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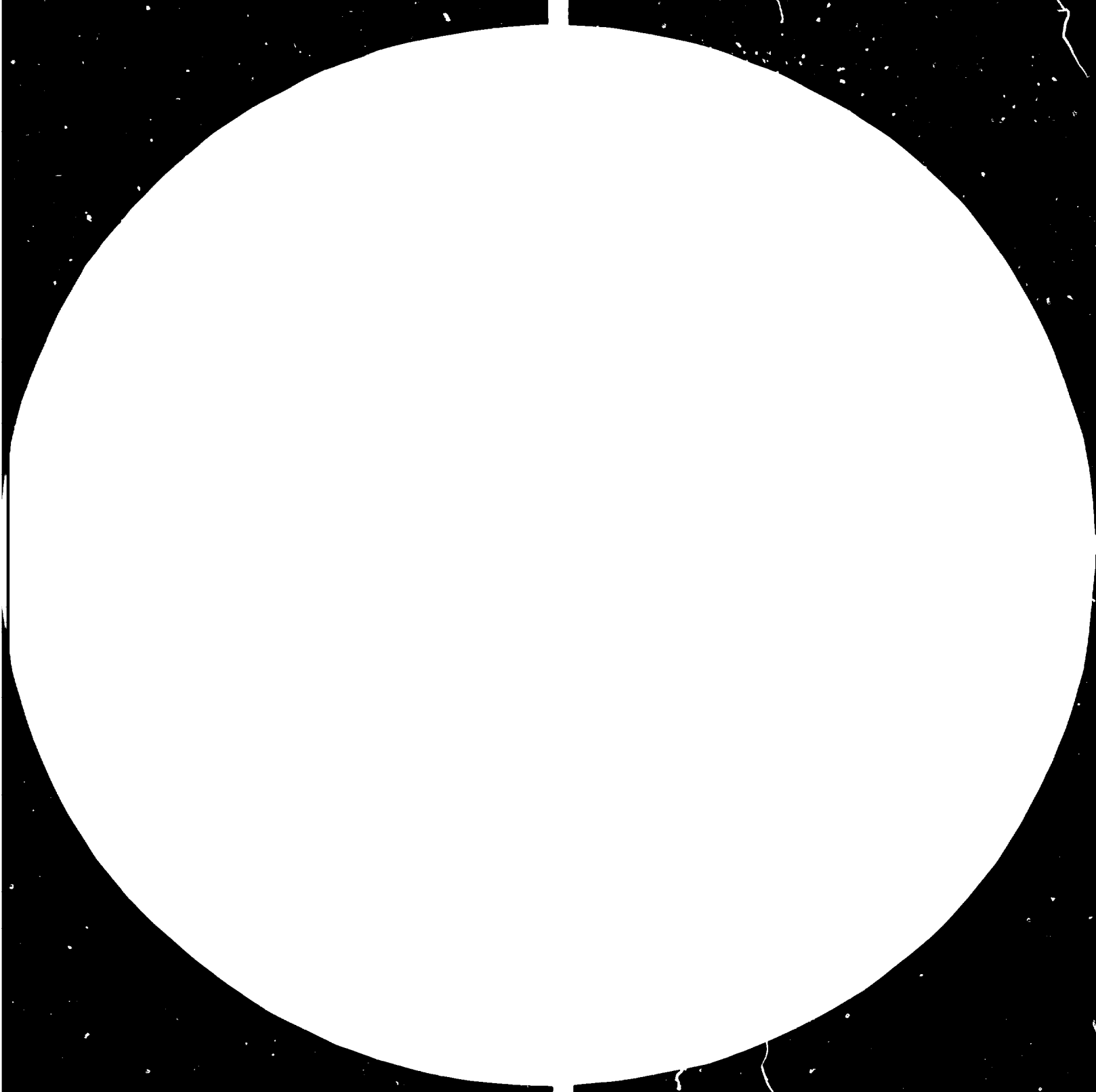
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PREFACE

This Country Brief on Paraguay presents and analyzes data describing Paraguay's economy. It is a desk study based on documents, reports, and studies available at the UNIDO Headquarters. Therefore, many of the data presented are not up to date. It is planned to modify the Brief over time as UNIDO's economic and industrial data bases are updated and expanded and as comments from Brief users are obtained.

The description of Paraguay's economy to follow is a comparative description. Levels and rates of growth of selected indicators of activity in Paraguay's economy are compared with corresponding values for other developing countries of Latin America.^{1/} The objective is to present an overview of Paraguay's economic and industrial development. The Brief does not reach any final conclusions or recommendations but rather provides decision-makers with additional information to be used in activities relating to technical assistance, industrial redeployment and investment promotion and co-operation.

The views or comments contained in this document do not reflect those of the Government of Paraguay nor do they officially commit the United Nations Industrial Development Organization to any particular course of action.

^{1/} Countries included in aggregation: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Jamaica, Mexico, Panama, Paraguay, Peru, Puerto Rico, Trinidad and Tobago, Uruguay, Venezuela, Barbados, Cuba, Guyana, Honduras, Neth. Antilles, Nicaragua, Surinam.

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I. ECONOMIC BACKGROUND

Paraguay is a landlocked country of 406.75 km², bordered by Brazil, Bolivia and Argentina. Although the country has abundance of unused agricultural land and water resources its remoteness from foreign markets, as well as its poor infrastructure affected for many years its overall economic growth. In the 1970s, the utilization of more agricultural land and the development of water resources have given a new impetus to industrial production and economic development in general.

1. Basic Economic Indicators

Basic data describing the Paraguayan economy in relation to the economies of all Latin American countries are reported in Table 1. In 1977 (the latest year for which a full set of comparable data are available), Paraguay's population was approximately 2.8 million persons, or about 0.8 per cent of the total population of Latin America. Paraguay's GDP per capita was \$651 (1975 US dollars) as compared with an average per capita GDP (also in 1975 US dollars) of \$1,243 for all countries in Latin America. Paraguay's real GDP per capita was thus roughly 52 per cent lower than the Latin American average in 1977.

The growth rates of Paraguay's population, labour force, and GDP (in 1975 US dollars) over the period 1960 to 1977 were respectively 2.7 per cent, 2.6 per cent, and 5.2 per cent. Comparable growth rates for all Latin American economies were 2.8 per cent, 2.5 per cent and 5.9 per cent, respectively.^{1/} Over the period 1960 to 1977 then, Paraguay's GDP per capita has fallen slightly relative to that of Latin America. Data for the most recent period suggest substantial relative growth in Paraguay's GDP and GDP per capita. Recent estimates indicate that between 1970 and 1977, Paraguay's GDP per capita grew by 4.17 per cent, compared to a Latin America-wide average rate of growth of 2.9 per cent.^{2/}

1/ Industrial Data System, Regional and Country Studies Branch, UNIDO; ILO, Labour Force, 1950-2000, Vol. III, Latin America.

2/ Industrial Data System, *ibid.*

Paraguay's GDP has continued its high rate of growth, with 10.7 per cent growth in 1979^{1/}, while the corresponding reported rate for Latin America was 6.5 per cent.^{2/} Increases in Paraguay over the 1970 to 1979 period clearly indicate that Paraguay has sustained one of Latin America's most rapid economic growth rates.^{3/}

Paraguay's labour force participation (measured by the ratio of labour force to population), is higher than that of Latin America. This is probably the result of the fact that agriculture is the main employer (almost half of the employed population). Moreover, in the 1970s, sustained development has increased employment both in agriculture and agro-industries.

Further, the Paraguayan ratios of GDP/Labour Force, Gross Capital Formation/Population, and Gross Capital Formation/Labour Force were on the average 45 per cent lower than the average Latin American ratios. Paraguay's ratio of Government Final Consumption Expenditure to GDP is lower than the average for Latin America, while the ratio of Private Final Consumption Expenditure to GDP is higher, and that of Gross Capital Formation to GDP is almost the same.

Table 1 also shows a negative trade balance for Paraguay in 1977. Although Paraguay's exports were 15.02 per cent of GDP versus 14.90 per cent for Latin America, its imports were 20.11 per cent of GDP versus 15.94 per cent, on the average, for Latin American countries.

Table 2 reports growth rates for key indicators over the period 1970-1977. The growth rates of Paraguay's population, labour force, GDP, gross fixed capital formation, exports and imports of goods and services (in 1975 US dollars), over the period 1970 to 1977, were 2.87 per cent, 3.05 per cent, 7.04 per cent, 20.68 per cent, 3.14 per cent, and 15.47 per cent, respectively. Comparable growth rates for all Latin American economies were 2.78 per cent, 2.78 per cent, 5.68 per cent, 9.22 per cent, 2.12 per cent and 5.99 per cent. Over the period 1970 to 1977 then, Paraguay's economic indicators shown in Table 2 have achieved higher rates of growth relative to those of Latin America.

^{1/} Bank of London and South America: Review, Vol.14, Nov. 1980, No.IV/60. However, there has been an acceleration in the rate of inflation; official figures put the average 1979 consumer price index increase at 28 per cent, compared with only 10.8 per cent in 1978 (see BARCLAYS: ABECOR, Country Report, Paraguay, June 1980.

^{2/} CEPAL: Notas sobre la economia y el desarrollo de América latina, Nos 309/310, Jan. 1980

^{3/} Paraguay's growth rate, reportedly, is based on its strong agricultural sector and supported by rapid growth in energy production, construction and services (see, ABECOR, *ibid.*)

Table 1 Basic economic indicators, 1977, Paraguay and Latin America

Indicator	Paraguay	Latin America	Paraguay/Latin America (Col.1/Col.2 x 100)
Population	2.80	329.89	0.85
Labour force	0.90	104.00	0.87
GDP	1,825	411,124.00	0.44
Gross capital formation	545	111,637.00	0.49
Exports of goods and services	245	63,345	0.39
Imports of goods and services	442	62,381	0.71
Balance of trade	-197	964	-20.44
GDP per capita	651	1,246	52.25
Labour force/population	32.01	31.53	1.02
GDP/Labour force	2,032	3,953	51.40
Gross Capital Formation/GDP	24.68*	25.54*	96.63
Gross Capital Formation/Population	194	338	57.40
Gross Capital Formation/Labour Force	607	1,073	56.57
Exports/GDP	15.02*	14.90*	100.81
Imports/GDP	20.11*	15.94*	126.16
Exports/Population	87	192	45.31
Imports/Population	158	189	83.59
Government Final Consumption Expenditure/GDP	6.20*	10.82*	57.30
Private Final Consumption Expenditure/ GDP	74.20*	64.69*	114.70

Source: Industrial Data System, Regional and Country Studies Branch.

1/ Values in constant 1975 US \$ (million, except GDP per capita).
Population and labour force in million, GDP per capita in US \$, ratios expressed
in per cent.

* At current price.

Table 2 Growth of population, labour-force, GDP, gross fixed
capital formation and trade, Paraguay and Latin
America, 1970-1977^{1/}

	Population	Labour force	GDP	Gross fixed capital formation	Export of goods and services	Import of goods and services
Paraguay	2.87	3.05	7.04	20.68	3.14	15.47
Latin America	2.78	2.78	5.68	9.22	2.12	5.99

Source: Industrial Data System, *ibid.*

1/ Growth rates for monetary values based on constant 1975 US dollars.

2. Sectoral Composition of GDP

Table 3 reports the shares of value added by economic sector in 1960, 1965, 1970, 1975 and 1977. This period is, generally, marked by steady increases in the real value added produced in all sectors.^{1/} Except Utilities and Construction which gained most in their shares, the rest of the sectors remained about the same in their relative positions with Agriculture marking the most noticeable (yet only a 3.53 per cent), reduction.

Table 3 Sectoral shares of GDP, Paraguay,
(selected years)

	1960	1965	1970	1975	1977
Agriculture	38.76	42.86	38.20	36.91	35.23
Mining and Quarrying	0.13	0.13	0.07	0.19	0.28
Manufacturing	16.67	15.08	16.21	15.63	16.22
Utilities	0.58	0.52	0.88	1.44	1.65
Construction	2.41	2.24	2.68	3.76	4.84
Services	41.45	39.18	41.95	42.08	41.78
GDP (US 1975 \$ millions)	725.5	920.0	1,124.3	1,511.3	1,824.7

Source: Industrial Data System, op.cit.

Growth rates of real GDP over the period 1970-1977 by sector of origin are reported in Table 4, for Paraguay and for all Latin America. As this table shows, growth rates in most sectors were higher in Paraguay than in the Latin American comparison group. This is most clearly shown by column (5) of the table, which reports the ratio of growth of real sectoral outputs in Paraguay to the corresponding rates of growth of sectoral output in Latin America.

^{1/} For more detailed data of GDP by origin and year-to-year growth rates see Tables A-1 and A-2 in the annex.

Table 4 Comparative growth rates on real GDP by sector of origin, Paraguay and Latin America, 1970-1977

	Paraguay		Latin America		Ratio
	(1) Growth rate ^{a/}	(2) ^{b/} Ratio	(1) Growth rate ^{a/}	(4) ^{b/} Ratio	(5) ^{c/}
Agriculture	5.9	0.86	3.3	0.56	1.78
Mining and Quarrying	21.3	3.13	2.5	0.42	3.52
MVA	6.2	0.91	7.3	1.24	0.84
Construction	14.8	2.17	6.4	1.08	2.31
Utilities	15.5	2.27	9.6	1.63	1.61
Services	6.8	1.00	6.2	1.05	1.09
GDP	6.8	1.00	5.9	1.00	1.15

Source: Industrial Data System, op.cit.

a/ Growth rates are trend growth rates.

b/ Growth rate of the sector divided by the growth rate of GDP.

c/ Divide column 1 by column 3.

Examination of the ratio columns (2) and (4) of the table shows what has happened to the sectoral composition of GDP in Paraguay relative to Latin America. Ratios of less than one indicate that sectoral output, as a percentage of GDP, has tended to decline over the period 1970 to 1977; ratios of greater than one indicate growth of sectoral output relative to GDP.

According to the data reported in Table 4, only two identifiable sectors in Paraguay had a growth rate less than the rate of growth of GDP. This was Agriculture and Manufacturing (with respective growth rates of 5.9 per cent and 6.2 per cent annually versus 6.8 per cent of GDP). The rest of the sectors had higher rates of growth except services which grew at the same pace as GDP.

A comparison of the ratios in columns (2) and (4) suggests that over the period 1970 and 1977, rather different patterns of sectoral shifts occurred in Paraguay and in Latin America at large. The most important shift evident is that the shares of Agriculture, Mining, Construction, Services and Utilities in GDP grew more rapidly in Paraguay than they did in Latin America, while the share of Manufacturing grew at lower rate. Finally, GDP in Paraguay grew faster than in the Latin American comparison group.

II. MANUFACTURING SECTOR

The industrial sector of Paraguay is mainly based on the processing of agricultural products. The 1970s have been particularly good for the development of agricultural production and subsequently for the growth of agro-industries. Two thirds of MVA originate from processing agricultural products.

The industrial sector employs approximately 14 per cent of the labour force, and contributes about 16 per cent to GDP. The main growth components of manufacturing are export industries, and especially agricultural exports, such as cotton exports, soya and other seeds. However, in the early seventies exports of beef, wood products, and vegetable oils used to be the greater contributors to the value added of the manufacturing sector. Later, during the decade, the competition of the Argentinian exports in the wood products and the closure of the EEC market to beef exports caused, by and large, the decline of these sub-sectors of manufacturing.

Table 5 reports summary indicators of the development of the manufacturing sector in Paraguay and in Latin America. Columns 1 and 2 of the table report annual growth rates of real manufacturing value added for Paraguay and for Latin America respectively. Except for the 1974-75 period, growth rates of MVA in Paraguay have been positive albeit lower most of the time than those of Latin America. The average annual growth rate for Paraguay, between 1970 and 1978, was 6.17 per cent while that of Latin America was 6.46 per cent.

Column 3 of Table 5 shows the effects of these differing patterns of growth on Paraguay's share of total Latin American real MVA. Paraguayan MVA remained about the same share of Latin America's real MVA between 1970 and 1978, reaching its highest share of 0.27 per cent in 1978.

Column 4 reports Paraguay's real MVA per capita. During the period between 1970 and 1978, Paraguay's average annual growth of population was 2.87 per cent, while real MVA grew at a 6.17 per cent rate. Thus, growth in real MVA generally surpassed population growth between 1970 and 1978 (3.3 per cent average annual increase), with the result that real MVA per capita increased in Paraguay. Recent rapid growth (1976-1978) of real MVA has boosted even further Paraguay's real MVA per capita (U.S. \$106 in 1978), albeit still much lower than the average Latin American figure.

Table 5 Paraguayan and Latin American manufacturing value added, comparative indicators, 1960-1977

Year	Paraguay's real MVA growth annual rate (%) <u>b/</u>	Latin America's real MVA growth annual rate (%) <u>b/</u>	Paraguay's share in MVA of developing Latin America (%)	MVA per capita Paraguay US \$ <u>b/</u>	MVA per capita Latin America US \$ <u>b/</u>	Ratio Paraguay's MVA per capita to Latin America's MVA per capita US \$ (6)	Paraguay's MVA share in GDP (%) (7)	Ratio, Paraguay's MVA share in GDP to Latin America's MVA share in GDP (%) (8)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1970-71	1.1	9.5	0.26	79	254	0.31	16.21	0.65
1971-72	5.2	9.8	0.25	81	270	0.30	16.42	0.64
1972-73	3.3	10.3	0.25	85	289	0.29	16.72	0.64
1973-74	6.6	5.9	0.24	89	310	0.29	16.64	0.63
1974-75	-1.1	1.8	0.25	94	319	0.29	16.72	0.63
1975-76	5.8	6.2	0.24	89	316	0.28	15.63	0.59
1976-77	16.6	4.3	0.24	92	327	0.28	15.34	0.57
1977-78	6.4	4.3	0.27	106	332	0.39	16.22	0.61

Source: Industrial Data System, op.cit.

a/ Cuba's population is not included.

b/ Constant, 1975 US dollars.

Column 5 reports real MVA per capita for all Latin American economies. Starting at a much higher level of real MVA per capita than Paraguay in 1970, Latin America experienced relatively steady growth in real MVA per capita over the 1970-1978 period. Real MVA per capita in 1977-78 was approximately \$332.

Column 6 of Table 5 compares real MVA per capita in Paraguay to that of all Latin American economies in ratio form. Here again the relative growth patterns in aggregate real MVA and population are reflected. Paraguay's real MVA per capita has remained about the same relative to Latin America's over the period covered by Table 5.

Columns 7 and 8 of Table 5 standardize real MVA on the basis of GDP. Column 7 reports Paraguay's real MVA as a percentage of its real GDP. In 1975 and 1976, the share of GDP accounted for by manufacturing declined slightly but, in general, it remained on the same range between 16.21 and 16.72 per cent. Column 8 compares in ratio form the shares of manufacturing in Paraguay's and Latin America's GDP. Here again the same pattern evident in previous columns of the table may be seen. Paraguay's manufacturing share of GDP, between 1970-1978, ranged between 0.57 per cent (in 1976-77) and 0.65 per cent (in 1970-1971) of the Latin American average. The last year for which data are available, Paraguay's share stood at 0.61 per cent of the Latin American average.

1. Sectoral Structure of Manufacturing

Table 6 reports the shares in 1970, of manufacturing activity accounted for by individual manufacturing sectors in Paraguay and Latin America.

The modest diversification of the Paraguayan industry in comparison with the Latin American comparison group is evident in this table. The subsectors of Food products, Textiles, Leather and Fur products, Footwear, Wood products, Industrial Chemicals, Petroleum Refineries and Transport Equipment represent 80 per cent of total value added in Paraguay. The most striking pattern shown by this table is the heavy concentration of Paraguayan manufacturing in Food products. This single sector accounted for over 45 per cent of total manufacturing value added in Paraguay in 1970 (versus 14.3 per cent, on the average, for Latin American countries).

Table 6 Sectoral structure of manufacturing value added, Paraguay and developing Latin America, 1970

Branch	ISIC	sectoral shares in total MVA (in per cent)	
		Paraguay	Latin America
Food products	3110	45.9	14.3
Beverages	3130	1.6	4.6
Tobacco	3140	1.2	1.9
Textiles	3210	4.4	9.0
Wearing apparel	3220	1.7	2.2
Leather and fur products	3230	5.5	0.6
Footwear	3240	2.8	1.3
Wood products	3310	1.3	1.8
Furniture and fixtures	3320	2.2	1.4
Paper	3410	0.1	2.7
Printing and publishing	3420	1.5	3.0
Industrial chemicals	3510	2.8	4.3
Other chemical products	3520	2.2	6.2
Petroleum refineries	3530	9.5	3.3
Misc. products of petroleum and coal	3540	0.0	1.0
Rubber products	3550	0.1	2.1
Plastic products	3560	0.1	1.6
Pottery, china and earthenware	3610	1.0	0.8
Glass	3620	0.0	1.1
Other non-metallic mineral products	3690	1.9	3.5
Iron and steel	3710	0.1	4.5
Non-ferrous metals	3720	0.0	4.4
Metal products, except machinery	3810	2.1	5.0
Non-electrical machinery	3820	1.6	5.1
Electrical machinery	3830	1.7	4.8
Transport equipment	3840	3.9	7.9
Professional and scientific equipment, photographic and optical tools	3850	0.8	0.6
Other manufactures	3900	1.1	0.8
Total MVA		100	100

Source: Industrial Data System, Regional and Country Studies Branch

a/ Shares (in per cent) based on total values in thousand US \$ at current prices.

The manufacture of Petroleum Refineries in Paraguay comprised 9.5 per cent. Between 1974 and 1978, this branch's value added of MVA grew at a 14.8 per cent average annual rate. In Latin American countries, on the average, this branch accounted for 3.3 per cent. The third group of major contributors to MVA, in Paraguay, are the manufacturing sectors of Textiles, Leather and Fur products, which accounted for 4.4 per cent and 5.5 per cent, followed by the sectors of Wood products (4.3 per cent), Transport Equipment (3.9 per cent),

Footwear (2.8 per cent), Industrial Chemicals (2.8 per cent), Other Chemical products (2.2 per cent), Furniture and Fixtures (2.2 per cent), Metal Products (except Machinery, 2.1 per cent). The rest of the manufacturing sectors contribute less than 2.0 per cent to the MVA of Paraguay. Clearly, as is shown in Table 6, there are substantial differences in the shares of Paraguay's manufacturing branches and the average shares of the Latin American comparison group.

Growth rates by industry of real manufacturing value added in Paraguay are summarized in Table 7. These data, although not strictly comparable to the data reported earlier in Table 5, are interesting in light of the overall growth patterns in manufacturing reported there.^{1/}

The data in Table 7 suggest that the increases in the rates of growth of several of the manufacturing branches, coincide with the increase in growth of total real manufacturing value added in the 1970s reported in Table 5. Rapid growth rates are reported (Table 7), especially by the branches of Beverages, Textiles, Wood products, Petroleum Refineries, Plastics, Metal products (except Machinery), Non-ferrous Metals, and Pottery.

The last column of Table 7 also indicates a pattern of shifts in the composition of manufacturing value added over the period 1960-1978. Although there are differences in growth rates between industries, only two industries reported absolute declines.

^{1/} The data reported in Table 5 are based on reported national income accounts. The growth rates reported in Table 7 are based upon statistics of industrial activity, which report manufacturing activity on a different basis. Any inferences drawn by comparison of these data must be taken as tentative.

Table 7 Annual growth rates of real manufacturing value added, Paraguay, 1970-1978

Branch	ISIC	1970-1971	1971-1972	1972-1973	1973-1974	1974-1975	1975-1976	1976-1977	1977-1978	1960-78 TGR*
Food products	3110	2.8	1.8	-6.2	8.7	-11.4	5.0	11.4	-1.6	2.1
Beverages	3130	-2.9	4.7	19.4	15.0	8.7	7.0	37.4	38.8	10.5
Tobacco	3140	0.0	15.3	-4.7	21.5	4.2	-5.9	2.1	-15.5	2.3
Textiles	3210	-14.0	23.8	17.9	9.8	-0.9	-0.9	76.8	18.3	5.9
Wearing apparel	3220	-2.0	-5.2	10.1	0.0	2.0	4.0	1.9	9.4	1.3
Leather and fur products	3230	2.3	2.3	1.1	16.5	-5.6	4.0	4.8	-6.3	2.1
Footwear	3240	2.3	3.3	3.2	1.0	3.1	6.0	1.9	3.7	5.1
Wood products	3310	2.6	47.5	22.0	25.0	11.1	-11.9	25.0	20.9	12.8
Furniture and fixtures	3320	3.7	4.8	5.7	4.3	3.1	7.0	2.8	3.6	3.8
Paper	3410	0.0	0.0	1.3	34.2	-5.6	3.0	2.9	-3.7	9.2
Printing and publishing	3420	32.3	-8.0	1.3	5.0	19.0	-1.9	19.4	6.8	5.6
Industrial chemicals	3510	10.3	-1.8	1.9	-31.7	37.0	18.0	-9.2	17.8	-1.5
Other chemical products	3520	2.7	0.0	18.4	-3.2	14.9	30.0	-6.8	-10.6	6.4
Petroleum refineries	3530	0.0	13.3	19.1	-11.5	1.0	11.0	35.1	20.0	12.0
Misc. products of petroleum and coal	3540	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-
Rubber products	3550	3.3	2.2	0.0	2.1	3.1	29.0	4.7	9.6	1.2
Plastic products	3560	0.0	137.5	30.0	115.8	-18.6	15.0	8.7	4.8	41.8
Pottery, china and earthenware	3610	11.7	-1.4	3.0	20.6	22.0	16.0	17.2	-5.0	10.2
Glass	3620	0.0	100.0	-8.8	41.5	-13.7	52.0	-0.6	-46.9	-2.5
Other non-metallic mineral products	3690	11.7	-1.4	3.0	20.6	22.0	16.0	17.2	-5.0	10.2
Iron and steel	3710	52.1	2.8	-26.0	6.1	14.9	25.0	7.2	7.5	5.3
Non-ferrous metals	3720	22.7	16.7	57.1	1.0	0.0	56.0	-15.3	4.5	10.0
Metal products, except machinery	3810	1.1	3.4	9.8	4.0	-4.7	-9.9	34.4	16.5	6.8
Non-electrical machinery	3820	6.0	-3.1	4.4	2.1	3.1	6.0	1.9	1.9	1.9
Electrical machinery	3830	-2.1	-5.4	5.8	7.7	2.0	10.0	5.5	4.3	3.9
Transport equipment	3840	-25.6	-5.2	12.7	2.5	22.0	31.0	6.1	5.8	4.8
Professional and scientific equipment, photographic and optical tools	3850	2.2	-4.1	6.6	2.1	1.0	15.0	6.1	3.3	3.2
Other manufactures	3900	-3.0	-6.2	4.5	3.2	4.2	17.0	1.7	2.5	2.1
TOTAL		1.1	5.2	3.3	6.6	-1.1	5.8	15.6	6.4	4.7

Source: Industrial Data System, op.cit.

TGR: Trend growth rate

2. Endowments for Industrialization

Paraguay's most important economic sector is agriculture, contributing approximately one third of gross domestic product. Among the agricultural products, cotton is the most important and comprises about 35 per cent of Paraguay's export earnings. Other agricultural products which are exported include oil seeds (mainly soya), timber, and others.

Transportation and communications are still rudimentary. The isolation of the country has been broken in recent years through the development of air services. However, only two airports can receive four-engined commercial aircraft. River transportation, which is the main mode for trade, is beset with navigational problems and high freight rates. The main port at Asunción has been expanded and now handles between 210,000 - 350,000 tons of shipments.

The road network is gradually expanding. Of the 8,500 km of roads, 1,000 km are asphalted. The public railway system serves mainly the route between the two main cities Asunción and Encarnación. There are prospects for further development of the railway system with the signing of a contract between Paraguay and Brazil for building railway lines between Brazilian and Paraguayan ports.^{1/}

Human resources, in general, are not well developed mainly because the general level of education is low. About 35 per cent of the population, 15 years or older, has not studied beyond the primary level. Resources for rural education have been much lower than those obtainable in urban schools.

Paraguayan tourism is small but growing. In approximately a decade, the number of tourists visiting the country has almost tripled (from 63,000 tourists in 1963 to 176,900 in 1977).^{2/}

Paraguay is self-sufficient in electricity. Water resources are abundant and further hydro-electric development is under way with energy exports already in effect to Brazil and Argentina. Construction of the Brazilian-Paraguayan hydro-electric power station at Itaipú, on the Parana river, started in 1975. The scheduled capacity is 12.6 million kw. Installation of the first generating unit is scheduled for 1983. Another Parana river project is the Yacyreta hydro-electric project. Besides water, other sources of energy (relatively of little importance) are those of firewood and charcoal.

^{1/} ABECOR, op.cit.

^{2/} Tourism is expected to receive a new boost with the completion of construction of the Itaipú dam. The area is well sought by international tourism.

3. Location and Ownership of Industry

There is a concentration of industrial activity (61 per cent of the industrial firms) in the municipal area of Asunción. In Encarnación, the second major city of Paraguay, more industrial development is expected to take place once the Yacyreta dam is completed and the city's port will become fully utilized. Foreign capital is invested in the bigger private industries. Public investment is concentrated in infrastructure. Direct public investment in industry is limited to public enterprises like the National Cement Industry and the Monopoly of alcohol. However, indirect public investment (in the form of credits and tax incentives) is directed to both the sectors of agriculture and industry.

4. Industrial Objectives and Strategy

The Paraguayan government's industrial policy, as stated in the 1977-81 development plan, establishes the objectives of accelerating industrial and employment growth; increasing industrial productivity; achieving a better regional distribution of enterprises; promoting export-oriented industries (especially agro-industries); and developing new industries based on utilization of local raw materials. The policy tools to be used for achieving these goals are those of fiscal incentives, credits, development of infrastructure and public services in general.

The government's specific strategy for the industrial sector is aimed at fostering a favourable private investment climate through generous fiscal incentives. The main instruments of this strategy are Law No. 550 of 1976 (which replaced Law No. 216 of 1970), and Decree No. 40840 of 1978.

5. Obstacles to Industrialization

The backbone of the economy and of industrialization is agriculture. Approximately 60 per cent of value added in industry is derived from processing agricultural products. However, there is a dualism in the agricultural sector: small farms are owned by indigeneous farmers while the larger ones are owned

by foreigners. The smallholders have no or little access to credit and other support services and their farming is more of a subsistence nature. Although, there is a transition process from subsistence to commercial farming, productivity still suffers from the existing dualism resulting, indirectly, in lower agro-industrial output.

Another obstacle to industrialization is the inadequacy of long-term financing for manufacturing firms whose scale of operations and liquidity needs are by far larger (as a result of sharp increases in aggregate demand) than the available collateral.

Finally, the administrative procedures and capacity of the government are not keeping up with the growth and dynamism of the economy.

III. Trade Structure

Paraguay's greater potential for growth lies in agro-industrial exports. There is also a rapid increase in the domestic demand for basic consumer goods. It should be noted in this regard that the open economic policy pursued by the Government is perhaps preventing the development of inefficient import substitution industries.

Table 8 reports total imports and exports between 1971 and 1979, average annual growth rates and the balance of trade. The trade data, however, are not comprehensive. Reportedly, data problems arise from the large volume of unrecorded trade. Specifically, the discrepancy between registered trade figures and those derived from partner country data may be as much as 50 per cent.^{1/} Moreover, the listing of FOB prices understates imports up to at least 10 per cent of their real cost.^{2/} Even with the downward biased reported import prices, the trade deficit has increased substantially since 1977. Clearly, this deficit would be larger if c.i.f. import prices were recorded.

Table 8 Paraguay's exports (FOB) and imports*, 1971-1979 (in billion U.S. \$) ^{a/}

Year	Value of exports	Average annual rates of growth (TGR) ^{b/}	Year	Value of imports	Average annual rates of growth (TGR) ^{b/}	Balance of trade
1971	65	1971-1979: 18.5	1971	70	1971-1979: 22.7	-5
1972	86		1972	70		16
1973	127		1973	105		22
1974	170		1974	171		-1
1975	176		1975	179		-3
1976	181		1976	180		1
1977	279		1977	255		24
1978	257		1978	318		-61
1979	305		1979	432		-127

* Imports are in f.o.b. prices.

^{a/} UN, Monthly Bulletin of Statistics, Vol. XXIV, No.3, March 1981.

^{b/} TGR = Trend growth rate.

^{1/} IERD, Report No. 2461-PA, Economic Memorandum on Paraguay, May 1979.

^{2/} This is a rough estimate based on educated guesses. See: U.S. Tariff Commission, C.I.F. Value of U.S. Imports, Feb.7, 1967.

Imports have been increasing at an annual average rate of 22.7 per cent between 1971 and 1979, while exports are lagging slightly behind with a 18.5 per cent average growth rate. The financing of the gap between imports and exports has been achieved through private capital inflows. Although, private capital flows are volatile, the uncertainty of the current account is mitigated by the recent rapid expansion of exports and their increasing diversification.^{1/}

Exports and imports by product for the year 1979, are reported in Table 9. Among export commodities, cotton fibre^{2/} earnings account for 35 per cent of total export proceedings followed by the export earnings from oilseeds (28.9 per cent), timber (15 per cent), tung and essential oils (3.9 per cent and 3.4 per cent respectively), and tobacco (3 per cent). The rest of exported commodities contribute less than 3 per cent to export earnings. Among imports, fuels and lubricants, machinery, vehicles and parts are the predominant commodities.

Table 9 Paraguay, main commodities traded in 1979
(in per cent)

<u>Exports (fob)</u>	<u>1979</u>	<u>Imports (fob)</u>	<u>1979</u>
Meat products	1.9	Machinery	20.8
Timber	15.0	Vehicles and parts	16.5
Tobacco	3.0	Beverages and tobacco	10.8
Oilseeds	28.9	Fuels and lubricants	22.8
Cotton fibre	35.0	Iron and steel products	8.1
Hides and skins	2.2	Chemicals etc.	6.8
Coffee	1.2	Wheat and flour	2.2
Tung oil	23.9	Other metal products	1.1
Essential oils	73.4	Paper products	2.3
Quebracho extract	2.2	Other foodstuffs	3.1
Cocunut oil	2.3	Agricultural equipment	2.9
Fruit and vegetables	1.2	Textiles	2.5
Yerba maté	0.4		
Total trade (in U.S. \$ Mi.)	280.8		382.8

Source: Banco Central del Paraguay (Cited in E.I.U., Quarterly Economic Review of Uruguay, Paraguay, Annual Supplement, 1980).

Among the largest trading partners are Argentina, Brazil, Fed.Rep. of Germany, the Netherlands, Algeria, Japan, Italy, Switzerland and the USA.

^{1/} IBRD, op.cit.

^{2/} Between 1970 and 1977, the price of cotton has increased approx. by 300 per cent.

PARAGUAY

SHARES OF ECONOMIC SECTOR VALUE ADDED IN GDP MINUS STAT. DISCH. FOR PARAGUAY

YEAR	AGRICULTURE	MIN. & QUARR.	MANUFACTURING	UTILITIES	CONSTRUCTION	SERVICES
1960	38.76	0.13	16.67	0.58	2.41	41.45
1961	38.47	0.11	16.93	0.52	2.13	41.83
1962	43.32	0.06	15.15	0.52	1.95	38.99
1963	43.17	0.11	15.21	0.54	2.24	38.73
1964	42.64	0.14	15.50	0.54	2.17	39.02
1965	42.85	0.13	15.08	0.52	2.24	39.18
1966	41.37	0.23	15.29	0.52	2.66	39.94
1967	39.69	0.18	15.68	0.59	2.83	41.03
1968	38.82	0.06	15.73	0.58	2.49	42.25
1969	38.19	0.06	16.00	0.69	2.96	42.41
1970	38.20	0.07	16.21	0.88	2.68	41.95
1971	37.14	0.16	16.42	1.03	2.94	42.31
1972	36.73	0.17	16.72	1.17	2.87	42.34
1973	36.97	0.15	16.64	1.32	3.09	41.82
1974	37.25	0.16	16.72	1.25	3.26	41.37
1975	36.91	0.19	15.63	1.44	3.76	42.08
1976	36.06	0.25	15.34	1.65	4.12	42.58
1977	35.23	0.28	16.22	1.65	4.84	41.78

All shares in per cent.

PARAGUAY

GROWTH-RATES OF ECONOMIC SECTORS AND GDP FOR PARAGUAY

YEAR	AGRICULTURE	MIN.&QUARR.	MANUFACTURING	UTILITIES	CONSTRUCTION	SERVICES	GDP	POPULATION
1960-61	5.2	-9.0	7.5	-5.5	-6.3	6.9	6.0	2.6
1961-62	13.7	-39.7	-5.0	4.4	-3.4	-1.7	5.4	2.6
1962-63	1.9	87.0	2.6	6.5	17.3	1.6	2.3	2.6
1963-64	3.0	25.1	6.3	5.7	0.8	5.1	4.3	2.6
1964-65	6.9	0.8	3.5	0.7	9.9	6.8	6.4	2.6
1965-66	-2.9	78.5	2.1	1.0	14.5	2.6	0.6	2.6
1966-67	2.0	-18.7	6.9	20.7	13.4	9.2	6.2	2.7
1967-68	1.1	-64.6	4.1	2.2	-9.3	6.4	3.3	2.7
1968-69	2.4	10.9	5.5	21.5	11.1	4.5	4.1	2.7
1969-70	5.3	22.8	7.0	35.7	7.2	5.1	6.2	2.7
1970-71	1.4	126.7	5.6	22.1	14.4	5.1	4.3	2.8
1971-72	4.1	11.4	7.2	19.5	2.7	5.4	5.3	2.8
1972-73	8.8	-5.7	7.5	22.0	16.5	6.7	8.0	2.8
1973-74	9.0	14.7	8.7	2.2	14.0	7.0	8.2	2.9
1974-75	3.8	26.4	-2.1	20.7	21.0	6.6	4.8	2.9
1975-76	5.2	41.7	5.7	23.7	17.9	9.0	7.7	2.9
1976-77	9.6	24.3	18.6	12.0	31.8	10.0	12.1	3.0

FOR EVERY PERIOD, THE FIRST LINE SHOWS THE COMPOUND INTEREST-RATES, THE SECOND LINE THE TREND-GROWTH-RATES.

1960-77	5.0	10.5	5.4	12.2	10.0	5.6	5.6	2.7
1960-77	4.1	9.8	5.3	13.8	9.5	5.5	5.2	2.7
1960-65	7.0	5.1	2.8	2.3	3.3	3.7	4.9	2.6
1960-65	7.0	0.6	2.3	3.2	4.0	3.1	4.6	2.6
1965-70	1.7	-6.9	5.6	15.9	7.9	5.5	4.1	2.7
1965-70	1.7	-16.3	5.7	15.2	6.5	5.8	4.2	2.7
1970-75	5.4	28.1	5.3	17.0	13.5	6.2	6.1	2.8
1970-75	5.9	21.1	6.0	16.4	12.9	6.2	6.4	2.8
1975-77	7.4	32.7	11.9	17.7	24.7	9.5	9.9	2.9
1975-77	7.4	32.7	11.9	17.7	24.7	9.5	9.9	2.9

All growth rates in per cent.

