, exc. electrical	58,6	62,1
3830	Machinery electric	67,5	60,9
3840	Transport equipment	46,9	62,0
3850	Professional & scientific equip.	66,0	42,1
3900	Other manufactured products	43,2	42,0
3000	TOTAL MANUFACTURING	40,7	44,5

Source: Table 5.

a) In per cent

2.6. Structure and development of exports and imports of manufactured goods

Paraguays' exports of manufactures were calculated in --- nearly 231 million dollars in 1980 which meant 74,4% of all exports. This share is slightly higher than that for 1970 and 1975 (see table 8). A look at the composition of these exports reveals that by far the most important item was cotton (263 SITC) with approximately 46% of the total, followed by worked wood (243 SITC) with nearly 29%. The other goods were much less significant. Table 8 also shows that the participation of some of the products included has varied widely during the decade. Cotton, for example, increased its share five times from 1970 and feeding stuff for animals and processed wood around three times. On the other hand, exports of meat and meat preparations practically disappeared in 1980 after having contributed in 1970 with 36% of total exports of manufactures. It is necessary to pin-point that a more limited definition of trade in manufactures (SITC 5-8 less 68) if applied to Paraguay would imply that only 4,4% of all exports (in 1980) would fall under that classification. Table 10 shows some particular features that characterise the country's exports. In fact, in 1979, nearly 65% of the products exported were "non-processed --- goods for further processing" and 29% "processed goods for further processing". Goods for final use accounted for only less than 7%.

Regarding the destination of manufactured exports table 9B shows that more than half of them in 1979 went to developed market economies and slightly over 42% were sent to developing countries.

From approximately US\$ 500 million of imports around 77 % consisted (in 1980) of manufactured products defined in an ample manner. Of them, the most important items were petroleum products, electrical machinery and transport equipment. In terms of their final demand 77.8% of all goods imported into Paraguay corresponded in 1977 to "processed goods for final use" and nearly 7% to "non-processed goods for further processing" (see table 10). With

respect to the origin of imports, approximately the same shares - correspond to developed market economies and to developing countries (see Table 9A).

A brief comment on Paraguay's trade statistics is needed in order to interpret the information presented. There is considerable agreement that an important portion of all trade flows to and from the country are not recorded, particularly those carried out with Argentina and Brazil. Official figures have to be seen, then, only as a partial indication of the true structure and volume of Paraguay's external trade.

Table 8 Product mix of traded manufactured goods, 1970, 1975, 1980,
in values in 1980

Paraguay
June, 1991

SITC		Export				Import			
		1970	1975	1980	US\$	1970	1975	1980	US\$
01	Meat and meat preparation	36,16	25,66	0,45	1054	0,009	4,006		
02	Milk and cream					1,017	0,180		
022	Fish preparation					0,060	0,042		
0222	Rice, glazed and polished	0,01	0,05						
040	Meal and flour of wheat or of meslin					0,131	0,254		
041	Meal and flour of cereals except above					0,132	0,000		
048	Cereal preparations and starch					0,244	0,791		
050	Dried fruit					0,012	0,004		
055	Fruit, preserved and fruit preparations	1,32	1,22			0,071	0,011		
0555	Vegetables, roots and tubers, preserved or prepared					0,072	0,030		
060	Sugar, sugar preparations and honey	0,02	6,22	1,13	3.112	0,154	0,053		
0605	Coffe extracts, essences and similar						0,085		
06052	Cocoa powder, unsweetened					0,002	0,005		
06053	Coca butter and cocoa past					0,066	0,091		
060533	Chocolate and related food preparations					0,088	0,031		
0605331	Tea and maté	1,14	0,22	0,8	1.930				
0605332	Feeding-stuff for animals	3,53	4,24	4,5	21.984				
0605333	Miscellaneous food preparations	0,23	3,29			0,402	0,599	0,1	34,
06053331	beverages	0,05	0,13			5,37	9,743	6,7	25,39
06053332	Tobacco manufactures					2,990	3,318	3,8	14,28
06053333	Flour and meal of oil seeds, nuts and kernels								
060533331	Crude rubber (including synthetic and reclaimed)					0,003	0,000		
060533332	Latex 2311 less natural rubber and similar natural gums								
060533333	Wood, shaped or simply worked	10,82	15,76	23,7	66.329		0,000		
0605333331	Pulp and waste paper								
06053333311	Wood Shoddy					0,059	0,024		
06053333312	Wool or other animal hair, carded or combed					0,001			
060533333121	Wool tops								
060533333122	Waste of wool and other animal hair						0,064		
06053333313	Cotton	0,10	70,52	45,8	106.833		0,001		
06053333314	Synthetic and regenerated fibres					0,036	0,029		
06053333315	Waste materials from textile fabrics						0,012		
0605333332	Petroleum products					5,052	5,218	19,2	72,8
06053333321	Animal and vegetable oils and fats	15,74	8,73	7,4	17.117	0,229	0,036		
060533333211	Animal oils and fats	0,04	1,002			0,000	0,003		
060533333212	Fixed vegetable oils and fats	15,70	8,73			0,208	0,006		
060533333213	Animal and vegetable oils and fats processed	0,001				0,10	0,17		
0605333333	Chemicals	9,02	8,70	6,7	15.536	12,13	9,25	3,4	31,7
06053333331	Chemical elements and compounds	0,002				0,09	1,98		
06053333332	Mineral tar and crude chemicals from coal, petroleum and natural gas					0,10	0,00		
06053333333	Dyeing, tanning and colouring materials	4,40	0,48	1,9	4388	0,56	0,48		
06053333334	Medicines and pharmaceutical products		0,11			5,12	2,08		
06053333335	Essential oils and perfume materials; toilet, polishing and cleansing preparations	4,62	8,44	3,9	9093	7,22	0,54		
06053333336	Fertilizers, manufactured					1,13	0,52		
06053333337	Explosives and pyrotechnic products					0,32	0,56		

(Table 8 continued)

Paraguay 2.
June, 1983

SITC	Export				Import			
	1970	1975	1980		1970	1975	1980	
	%	%	%	US\$	%	%	%	US\$
58 Plastic materials, regenerated cellulose and artificial resins					0.49	1,20		
59 Chemical materials and products n.e.s.					1.00	7.89		
60 Manufactured goods classified chiefly by material less 567 (pearl and (semi-)precious stones)	3.43	5.59	0.02	52	21.25	20.19	15.6	5418
61 Leather, leather manufactures, n.e.s., and dressed furskins	0.008	0.60			0.02	0.007		
62 Rubber, manufactures, n.e.s.					1.62	1.29		
63 Wood and cork manufactures (excluding furniture)	2.66	4.02			0.05	0.21		
64 Paper, paper board and manufactures thereof					3.42	3.28	2.7	10.31
65 Textile yarn, fabrics, made-up articles articles y related products	0.014	0.44	0.02	52	5.47	2.56	2.6	98
66 Non-metallic mineral manufactures, n.e.s.	0.93	0.53			7.66	2,087	3.7	13.9
67 Iron and steel					4.44	6.15	3.7	13.9
68 Non-ferrous metals					0.64	0,317	1.2	4.1
69 Manufactures of metal n.e.s.	0.01				3.927	4,295	0.7	2.8
70 Machinery and transport equipment					39.561	45.31	45.2	174.2
71 Machinery, other than electric					18,879	19.64	19.1	72.5
72 Electrical machinery, apparatus and appliances					6,829	8,265	5.9	22.1
73 Transport equipment					13,852	17,405	18.6	70.4
80 Miscellaneous manufactured articles	0.428	0.668			6,238	3,814	1.0	3.9
81 Sanitary, plumbing, heating and lighting fixtures and fittings					0.374	0,469		
82 Furniture	0.024	0.004			0.206	2.191		
83 Travel goods, handbags and similar articles		0.001			0.006	0.009		
84 Clothing	0.265	0.609			0.747	0.129		
85 Footwear	0.017				0.242	0.141		
86 Professional, scientific and controlling instruments; photographic and optical goods, watches and clocks					1.965	7.005	4.5	20.1
87 Miscellaneous manufactured articles, n.e.s.	0.122	0.055			2.647	1.90	0.5	19.1
TOTAL manufactures	%		100				700	
TOTAL 5 + 8 less 68	values	44.530	121.554	230.947	60.991	169.777		378.4
TOTAL 5 + 8 less 68	values	5.733	18.182	13.588	47905	132839		261.8
TOTAL traded goods	values	64.048	174.064	310.230	75.242	211.980		494.3
TOTAL manufactures/ TOTAL trade	%	69.52	69.83	74.4	81.06	80.09		76.6
TOTAL 5 + 8 less 68/ TOTAL trade	%	8.95	10.45	4.4	63.67	62.66		53.0

*/ This table is based on the definition of trade in manufacturing covering a list of 145 specifically identified SITC 3-digit or 4-digit codes comprising a wide range of processing stages of manufactured goods.

**/ Export and import expressed in current US dollars (thousands)

0.0: indicating trade with a share of less than one decimal

0: indicating no trade

-: indicating no data

Source: For 1970 and 1975, from UNIDO data base

For 1980: U. Nations, Yearbook of International Trade Statistics 1980, N. York

Paraguay
TABLE 9A. ORIGIN OF IMPORTS OF MANUFACTURES BY BRANCHES, 1979 2/

SITC DESCRIPTION OF TRADE GOODS	WORLD TOTAL (1000 US\$)	DEVELOPING COUNTRIES (PERCENT)	DEVELOPED MARKET ECONOMIES				CENTRALLY PLANNED DEVELOPED COUNTRIES (PERCENT)
			TOTAL (PERCENT)	USA (PERCENT)	EEC (PERCENT)	JAPAN (PERCENT)	
01 Meat and meat preparations	18	70.10	25.90	27.66	1.94	0.00	0.00
02 Dairy products and eggs	290	1.34	58.66	41.80	30.51	0.00	0.00
032 Fish n.e.s. and fish preparations	252	39.30	60.70	0.35	25.40	4.61	0.00
0422 Rice, glazed or polished not otherwise worked	152	100.00	0.00	0.00	0.00	0.00	0.00
046 Meal and flour of wheat or of meslin	110	7.78	92.22	92.22	0.00	0.00	0.00
047 Meal and flour of cereals, except above	12	0.00	100.00	100.00	0.00	0.00	0.00
048 Cereals preparat. & starch of fruits & vegetab.	2182	58.06	1.94	0.35	1.23	0.01	0.00
052 Dried fruit	18	61.88	38.12	1.50	0.00	12.15	0.00
053 Fruit, preserved and fruit preparations	36	16.32	83.68	59.70	17.01	0.00	0.00
055 Vegetables, roots & tubers, preserved or prepared	81	64.26	35.74	4.38	10.04	1.10	0.00
06 Sugar, sugar preparations and honey	408	12.96	85.90	2.03	71.41	0.65	0.00
0722 Cocoa powder, unsweetened	18	0.00	100.00	0.00	100.00	0.00	0.00
0723 Cocoa butter and cocoa paste	4	0.00	100.00	0.00	100.00	0.00	0.00
073 Chocolate and related food preparations	282	2.15	57.85	0.57	32.05	0.00	0.00
074 Tea and mate	251	14.09	85.91	0.00	83.57	0.12	0.00
081 Feeding-stuff for animals	321	10.65	89.35	21.98	61.31	0.00	0.00
09 Miscellaneous food preparations	4230	82.16	17.84	14.64	3.03	0.22	0.00
11 Beverages	22076	3.25	55.89	0.34	54.38	0.08	0.85
122 Tobacco manufactures	19448	2.47	97.53	91.16	6.38	0.00	0.00
231 Crude rubber, synth. & reclaimed (excl. SITC 2311)	59	72.88	27.12	21.81	3.61	0.00	1.70
2626 Wool shoddy	64	100.00	0.00	0.00	0.00	0.00	0.00
2625 Waste of wool and other animal hair n.e.s.	52	100.00	0.00	0.00	0.00	0.00	0.00
266 Synthetic and regenerated (artificial) fibres	242	37.36	62.64	20.15	42.45	0.00	0.00
267 Waste materials from textile fabrics (incl. rags)	846	17.84	82.16	20.89	35.70	11.85	0.00
332 Petroleum products	50259	96.64	3.36	2.41	0.79	0.08	0.00
4 Animal and vegetable oils and fats	729	80.73	19.27	0.76	16.63	0.65	0.00
411 Animal oils and fats	1	0.00	100.00	0.00	100.00	0.00	0.00
421 Fixed vegetable oils, scft (incl. SITC 422)	573	96.32	3.68	0.57	0.32	0.88	0.00
431 Animal and vegetable oils and fats processed	154	23.29	76.71	0.00	76.71	0.00	0.00

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TABLE 9A ORIGIN OF IMPORTS OF MANUFACTURES BY BRANCHES, 1979 ^{a/}

SITC DESCRIPTION OF TRADE GOODS	WORLD TOTAL (1000 US\$)	DEVELOPING COUNTRIES (PERCENT)	DEVELOPED MARKET ECONOMIES				CENTRALLY PLANNED DEVELOPED COUNTRIES (PERCENT)
			TOTAL (PERCENT)	USA (PERCENT)	EEC (PERCENT)	JAPAN (PERCENT)	
5 Chemicals	40985	43.99	52.92	10.45	33.51	0.82	2.99
51 Chemicals elements and compounds	5102	19.75	57.76	11.14	39.07	0.23	22.27
52 Tar and chemicals from coal, petrol um, nat. gas	1	37.31	62.68	62.68	0.00	0.00	0.00
53 Dyeing, tanning and colouring materials	2077	28.01	71.90	17.48	44.70	1.88	0.03
54 Medicinal and pharmaceutical products	12556	47.86	51.58	7.32	36.16	0.67	0.45
55 Essential oils and perfure materials	2055	8.66	91.26	12.43	66.96	0.41	0.00
56 Fertilizers, manufactured	2468	82.99	16.29	3.65	11.32	0.00	0.72
57 Explosives and pyrotechnic products	130	67.95	22.92	11.15	11.71	0.00	6.17
58 Plastic materials, regenerated cellul. & resins	6748	21.07	78.93	14.99	45.21	0.78	0.00
59 Chemical materials and products n.e.s.	9408	68.91	30.96	10.93	14.79	1.40	0.04
6 Manufactured goods classified by material	79435	58.16	16.66	10.44	15.12	7.79	1.25
61 Leather manufactured n.e.s. & dressed fur skins	14	24.79	75.21	45.53	21.60	2.77	0.00
62 Rubber manufactures n.e.s.	4964	38.00	53.39	22.90	16.58	11.55	4.41
63 Wood and cork manufactures (excl. furniture)	143	28.52	65.82	5.68	12.74	0.24	0.29
64 Paper, paper board and manufactures thereof	5288	80.75	18.99	2.92	7.00	0.36	0.08
65 Textile yarn, fabrics, made-up articles	10128	16.67	75.63	39.47	6.25	32.25	1.84
66 Non-metallic mineral manufactures, n.e.s.	11836	81.42	17.88	1.71	11.78	2.30	0.14
67 Iron and steel	14351	80.88	18.70	0.98	9.11	7.88	0.42
68 Non-ferrous metals	1397	72.98	21.51	4.74	12.73	0.00	0.00
69 Manufactures of metal, n.e.s.	27275	46.89	47.71	9.03	25.66	3.30	1.85
7 Machinery and transport equipment	185477	45.21	53.42	11.64	16.08	20.93	0.28
71 Machinery, other than electric	77758	55.03	44.12	17.03	15.12	4.93	0.15
72 Electrical machinery, apparatus and appliances	30061	32.16	62.61	14.88	34.81	9.61	1.21
73 Transport equipment	77658	40.43	55.15	4.98	5.79	41.32	0.05
8 Miscellaneous manufactured articles	15511	25.37	56.28	19.46	20.88	11.34	1.82
81 Sanitary, plumbing, heating & lightning fixtures	1919	76.07	7.65	0.34	5.33	1.98	0.45
82 Furniture	778	20.72	75.15	72.11	3.75	0.71	0.04
83 Travel goods, handbags and similar articles	49	37.70	51.78	24.53	15.95	11.26	0.00
84 Clothing	435	20.13	71.36	35.11	22.47	4.61	1.08
85 Footwear	785	7.75	7.44	0.12	2.80	4.53	8.07
86 Professional, scient. & control. instruments	4050	25.79	68.59	25.88	23.39	10.11	1.24
85 Miscellaneous manufactured articles, n.e.s.	7454	22.99	63.97	14.34	27.11	16.60	2.06
TOTAL manufactures	430646	48.65	45.26	13.34	20.76	10.98	0.76
TOTAL: SITC 5-8 LESS 68 ^{a/}	320011	47.38	45.97	1.03	16.32	14.72	0.00
TOTAL traded goods: SITC 0-9	520667	57.36	40.94	11.14	17.21	9.11	0.63

Note: Data and SITC descriptions refer to SITC revision 1

^{a/} This table is based on the definition of trade in manufactures covering a list of 148 specifically identified SITC 3-digit or 4-digit codes comprising a wide range of processing stages of manufactured goods.^{b/} Definition of trade in manufactures SITC 5-8 less 68 is one of the most often found.

It covers only items recognized as exclusively manufactured goods, i.e. with a high level of manufacturing content.

Source: UNIDO data base; Information supplied by the United Nations Statistical Office.

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TABLE 5B. DESTINATION OF EXPORTS OF MANUFACTURES BY BRANCHES, 1979 2/

SITC DESCRIPTION OF TRADE GOODS	WORLD TOTAL (1000 US\$)	DEVELOPING COUNTRIES (PERCENT)	DEVELOPED MARKET ECONOMIES				CENTRALLY PLANNED DEVELOPED COUNTRIES (PERCENT)
			TOTAL (PERCENT)	USA (PERCENT)	EEC (PERCENT)	JAPAN (PERCENT)	
01 Meat and meat preparations	5487	47.37	52.63	0.00	46.30	0.49	0.00
0422 Rice, glazed or polished not otherwise worked	24	100.00	0.00	0.00	0.00	0.00	0.00
053 Fruit, preserved and fruit preparations	654	100.00	0.00	0.00	0.00	0.00	0.00
06 Sugar, sugar preparations and honey	52	54.33	45.67	0.00	0.00	45.67	0.00
074 Tea and mate	1132	58.38	1.62	0.00	0.12	0.00	0.00
081 Feeding-stuff for animals	14143	10.53	89.47	0.00	82.71	0.00	0.00
09 Miscellaneous food preparations	1772	59.50	0.50	0.00	0.50	0.00	0.00
122 Tobacco manufactures	16	100.00	0.00	0.00	0.00	0.00	0.00
243 Wood, shaped or simply worked	28635	56.94	3.06	0.71	1.82	0.17	0.00
251 Pulp and waste paper	13	100.00	0.00	0.00	0.00	0.00	0.00
263 Cotton	58556	23.57	72.70	8.30	28.40	14.62	3.65
4 Animal and vegetable oils and fats	19111	44.36	55.64	16.30	25.59	0.00	0.00
421 Fixed vegetable oils, soft (incl. SITC 422)	18951	44.01	55.99	16.40	25.76	0.00	0.00
431 Animal and vegetable oils and fats processed	120	100.00	0.00	0.00	0.00	0.00	0.00

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TABLE SB. DESTINATION OF EXPORTS OF MANUFACTURES BY BRANCHES, 1979 ^{a/}

SITC DESCRIPTION OF TRADE GOODS	WORLD TOTAL (1000 US\$)	DEVELOPING COUNTRIES (PERCENT)	DEVELOPED MARKET ECONOMIES				CENTRALLY PLANNED DEVELOPED COUNTRIES (PERCENT)
			TOTAL (PERCENT)	USA (PERCENT)	EEC (PERCENT)	JAPAN (PERCENT)	
5 Chemicals	13844	52.35	47.51	31.16	15.02	0.72	0.00
51 Chemicals elements and compounds	4	100.00	0.00	0.00	0.00	0.00	0.00
53 Dyeing, tanning and colouring materials	3742	21.57	78.43	78.43	0.00	0.00	0.00
54 Medicinal and pharmaceutical products	194	100.00	0.00	0.00	0.00	0.00	0.00
55 Essential oils and perfume materials	9854	62.85	36.96	14.00	21.11	1.01	0.00
58 Plastic materials, regenerated cellul. & resins	48	100.00	0.00	0.00	0.00	0.00	0.00
59 Chemical materials and products n.e.s.	1	100.00	0.00	0.00	0.00	0.00	0.00
6 Manufactured goods classified by material	20380	62.09	37.90	3.70	22.65	0.80	0.00
61 Leather manufactured n.e.s. & dressed fur skins	6548	3.59	56.35	0.00	63.90	2.50	0.00
63 Wood and cork manufactures (excl. furniture)	13590	90.26	5.74	5.55	2.52	0.00	0.00
64 Paper, paper board and manufactures thereof	4	100.00	0.00	0.00	0.00	0.00	0.00
65 Textile yarn, fabrics, made-up articles	193	77.54	22.46	0.00	22.46	0.00	0.00
66 Non-metallic mineral manufactures, n.e.s.	46	0.23	99.77	0.00	99.77	0.00	0.00
7 Machinery and transport equipment	32	14.31	65.65	25.69	0.00	0.00	0.00
71 Machinery, other than electric	2	100.00	0.00	0.00	0.00	0.00	0.00
73 Transport equipment	30	9.20	50.80	90.80	0.00	0.00	0.00
8 Miscellaneous manufactured articles	229	86.13	12.87	0.00	11.60	2.27	0.00
82 Furniture	2	0.00	100.00	0.00	100.00	0.00	0.00
83 Travel goods, handbags and similar articles	11	10.12	65.88	0.00	85.88	0.00	0.00
84 Clothing	87	77.47	22.53	0.00	16.58	5.95	0.00
85 Footwear	2	100.00	0.00	0.00	0.00	0.00	0.00
85 Miscellaneous manufactured articles, n.e.s.	127	99.93	0.07	0.00	0.07	0.00	0.00
TOTAL manufactures	204159	42.77	65.42	8.13	26.64	7.24	1.78
TOTAL: SITC 5-8 LESS 68 ^{a/}	34465	58.30	41.64	0.00	19.49	0.78	0.00
TOTAL traded goods: SITC 0-9	305176	35.43	63.35	5.87	39.66	5.38	1.19

Note: Data and SITC descriptions refer to SITC revision 1

^{a/} This table is based on the definition of trade in manufactures covering a list of 148 specifically identified SITC 3-digit or 4-digit codes comprising a wide range of processing stages of manufactured goods.

^{a/} Definition of trade in manufactures SITC 5-8 less 68 is one of the most often found.

It covers only items recognized as exclusively manufactured goods, i.e. with a high level of manufacturing content.

Source: UNIDO data base; Information supplied by the United Nations Statistical Office.

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TABLE 10. SHARES OF EXPORTS AND IMPORTS CLASSIFIED ACCORDING TO LEVEL OF PROCESSING 1970 AND 1979
AND TREND GROWTH RATES 1970-1975 AND 1975-1979

CLASSES	E X P O R T S				I M P O R T S			
	CLASS SHARE OF TOTAL		CLASS GROWTH RATE		CLASS SHARE OF TOTAL		CLASS GROWTH RATE	
	(PERCENTAGE)		(PERCENTAGE)		(PERCENTAGE)		(PERCENTAGE)	
	1970	1979	1970-1975	1975-1979	1970	1979	1970-1975	1975-1979
A : Non-processed goods for further processing	36.32	63.92	31.05	30.65	17.20	16.65	30.42	20.90
B : Processed goods for further processing	24.18	29.20	32.77	13.92	8.11	4.55	26.86	12.16
C : Non-processed goods for final use	10.23	2.99	14.33	-0.97	0.31	0.55	50.64	32.28
D : Processed goods for final use	29.27	3.85	20.78	-23.10	74.48	77.85	24.62	29.07
Sum of classes: A+B+C+D in 1000 current US\$		1970 64045		1979 305176		1970 75242		1979 520887
Total trade SITC 0-9 in 1000 current US\$		64045		305176		75242		520887

SOURCE: UNIDO data base; information supplied by the United Nations Statistical Office, with estimates by the UNIDO Secretariat.

Note: Calculations are based on current us dollar prices.
Sum of classes and Total trade figures should be identical. Discrepancies or zero values are due to lack of countries' trade reporting in general, but especially at the 3-, 4- and 5-digit SITC level.

3. INDUSTRIAL DEVELOPMENT STRATEGY, POLICIES AND PLANS

3.1. Principles and objectives

Although the first attempts of development planning in Paraguay were made in the early forties, with the adoption of a short term plan followed by a five year plan for 1943-1948 and - the creation of a Planning Commission in 1952, it was --- only after the creation in 1962 of the Technical Secretariat of - Planning (TSP) that a professional organization was set up to -- formulate and coordinate economic development strategies and po- licies (+). TSP has prepared four national development plans: -- the first (1965/1966) establishes the general objectives and --- strategies prevailing until now; the second (1967-1968) achieves more precision in the short term objectives and policy instru-- ments. The third plan (1971-1975) determines the adoption of -- certain important instruments, such as the law of investment pro- motion. The last plan covers the period 1977-1981. It is in prin- ciple a framework for the public sector and only "indicative" -- for the private sector. General development objectives include - the acceleration of income and employment levels, development of national capital and promotion of foreign investment, rational - exploitation of natural resources, defense of environment, conso- lidation of territorial integration and participation in Latin - American Integration, consolidation of the social basic capital of the country through well-defined policies of public investment, maintenance of financial equilibrium, improvement of the efficien- cy of the public administration, expansion of savings for the pro- motion of productive sectors, improvement of the educational and health infrastructure, and strenghtening of the planning system. The strategy for manufacturing industry anticipated a larger and more dynamic role for the sector in the overall development. For

(+) See these antecedents in "Secretaría Técnica de Planificación, 20 años de planificación indicativa en el Paraguay", Asunción del Paraguay, 1982.

the last part of the seventies, it was expected an annual rate of growth of 9.7%, in comparison with 6.7% in the previous period. As a result, its share in gross value added should have grown --- from 19% to 21.9% by 1981, in comparison with a decay from 34.5 % to 31.4% in the case of the primary sector. However, as indicated above (see Graph in 1.2.) the share of industry remained stable - and although agriculture suffered a significant decrease, the main positive change occurred in the construction sector.

Main targets

The basic concept is that the private sector should take most decisions of investment and production, while the public --- sector takes care of the indirect instruments of industrial policy, through tax and credit incentives, administrative mechanisms, and the supply of the basic infrastructure (+).

The plan gives priority to industrial activities with "comparative advantages", and specially to export-oriented agro-industries and the production of inputs based on local raw materials. No large industries of technical complexity, such as petrochemicals and aluminium would be promoted in the short term, although their feasibility should be analysed.

The plan also assigns importance to: a) the improvement of the productivity of the labor force, through adequate technology choices and training programs; b) the regional de-centralization of industrial development; c) the gradual substitution of imports in industrial branches of dynamic prospects, including the possibilities of access to neighboring markets; d) the adaptation and absorption of technologies, joining domestic research efforts -- with the contribution of foreign enterprises.

The sectoral targets of the plan anticipated a high --- growth rate in the wood industry although the food sector was ex

(+) See Plan Nacional de Desarrollo Económico y Social, 1977-1981, Vol. II, p. 77.

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pected to continue dominating the industrial spectrum, with a --- share of 38,3% of the industrial product. The actual performance (see Table 2) confirmed the target for the wood sector but failed to anticipate the decay in the share of the food industries.

3.2. Policy instruments

The main policy instrument for industrial development is Law 550 on the Promotion of Investments for Economic and Social Development, adopted in December 1975. Investment are classified in two categories: a) "necessary" (production or processing of raw materials and export oriented; and b) "convenient" (substituting imports and permitting a larger utilization of domestic resources). The law provides the following incentives:

a) Taxes: Complete exemption from customs duties on imported capital goods and foreign exchange charges; 50% income tax reduction for 5 years in the case of necessary investments -- and 30% for 5 years in the case of convenient investments; 75% -- exemption of custom duties on imports of raw materials for the first 2 years; complete exemption from charges on exports, taxes on the constitution of companies, etcetera.

b) Financial: The National Development Bank extend loans according to guidelines established by the Central Bank.--- Law 550 provides for special development loans for investment in preferred areas of the country.

c) Tariff: drawback and temporary admission of imports for the production of items to be exported.

d) Special incentives for preferred areas: Industries within the departments of Alto Paraguay, Nueva Asunción, Chaco and Boquerón are entitled to: 2 year tax exemption; 5 year exemption on real estate taxes; tax reduction in proportion to percentage of net profits reinvested; reduced fares for public services, etcetera.

e) Buy national: Government agencies are required to source their requirements with national products if the are available and foreign products don't offer significant price and quality advantages.

In addition to the Law 550 incentives, there is a 50% -- exemption on taxes on all imported inputs for industry, not produced in the country. Regarding financial incentives, the Central

Bank has required commercial banks to channel 25% of their credit to the industrial sector.

Several activities are subject to special regulations and advantages: forestry; mining; oil refinery; sugar mills; meatpacking; tourism.

In the period 1970-1981, a total of 1823 projects amounting to about 1 billion dollars were approved and granted incentives under the promotion régimes. (See Table C). Agro-industries, food processing and wood projects were the most favored(see Table D)

Foreign investment policy

There are no legal restrictions on foreign investments, -- which enjoy the same incentives as domestic investors. Register and evaluation of foreign investment projects is necessary only - for those seeking incentives. Capital repatriation can be carried out after three years of the investment and an annual quotas of - up to 20% of the total. There are no ceilings on profit remittances. There are a few legal restrictions for foreign investments in public services, hydrocarbons, alcohol commercialization.

TABLE C:

PARAGUAY: INVESTMENTS APPROVED UNDER LAWS OF INDUSTRIAL PROMOTION
1971 - 1980

Year	Nº of projects	Employees	Investments (Thousands of US\$)
1970	45	1.150	7.405
1971	35	777	1.405
1972	64	5.185	11.802
1973	91	2.725	13.627
1974	174	7.510	67.635
1975	122	2.963	35.317
1976	162	4.775	68.230
1977	166	5.338	103.413
1978	205	4.904	115.349
1979	301	9.739	250.992
1980	247	5.516	133.925
1981	211	4.492	133.254
TOTAL	1.823	54.074	942.254

Source: Ministerio de Industria y Comercio, Panorama Económico de Paraguay, p. 27.

TABLE D:

PARAGUAY - INVESTMENTS APPROVED UNDER LAW 216/550 OF
INDUSTRIAL PROMOTION, 1971-1979

	1971-1979			
	No of Projects	%	Investments (Mins of \$)	%
Food	226	17,0	7.705,9	9,2
Beverages	32	2,4	3.019,0	3,6
Tobacco	22	1,7	424,4	0,6
Textiles	27	2,0	1.451,6	1,7
Cotton gins	24	1,9	3.320,9	3,9
Clothing	33	2,5	220,6	0,3
Leather	21	1,6	817,0	1,0
Footwear (1).....	7	0,5	78,2	0,1
Wood products	243	18,3	8.499,3	10,1
Furniture	27	2,0	400,7	0,5
Paper and cardboard ...	22	1,6	7.014,0	8,3
Printing and publishing	62	4,7	781,6	0,9
Chemical products	103	7,7	8.274,9	9,8
Plastic products	26	2,0	997,7	1,2
Glass manufacture	3	0,2	695,5	0,8
Construction materials (2)	109	8,2	3.845,3	4,6
Metal products	38	2,9	2.490,9	3,0
Transport equipment ...	6	0,5	116,2	0,1
Other manufacturing (3)	83	6,2	1.668,8	2,0
Agro-industries	52	3,9	14.501,4	17,2
SUB-TOTAL	1.166	87,7	66.403,9	78,9
Engineering firms	24	1,8	2.799,2	3,3
Silos	36	2,7	8.412,8	10,0
Tourism (Hotels)	20	1,5	785,6	0,9
Banks	7	0,5	1.243,0	1,6
Transport	42	3,2	2.754,9	3,3
Others	35	2,6	1.706,0	2,0
TOTAL	1.330	100,0	84.111,4	100,0

(1) For years 1971-1975: Footwear and Clothing.

(2) For years 1971-1975: Non metallic minerals.

(3) For 1975: Includes manufacturing of electrical materials and agricultural tools.

Source: Ministerio de Industria y Comercio.

SECTION 1

PARAGUAY: INVESTMENTS APPROVED UNDER LAW 216/550 OF INDUSTRIAL PROMOTION, 1971-1979 (Continued)

	1971		1972		1973		1974		1975	
	No. of projects	% Investments (Mill. of \$)	No. of projects	% Investments (Mill. of \$)	No. of projects	% Investments (Mill. of \$)	No. of projects	% Investments (Mill. of \$)	No. of projects	% Investments (Mill. of \$)
Food	12	35.3	12,172	67.4	19	29.7	507.0	37.0	32	13.0
Beverages	1	0.9	0.8	0.2	1	1.1	2.0	0.2	2	1.6
Tobacco	1	0.9	0.8	0.2	2	2.2	4.6	0.4	2	1.6
Textiles	1	0.9	0.8	0.2	2	2.2	4.6	0.4	3	1.6
Chemical products	1	0.9	0.8	0.2	2	2.2	4.6	0.4	3	1.6
Leather	1	0.9	0.8	0.2	2	2.2	4.6	0.4	3	1.6
Transport	4	11.4	10.9	6.2	11	17.2	188.4	13.7	30	24.6
Electricity	1	2.9	2.8	0.2	3	3.3	28.6	2.1	3	2.7
Iron and steel	3	8.6	8.9	5.0	2	2.2	1.7	0.1	3	2.7
Chemical products	4	11.4	10.9	6.2	11	17.2	188.4	13.7	30	24.6
Plastic products	1	0.9	0.8	0.2	2	2.2	4.6	0.4	3	1.6
Construction materials	4	11.4	10.9	6.2	11	17.2	188.4	13.7	30	24.6
Construction materials	4	11.4	10.9	6.2	11	17.2	188.4	13.7	30	24.6
Water projects	1	2.9	2.8	0.2	3	3.3	28.6	2.1	3	2.7
Transport equipment	1	0.9	0.8	0.2	2	2.2	4.6	0.4	3	1.6
Construction equipment	1	0.9	0.8	0.2	2	2.2	4.6	0.4	3	1.6
Other projects	1	0.9	0.8	0.2	2	2.2	4.6	0.4	3	1.6
Engineering firms	1	0.9	0.8	0.2	2	2.2	4.6	0.4	3	1.6
Other	1	0.9	0.8	0.2	2	2.2	4.6	0.4	3	1.6
Tourism (hotels)	1	0.9	0.8	0.2	2	2.2	4.6	0.4	3	1.6
Books	1	0.9	0.8	0.2	2	2.2	4.6	0.4	3	1.6
Transport	1	0.9	0.8	0.2	2	2.2	4.6	0.4	3	1.6
Other	1	0.9	0.8	0.2	2	2.2	4.6	0.4	3	1.6
Total	100	100.0	100.0	100.0	100	100.0	100.0	100.0	100	100.0

1/ For years 1971-1975. For years 1976-1979. For years 1980-1985. For years 1986-1990. For years 1991-1995. For years 1996-2000. For years 2001-2005. For years 2006-2010. For years 2011-2015. For years 2016-2020. For years 2021-2025. For years 2026-2030. For years 2031-2035. For years 2036-2040. For years 2041-2045. For years 2046-2050. For years 2051-2055. For years 2056-2060. For years 2061-2065. For years 2066-2070. For years 2071-2075. For years 2076-2080. For years 2081-2085. For years 2086-2090. For years 2091-2095. For years 2096-2100.

2/ Includes agriculture and livestock development.

3/ Includes manufacture of electrical materials and agricultural tools.

4/ Includes other projects.

Source: Ministerio de Industria y Comercio.

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3.3. Planned industrial projects

The Technical Secretariat of Planning has prepared lists of Industrial projects identified on the basis of criteria of import substitution, utilization of domestic resources and supply to big public works. Several studies have been made recently on the potential uses of electricity for energy-intensive industries, with the cooperation of IBRD and GTZ of the Republic of Germany. Table E present's the list of existing industrial Projects.-

TABLE E

INDUSTRIAL PROJECTS OF POSSIBLE UNDERTAKING BEFORE 1985

ISIC	Project	Quantity to be produced p/annum	Investments (Thousands US\$)	Employment	Market
3112	Dairy products	15.000 l/day	1.000	40	domestic
3113	Canned vegetables	10.000 t/year	1.200	10-30	domestic
3113	Canned vegetables	2.400 t/year	500	30	domestic
3113	Canned fruits	50t fruits/day	1.200	15-25	dom. and foreign
3113	Fruit mermelades	160 k/hour	1.000	5	domestic
3115	Vegetable oils and fats	40 t/day	13.500	50	foreign
3119	Sweets	500 t/year	200	12-15	domestic
3121	Red-pepper	400 t/year	160	5-10	domestic
3122	Animal feeds	20.000 t/year	110	10	foreign and dom.
31	Sub-Total		19.470		
3513	Plastic tubes	500 t/year	200	15-20	domestic
3610	Electrical supplies	1.000 t/year	1.600	130-150	domestic
3691	Sanitary tiles and other ceramic	2.000 t/year	130	45	domestic
3691	Ceramic for construction	10.000 t/year	15.000	40-50	domestic
3692	Lime	15.000-20.000 t/year	4.000	50	domestic
3699	Concrete products	n.a.	n.a.		
36	Sub-Total		20.730		
3813	Steel constructions	n.a.	n.a.		
3822	Agricultural equipment		60	15-20	domestic
38	Sub-Total		60		
	TOTAL		40.460		

l: litter ; t: ton ; k: kilos

Secretaría Técnica de Planificación, 1982.

TABLE E "A"

OTHER IDENTIFIED INDUSTRIAL PROJECTS

ISIC	Project	Quantity to be produced p/annum	Investments (Thousands U\$S)	Employment	Market
1210	Charcoal burning (traditional)..	1.000 t/year /unit	10.000	2-4 unit	domestic
1210	Charcoal burning (semi-industry)	10.000 t/year	n.a.		domestic
12	Sub-Total		10.000		
3111	Animal fats	1.000 t/fat/ year	300	2-3	domestic
3112	Powder milk	500 k/powder /year	4.300	10-15	domestic
3121	Starch	12 t/day	3.600	40-50	dom.and foreign
3121	Yeast coffee	1.000 t/day	5.000	15-20	domestic
3121	Instant coffee	500 t/day	1.400	35	domestic
3121	Processed tea	1 million sqg/ year	550	5-6	dom.and foreign
3121	Bones flour	1.300 t/year	1.000	2-4	foreign and dom.
31	Sub-Total		16.650		
3311	Wood products	10.000 t/year	7.200	60-100	dom.and foreign
3311	Wood wool	200-300 k/hour	160	5-10	dom.and foreign
3320	Furniture	15.000 units/ year	n.a.	12	foreign
33	Sub-Total		7.360		
3411	Paper	20.000-25.000 t/year	95.000	160	domestic
3411	Cellulose	20.000-25.000 t/year	100.000	100	domestic
34	Sub-Total		195.000		

TABLE E ^a(Cont.)

ISIC	Project	quantity to be produced per annum	Investments (Thousands US\$)	Employment	Market
3511	Industrial alcohol	10.000 l/day (24 h)	3.600	50	domestic
3511	Fats, acids	n.a.			domestic
3511	Caustic soda	11.000 t/year	11.000	50	domestic
3511	Methanol	100.000 t/year	90.000	25	dom. and foreign
3512	Super-phosphate	75.000 t/year	4.000	20-30	dom. and foreign
3521	Paints	2.000 t/day	1.000	20-25	domestic
<u>35</u>	Sub-Total		<u>109.600</u>		
3620	Glass bottle	34 millions bottle/year	3.500	50-60	foreign and dom
<u>36</u>	Sub-Total		<u>3.500</u>		
3710	Ferrous magnesium	50.000 t/year	18.000	90	foreign ?
3710	Ferrous silicon	40.000 t/year	18.000	50	foreign ?
<u>37</u>	Sub-Total		<u>36.000</u>		
3811	Wire nails	900 t/year	60	5-10	domestic
3811	Screws	300 t/year	500	8-10	domestic
3811	Hand tools	n.a.			
3819	Galvanized metal products	n.a.		3	domestic
3839	Electrical machinery	25.000 units/year	100	10	domestic
<u>38</u>	Sub-Total		<u>660</u>		
	TOTAL		<u>378.770</u>		

Source: Same as Table E

4. INSTITUTIONAL FRAMEWORK FOR INDUSTRY

The following is a list of the main entities dealing with different aspects of industrial development in Paraguay.

a) Regulation and Promotion

- Ministry of Industry and Trade. Overall responsibility for the regulation and promotion of industry. An Investment Council within the Ministry deals with the evaluation of investment projects. The Ministry approves investment projects, supervises imports, registers industrial firms.
- National Council for Economic Coordination. Takes care of the orientation and supervision of the economic policies of the government. Composed by the Cabinet of Ministers, the President of the Central Bank, the President of the National Development Bank, the Executive Secretary of the Technical Secretariat of Planning, Approves larger investment projects.
- Technical Secretariat of Planning. Directly dependent from the Presidency, elaborates development plans, in general and for sectors and regions; recommends economic policy measures, analyses the evolution and trends of the economy and supervises the execution of the plans.
- National Bureau of Projects. Dependent from the Secretariat of Planning, it coordinates the identification and promotion of investment projects.
- Pre-investment Fund. Administered by an Executive Committee appointed by the President, it finances pre-investment studies.
- Finance Ministry. Supervises the fiscal implications of the Promotion Régime and registers the incentives granted to investments promoted.
- Advisory Council of Industry and Trade. Created by Ministerial Resolution, it is composed by representatives of -

several private sector chambers and organizations. The --
Ministry may require its advice.

- Direction of Military Industries. Controls activities re-
lated with the manufacture of armaments and ammunition.
- Central Bank of Paraguay. The Division of Register of Ca-
pitals registers foreign investments and approves external
loans.
- Center for the Promotion of Exports (CEPEX). Assists ex-
porters of industrial products, including services for --
the adaptation of products to foreign markets, packaging,
training, organization of faires and exhibitions, missions
abroad.

b) Finance

- National Development Bank. Extends loans for Industrial
Projects, under conditions established annually by the Na-
tional Council of Economic Coordination. Wholly owned by
the State.
- Development Bank of Paraguay (COMDESA). 100% owned by --
ADELA and local commercial banks, it extends financial --
assistance to various sectors, including industry. Loans
for fixed capital are granted on medium and long-term-ba-
ses, with periods of grace of up to two years.

c) Technology

- National Institute of Technology and Technical Norms. De-
pendent from the Ministry of Industry, provides technical
assistance to industry and exercises quality control of -
raw materials and finished products.
- Direction of Industrial Property. A dependence of the Mi-
nistry of Industry and Trade, it deals with the patent --
and trademark legislation and registers these titles.

d) Institutions for International and Regional Cooperation.

Paraguay is a member of the following regional cooperation organizations in Latin America.

- Latin American Integration Association (LAIA). Paraguay enjoys in LAIA the status of "relative less developed - country", which entitles the country to receive special treatment from the other members of LAIA, basically --- through non-extensive trade preferences.
- River Plate Basin Commission. A regional cooperation -- scheme for the identification and promotion of hydroelec trical, infrastructure and productive projects between - Argentina, Brazil, Bolivia, Paraguay and Uruguay. It has a financial mechanism from which Uruguay obtained loans for US\$ 7.675.000 up to 1981.
- URUPABOL. A subregional grouping joining Uruguay, Para guay and Bolivia, with the objective of coordinating po sitions before international financial institutions, in tensify reciprocal trade, and improve the physical inter cnection between the three countries.
- The Latin American Economic System (SELA). A regional - organization of consultation, coordination and coopera-- tion among most Latin American and Caribbean Countries.-
- Interamerican Development Bank.

e) Business organizations.

- Industrial Union of Paraguay. (UIP)
- Federation of the Production, Industry and Consumption - (FERINCO).

5. RESOURCES

5.1. Human resources for industry

Paraguay is one of the less inhabited countries of Latin America. According to the last National Census (July 1982) the total population amounts to 3.026.165 persons, 42,3% of which lives in urban centers. The annual rate of growth in the period 1972-1982 was of 2,5%. Labor force accounted for 32,8% of the population in 1981, out of which only 15,5% is utilized by the manufacturing industry, a share which has remained unchanged in the last 30 years. The small domestic market and the land-locked condition of Paraguay, coupled by economic policies which only recently have started to foster certain industrial activities, like agro industries and construction, and the inclination of many businessmen towards highly lucrative activities in trade (such as smuggling), explain the low capacity of absorption of the sector. Depending on the changing economic conditions in Argentina, rural population have tended to emigrate to the richer neighbor country, and particularly to its capital city, Buenos Aires, which offers more employment opportunities than Asunción and the few other productive centers of Paraguay.

The proliferation of very small industrial establishments, the very low level of incorporation of technology in most manufacturing firms, the weakness of technical learning institutions, -- and the inadequate utilization of their graduates are also important factors for the under-development of human resources for industry. Existing learning institutions are considered insufficient and inadequate for the technical training of the workforce. Only a few university fields are directly related to the needs of manufacturing industry (engineering, chemistry, economics), in the University of Asunción and a few others in the Catholic University. The following tables reflect the poor performance of University and training Centers in terms of the industry requirements.

One of the few notable examples in the area of training is the activity of the National Vocational Training Service, esta

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blished in 1971 and receiving support from the World Bank. Although focussed on rural areas, it is providing vocational training in a variety of programs including trades and industry. There is also a Program of "Educación Técnica Básica" providing basic technical training leading to intermediate skills (+).

(+) Ministerio de Educación y Culto, Programa de Educación Técnica y Capacitación Profesional.

TABLE F

TECHNICAL TRAINING: Matriculated and graduated students
classified by discipline (1981)

	Matriculated	Graduate
Total (all disciplines)	4.604	2.021
Total related with industry	3.159	1.356
Administration	35	30
Agromechanics	70	47
Gunsmith	7	7
Graphic arts	44	18
Automechanics	69	69
Communication	164	51
Industrial Technic	126	40
Electronics	191	47
Management	514	514
Carpentry	22	12
Computation	164	28
Civil construction	96	18
Technical design	129	24
Carpentry	43	15
Electricity	306	86
Agro-industry	12	---
Industrial chemistry	134	21
Machinists	65	16
Mechanics (various)	700	264
Refrigeration	123	34
Transmissions	85	15

Source: Ministerio de Hacienda, Dirección General de Estadística y Censos "Anuario Estadístico del Paraguay" Año 1981, -- pág. 57.

TABLE G

UNIVERSITY INSTITUTIONS: Matriculated and graduated
students in industry-related disciplines (1981)

	Matriculated	Graduate
Total (all disciplines)	27.041	1.621
Total related with industry	8.462	744
Civil Engineering	1.700	45
Industrial Engineering	37	---
Topography	593	---
Electromecanics	62	2
Electronics	305	16
Accounting and Administration	2.833	375
Economics	137	65
Chemistry and Pharmacy	1.482	141
Forest Engineering	16	---
Science and Technology	700	39
Computation	280	23
Others directly related with in- dustry	317	38

Source: Ministerio de Hacienda, Dirección General de Estadística y Censos "Anuario Estadístico del Paraguay" Año 1981 pág. 53-54.

5.2. Raw material resources endowment and their stage of development for industry.

5.2.1. Agriculture

One of the main natural resources of Paraguay consists of a vast land area suitable for agriculture. Such area is located in the Eastern Region, comprising 39% of the national territory and benefitted by an excellent natural irrigation (1.500 mm/year of rain fall). About 98% of the country's land in crops is contained in the Eastern Region. According to a recent report, 30% of this region's soils are suitable for intensive agriculture, 20% for moderate agriculture and livestock use, 40% mainly for -- livestock and the remaining 10% for forest use. Some 180.000 --- agricultural units are now producing about 50 temporary and per--manent crops. The main crops are cotton, sugar cane, soybeans, -wheat and tobacco.

MAIN CROPS BY HARVESTED AREA (+) AND PRODUCTION VOLUMES (++)

		1975	1976	1977	1978	1979
Cotton	area	100.000	109.900	200.200	284.900	312.500
	prod	99.615	107.492	227.394	283.763	234.663
Sugar cane	area	20.621	20.772	21.036	22.143	22.270
	prod	764.155	774.052	789.699	863.280	890.140
Soybeans	area	150.200	173.400	228.800	272.200	360.300
	prod	220.086	283.547	376.859	333.130	549.213
Wheat	area	25.200	24.200	28.500	31.500	52.300
	prod	17.987	29.251	28.261	37.801	58.853
Tobacco	area	20.600	27.800	29.800	21.500	20.500
	prod	28.305	38.578	41.424	26.918	25.900

(+) Hectares
(++) Tons

Source: Dirección General de Estadísticas y Censos.

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Governmental investments in roads, distribution of public lands and colonization programs contributed to the expansion of the agricultural sector during the last decade, and the growth of external demand led to the fast development of some export crops. About 60% of the value added in industry derives at the present from processed agricultural products, and 95% of export earnings come from the sector. In the last few years, however, the stagnation of prices of major export crops and the increase in domestic production costs have eroded the expansion of the sector.

5.2.2. Livestock

According to the last livestock census, in 1980 there were 5.854.400 bovines and 995.500 porcines. Domestic fowl in 1979 --- amounted to 13.022.900. Until the mid-seventies, livestock was an important source of foreign exchange for Paraguay. Exports of meat and derivatives products fell abruptly after the EEC and --- other important markets adopted import restrictions. Several meat packers and other industrial establishment, such as producers of leather products, were seriously affected by such measures. In recent years, domestic fowl producers have developed some processing industries.

5.2.3. Forests

About 60% of the territory of Paraguay is covered by forests of hard and semi-hard wood, highly valued in the international market and suitable for a variety of industrial applications. Despite the creation of the Department of Forestry Development in 1976, for the protection of this natural resource and the promotion of its rational exploitation, during the last years a process of de-forestation has continued at a rate of 60.000 to 150.000 hectares by year.

Wood products have increased significantly their share in the industrial production. They have also expanded in terms of exports, which now offer products with much higher value-added than in the past.

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5.2.4. Mining

Paraguay doesn't appear to be endowed with important mineral resources, except for quarry deposits which account for -- only 0,7% the GDP. Yet there are several proposals and reccomendations to undertake an evaluation of the mining potential of the -- country.

5.3. Energy Resources

Together with agriculture, the vast hydroelectric potential of its rivers provides the other major natural resource of Paraguay. Other natural sources of energy derive from the large forestry resources. To-day wood fuel is still an important source of fuel for the population. Regarding oil, some 36 wells have -- been drilled with little success, although large areas of the --- country remain to be explored. In the meantime, the country is a net oil importer.

Thus the main feature of the energy scenario in Paraguay is the series of hydroelectric projects, which can be clasified in three groups according to their location in a) the Paraná River; b) the Paraná River affluents; c) the Paraguay River affluents.

The Paraná River projects

The Paraná River is one of the world largest reserves of hydropower. Currently three binational undertakings are at different levels of implementation. These are:

a) The Itaipú dam, built up jointly with Brazil, is the - largest project of this kind in the world. It consists of 18 tur- bines with a total generating capacity of 12.600.000 kwh annually, capable to be expanded to 20 turbines.

The cost of this project is 14,5 thousand million U\$S. During 1983, three generators will start to operate, and three -- more will be ready each of the following years. The work would - be completed before 1990. The construction of Itaipú has had a - significant impact in a number of Paraguayan activities engaged - in the construction and complementary infrastructure of the dam, and producing construction materials.

b) Yacyretá, in conjunction with Argentina, will have 20 turbines with a capacity to generate 2.700.000 kw that will produce 17.550 GWH annually. The approximate cost of this work was estimated in 6.000 million U\$S dollars. However considerable de- lays have affected the start of construction works, due to pro-- blems in the negotiation between the two governments, despite the

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completion of all preliminary works. Present economic problems in Argentina, which will take care of the bulk of the finance, are -- further postponing the initiation of the works.

c) Corpus, another project with Argentina, is still at -- the pre-feasibility level and the main characteristics of the dam have not yet been defined. The project would have a power capacity of 3.500.000 kw and a production of 15.000 GWH/annually. The work should start by 1985 and the production of energy in 1991.

Another identified project, always with Argentina, is the Itacorá, with 2.000.000 kw of power and a capacity to produce 8.500 GWH annually.

The affluents of the Paraná River

The start up of the Acaray dam in 1968, with a capacity of 45.000 kw, initiated the exploitation of the hydropower resources of Paraguay. In 1970 the addition of a second turbine duplicated its power. By 1977, the second stage of Acaray was completed, -- and now the power installed in this complex amounts to 184.000 kw, with an estimated expansion of up to 240.000 kw and an annual production of 1.060.000 kwh. Moreover, the Paraná affluents could -- be better exploited, utilizing the excess waters of the Itaipú -- dam. The estimated potential of the area is of about 1 million kw.

The affluents of the Paraguay River

Most of them located in the North of the Eastern Region, they are endowed with waterfalls and rapids; but no studies have been made so far of the energy resources in this area, whose reserves are estimated several times superior to the local needs.

5.4. Financial resources for industry

The high growth performance of the economy during the second half of the seventies led to an increasing availability of financial resources originating in the inflow of foreign exchange for the Itaipú project and the upsurge of private investments --- (see 2.4). In 1981, the net inflow of capital and external credits to Paraguay amounted to 608 U\$S million, slightly less than the previous year.

Capital Movements (millions of U\$S)

	<u>1980</u>		<u>1981</u>	
	Inflows	Cutflows	Inflows	Cutflows
Public sector	100,9	12,7	53,0	20,6
Private sector	240,7	78,9	175,0	70,0
Hydroelectrical projects				
Itaipú	276,6	10,0	319,6	-
Yacyretá	128,5	-	151,0	-
	<u>746,7</u>	<u>101,6</u>	<u>698,6</u>	<u>90,6</u>
Net inflows		645,1		608,0

Source: Banco Central del Paraguay.

Since 1980, however, a combination of adverse factors - lower prices for exports, lower demand for tourism, the decaying demand from Itaipú together with the delays in the construction of Yacyretá, and the rising international interest rates- contributed - to restrict the availability of finance for new investments. On -- the other hand, several government measures (including the increase in rates of interest and a reduction of foreign borrowing) affected the availability of credit to the public and private sectors. The growth of nonbank financial intermediaries, allowed to pay higher interest rates and freed of mandatory sectoral **credit** alloca-- tions, encouraged the increase of financial assets for non-produc-

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tive activities.

The National Development Bank is in most cases the major source of industrial credit, though its industrial operations represent a small fraction of its total credit operations. In 1981, the industry received 16.8% of a total of 22.222 millions of guaranies channeled by the Bank. The other source is the private - development Bank COMDESA (see 4). There are in addition 22 banks and 24 non-bank financial entities.

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A methodological note

Paraguay's industrial statistics are clearly insufficient for an analysis of the sector. The basic data on value added are based on the industrial census of 1963 and the yearly estimates - are prepared making use of a questionnaire sent to a limited number of establishments. As a result, changes in the production -- functions occurred during the last two decades are not adequately taken under consideration, and the same can be said of the entrance of new establishments and the changes in the structure of some branches (such as the reduction in the number of artisan -- shops).

Annual rates of change of value added for some branches can vary significantly as a result of the limited number of establishments operating in some of them. This is particularly the case with some branches of "intermediate goods" or of "capital -- goods".

Data on the geographical distribution of manufacturing - and on the size of firms is lacking or doesn't allow useful analysis. The same can be said regarding data on the performance of - the sector. Estimates on gross capital formation are not available and something similar occurs with respect to number of establishments, number of employees and wages and salaries paid.

Figures on trade are also highly unreliable. It's accepted that a significant part of exports and imports from and to Paraguay are not recorded. This is specially the case with trade with Argentina and Brazil. It's probable that the unrecorded flows include a bigger share of manufactured products than recorded trade.

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PUBLICATIONS AND DOCUMENTS CONSULTED

Banco Central del Paraguay:

- "Boletín Estadístico mensual" Varios números
- "Cuentas Nacionales 1970-77" Nº 14, Julio 1978
- 1972-79" Nº 16, Julio 1980
- 1974-81" Nº 18, Julio 1982
- "Reseña Económica, Financiera y Monetaria Año 1981" Asunción

Ministerio de Industria y Comercio:

- "Mensaje del Excmo Señor Presidente de la República..... a los Honorables Miembros del Congreso Nacional" Asunción, 1 de abril de 1983.

Ministerio de Industria y Comercio, División de Estadísticas y Censos:

- "Encuesta Industrial Urbana - 1977"

Ministerio de Industria y Comercio:

- "Panorama Económico del Paraguay" Asunción, Junio de 1981.
- "Panorama Económico", 1982.

Ministerio de Hacienda, Dirección General de Estadísticas y Censos:

- "Anuario Estadístico del Paraguay 1978"
- "Anuario Estadístico del Paraguay 1979"
- "Anuario Estadístico del Paraguay 1981"

Secretaría Técnica de Planificación:

- "Plan Nacional de Desarrollo Económico y Social 1977-1981" 2 tomos, Asunción, Diciembre 1976.
- "20 años de planificación indicativa en el Paraguay 1962-1982", Asunción, 1982.
- "Perfiles de proyectos industriales", 1982.

World Bank:

- "Economic Memorandum on Paraguay" May, 1979.
- September, 1981.

Banco Mundial:

- "Informe sobre el Desarrollo Mundial 1982", Washington, - 1982.

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"Paraguay Desarrollo Regional en el Este del Paraguay", ---
Washington, Dic. 1976.

CEPAL: "Estudio Económico de América Latina 1981; Paraguay", Feb.
1983.

"Series históricas del crecimiento de América Latina", San-
tiago de Chile, 1978.

Banco Interamericano de Desarrollo:

"Progreso Económico y Social en América Latina, 1978"

" " " " " " " " " 1979"

" " " " " " " " " 1980/1"

" " " " " " " " " 1982"

ONU: "Yearbook of International Trade Statistics. 1980", New
York, 1981.

"Handbook of Industrial Statistics", Dec. 1982.

IMF: "Direction of Trade Statistics", Yearbook 1982.

ALAC-BID-INTAL:

"Transporte y Comercio Exterior en el Paraguay" 1967.

BID-INTAL:

"El Régimen Legal de las Empresas Públicas Latinoamericanas
y su Acción Internacional", Vol. II, Febrero 1977.

Banco Paraguayo de Datos:

"Paraguay Económico" Varios números.

"Lista de Inversiones Extranjeras en el Paraguay 1974-1980"
Asunción, Junio de 1981.

Diario "abc color":

Suplementos Económicos. Varios números.



