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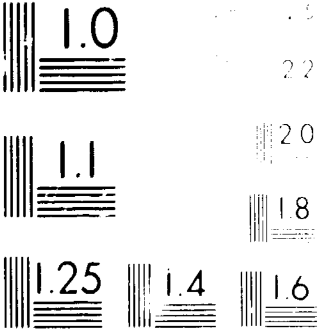
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INDUSTRIAL DEVELOPMENT REVIEW.

ARGENTINA.

Eduardo White

1983

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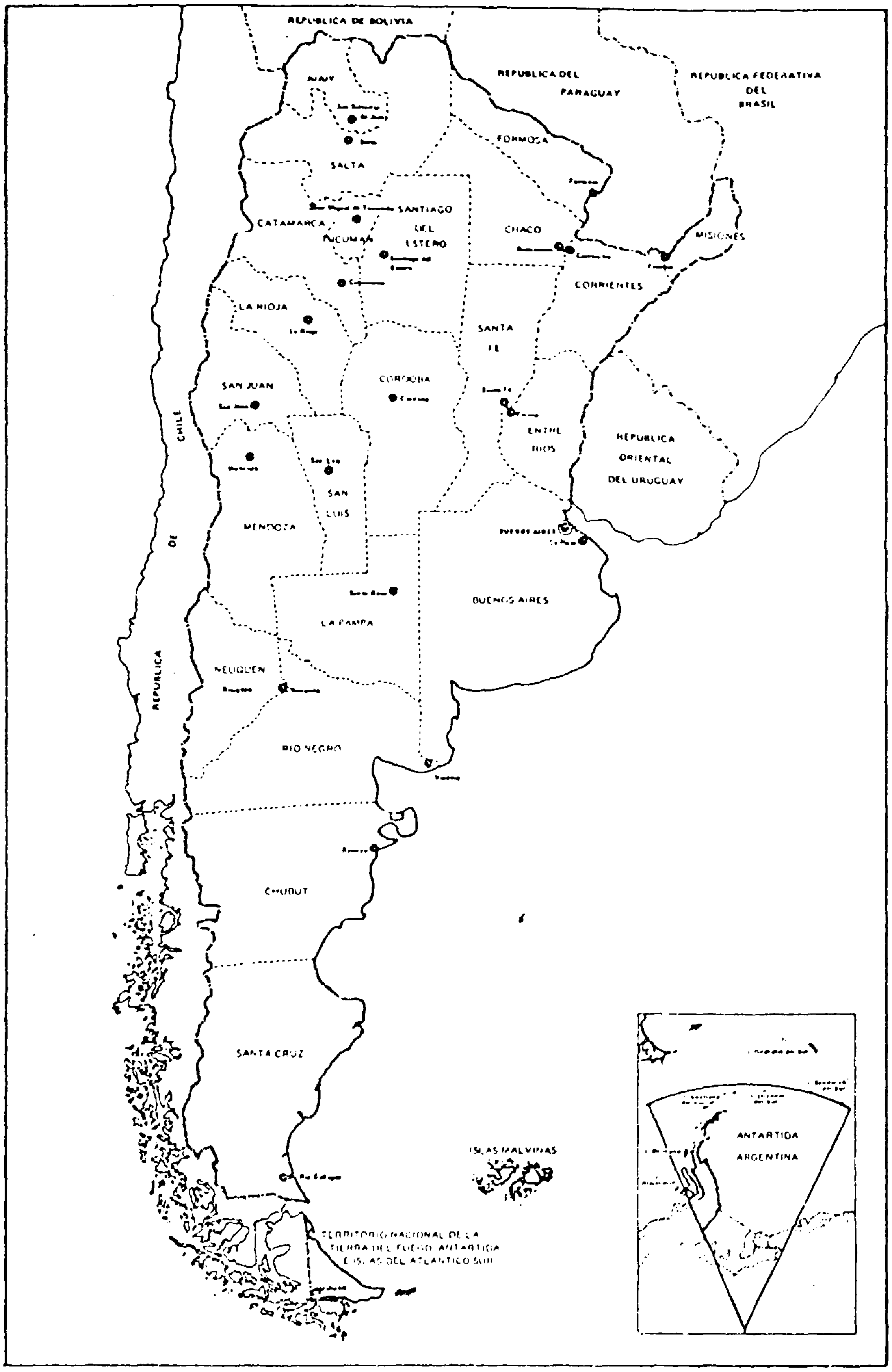
MAP OF ARGENTINA



1. OVERVIEW OF ARGENTINA

1.1. The Country and its people

Argentina is a large country located in the Southern part of South America. Its vast territory includes tropical, -- temperate as well as polar zones. The majority of the popula--- tion as well as most economic activities are concentrated in -- in the littoral area of the central region of the country. A -- large share of the inhabitants are of european origin -mostly italian and spanish- and enjoy, in average, a relative high standard of living particularly in comparison with the rest of Latin America). A general election is scheduled for the fourth

Area:(excluding Anthartica) :	2.791.810 Km^2
Population: number : (1980) :	27.863 (thousands)
density :	9.98 inhabitants per Km^2
labour force :	10.588 (1980) (+)
adult literacy rate :	93% per cent (1977) (+)
life expectancy :	70 (1980)
infant mortality :	45 (1980) (+)
Independence: July 9, 1816	
Language: Spanish	
Head of State: Gen.(R) Reynaldo Bignone	

Sources: Anuario Estadístico de la República Argentina and (+) W.Bank, World Development Report 1982.

quarter of the year and a civilian government is due to take -- power before february 1984, after nearly 8 years of military -- régime.

Resources:			
	cash crops	:	wheat, maize, sorghum.
	minerals	:	oil, coal, uranium.
	forests	:	63.000 Hectares
	livestock	:	in abundancy, particularly cattle and sheep
	fish	:	460.000 tons (capture 1982)
Transport:			
	roads	:	47.986 Km.
	railway	:	34.284 Km.
	ports	:	Buenos Aires, Rosario, ~~Ba~~ Bahía Blanca.
	airports	:	Buenos Aires, Córdoba, Rosario, Mendoza.

Argentina is richly endowed with natural resources.- It's abundance of land appropiate for agriculture and animal husbandry has provided the country with an international comparative advantage in such goods as wheat, corn, and beef. The country has also relatively important mineral, forest and fish resources, and an extended transport network.

1.2. The Economy

Gross National Product per capita :	U$S 2,560 (1981)		
Gross Domestic Product total :	U$S 72.192 million (1981)		
structure (1) (1981)	agriculture	:	14 per cent
	mining	:	3 per cent
	manufacturing	:	22 per cent
	construction	:	7 per cent
	services	:	54 per cent

(1) Measured in constant 1970 prices.

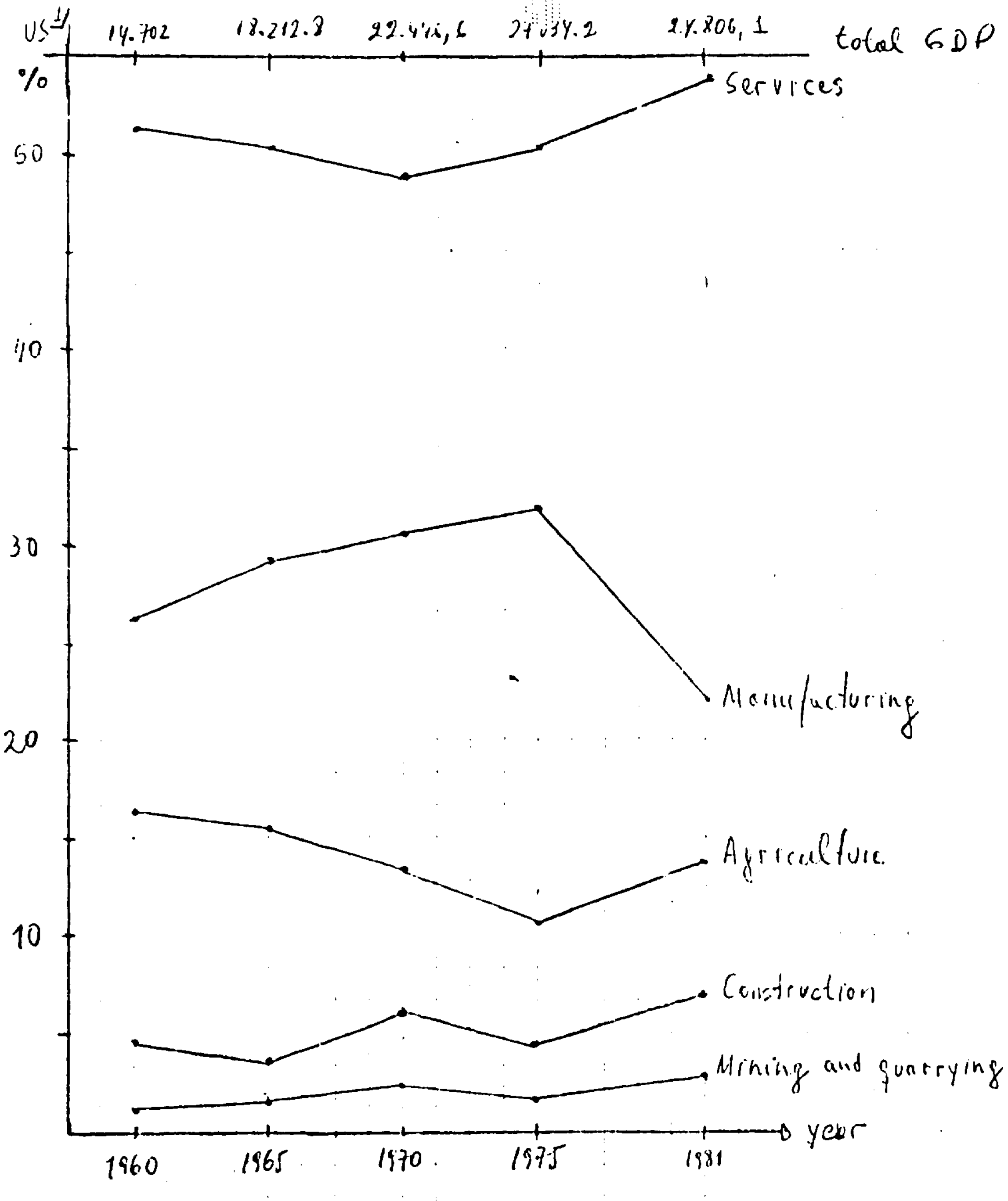
Sources:

World Bank, World Development Report 1983, and Banco Central de la República Argentina, Boletín Estadístico, nov.-dic. 1982.

Argentina is a developing country with a semi-industrialized economy. Yet as other countries of the South, a significant proportion of its total exports is composed of primary goods; - severe imbalances exist in its regional development, and per capita income is far from being evenly distributed. At the same - time, the country has an important manufacturing sector and has reached a level of technological development which places it in a position similar and in some respects even higher than other semi-industrialized countries.

Until the thirties, the argentine economy based its development on the exploitation of its land resources. Exports of -- agricultural commodities, mainly directed to Europe, operated - as an "engine of growth" and the country experienced a long period of relatively steady progress. As other nations of "temperate

GRAPH. GDP by economic sector 1960-1981 in constant prices of 1970



SOURCE: From 1960-1975 ECLA
For 1981 FIDE with data from Banco Central de la República Argentina

In 1982

Exports

total value	: U$S 7,624 million
main goods	: wheat, maize, millet, soya, meat, manufactured goods.
main destinations	: Soviet Union, U.S.A., Holland, Brazil.

Imports

total value	: U$S 5,337 million
main goods	: fuels, machinery, ores and metals.
main origins	: U.S.A, Brazil, Germany RF, Japan

Balance of Payments

Foreign dept (public)	: U$S 10.506 (1981)
Debt service ratio of GNP	: 1.3 per cent
total export	: 18.2 " "
Foreign currency reserves	: U$S 3,013 million

Inflation: average annual 1970-80: 141,2 1981-82: 291 %

National currency: argentine pesos

1 U$S : 9.70 (July 1983)

settlement", Argentina received during that period a massive wave of immigrants which were to have a profound impact in the country's economic evolution. Since 1930, as terms of trade deteriorated and agricultural productivity lagged, the country underwent a severe development crisis which implied on the one hand the emergence of cronic international payment imbalances, but that, on the other, promoted the expansion of some economic activities -such as manufacturing- which although were already of importance, received an incentive from the relative closening of the economy which came pari passu with the crisis.

In recent years different policies were adopted in order to solve some of the basic obstacles of the country's development, without major success. On the contrary, as a result of erratic economic management and political instability, by the late 70s the country began to suffer a profound recession coupled with an extremely high inflation rate.

1.3. Manufacturing sector

Manufacturing value added (MVA) :	U$S 15,882 (1981)
MVA per cápita :	U$S 570
Employment (in industry)	
number :	1.120.000 (1981)
percentage of labour force :	10.5%
MVA per employee :	U$S 14,180
Exports of manufactures	
value :	U$S4.904 thousand
main goods :	meat and meat preparations machinery, transport eq.
destinations :	LAIA countries, EEC
Imports of manufactures	
value :	U$S 9.062 Thousand (1980)
main goods :	machinery, chemicals, transport eq.
origins :	USA, Japan, EEC, Brazil

Source: World Bank, World Development Report 1983 and UNIDO Data Base.

Argentina's industrial sector has reached a significant level of development, particularly if a comparison is made -- with other countries of the Latin American region. Manufacturing activities were already important in the country by the -

thirties, and from that decade on received a strong stimulus that made them one of the main economic sources of growth.

At first, industrial development was concentrated in -- consumer goods industries. Meat and leather processing, flour mills, breweries and the like represented the main branches - by 1930. Afterwards the time came for textiles and some light chemical industries to surge. By the mid forties metallurgical establishments received their boost. Finally by the sixties - the country had an important transport equipment industry and also the production of machinery was already significant.

By 1967 industrial growth based on an import-- substitution strategy was considered insufficient. Economic authorities thought then that the answer was to promote manufacturing exports. This policy was sustained up to 1976 and as a result an important growth in exports occurred.

From 1976 onwards a dramatic change of course was adopted (see 3.1.). Tariffs were reduced, interest rates rose and the exchange rate was overvalued significantly. As a result, manufacturing activities as a whole were seriously affected - by foreign competition and the impossibility to compete abroad. Probably the single most salient indicator of this evolution has to do with the behaviour of manufacturing employment. In fact, from 1,216 thousand blue collar workers that were engaged in the first quarter of 1976 in industrial production, the corresponding figure for 1982 was only 745 thousand (+).

(+) FIDE, Coyuntura y Desarrollo, Anexo Estadístico XIV, --- April 1983, p. 72.

2. STRUCTURE AND PERFORMANCE OF THE MANUFACTURING SECTOR

2.1. Growth and structural changes of value added in manufacturing

The manufacturing sector of Argentina had a very poor performance during the seventies since its overall annual growth rate was only 1.4%. As table 1 shows, only a small number of branches experienced relatively high rates of growth during that period: professional and scientific equipment (5.3% per year), rubber products (4.1%) and non ferrous metals (3.4%) were among the exceptions. Another indication of such performance is given by the fact that over 28 industrial branches 10 recorded negative growth rates in the decade.

A better understanding of the development of the industrial sector in the period is obtained if a distinction is made between the periods for 1971-75 and 1976-80. As table 1.A. indicates the manufacturing sector as a whole grew at 3.4% in the first half of the decade and experienced a net reduction in its output during the second half. In the first part of the decade only four branches had negative growth rates: footwear, furniture, petroleum refineries and miscellaneous petroleum products. Most of the branches that elaborate consumer goods had a relative good performance and the same could be said for those in the capital goods category. In fact, taking into account the past experience of Argentina, some important branches like tobacco (314) or wearing apparel (322) in the first group - and machinery (382) and fabricated metal production (381) in the second - went through a very dynamic growth process. On the contrary, in the 1976-80 period, only 12 branches experienced positive growth rates. Some of them were: petroleum products (353-354) - the performance in this case been heavily influenced by a specific policy aimed at promoting these activities-; transport equipment (384) -in which the behaviour of the automobile industry in some years had an important impact-; furniture (332)

TABLE 1 Annual Growth Rates of Real Manufacturing Value Added, 1970-1980
(Percentages on the [illegible] of values in 1970 pesos, constant pri[illegible])

ARGENTINA 2.1
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ISIC	ISIC - DESCRIPTION	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1970-80
3110	Food products	-5.6	6.6	1.3	1.2	3.6	7.2	1.2	-0.7	0.8	0	2.2
3130	Beverages	2.8	2.2	0.4	23.7	-4.9	-11.9	-11.3	-9.1	17.5	10.2	1.4
3140	Tobacco	2.1	5.8	5.2	13.4	0.5	-2.8	-0.2	-0.1	3.5	-0.5	2.6
3210	Textiles	4.4	-1.3	5.0	9.5	-4.7	-5.5	6.5	-14.0	13.1	-16.6	-0.9
3220	Wearing apparel, exc. footwear	6.7	8.5	-3.9	19.6	-6.0	-7.2	-5.4	-22.1	17.2	-10.8	-1.2
3230	Leather products	-1.5	20.0	-10.4	-7.7	7.3	8.0	9.2	2.2	-12.3	-15.7	-0.7
3240	Footwear, exc. rubber or plastic	-4.8	-23.3	4.2	12.3	-12.2	-16.8	-7.4	-13.7	-0.1	-3.1	-7.1
3310	Wood products, exc. furniture	11.0	0.9	1.4	11.6	-6.6	-13.5	-1.3	-6.0	4.3	-4.9	-0.6
3320	Furniture, exc. metal	-9.7	1.8	-0.7	21.9	-12.7	-30.1	23.3	11.1	25.4	0.4	1.6
3410	Paper and products	5.5	6.3	9.0	8.3	-4.9	-13.3	5.5	3.4	11.3	-17.8	0.9
3420	Printing and publishing	-0.7	2.5	2.7	4.2	6.1	-11.6	-4.7	3.1	-7.2	5.8	-1.0
3510	Industrial chemicals	16.1	10.7	9.2	2.3	-6.4	-4.6	8.1	-10.2	21.3	-13.7	2.7
3520	Other chemicals	13.1	2.6	12.8	-9.7	20.1	-1.6	-6.7	-12.7	9.7	6.5	2.9
3530	Petroleum refineries	5.2	3.0	1.7	-5.3	-8.8	7.1	5.1	1.1	4.8	5.9	1.9
3540	Misc. petroleum and coal products	-10.7	1.6	2.6	-8.4	-11.4	-1.1	24.1	-18.0	18.4	-0.3	-1.1
3550	Rubber products	12.6	11.6	5.8	-2.5	5.2	9.8	0.3	-15.9	25.2	-5.8	4.1
3560	Plastic products	9.8	28.4	8.1	-8.5	-8.1	-12.3	7.9	-9.7	24.7	0.2	1.9
3610	Pottery, china, earthenware	4.8	5.7	3.7	4.3	-8.5	-0.1	-16.6	-10.7	17.1	-0.7	-0.6
3620	Glass and products	-2.8	2.5	-9.7	7.5	23.8	-13.4	-7.7	10.2	11.5	-9.0	0.6
3690	Other non met. mineral products	10.8	3.0	-6.4	8.4	-2.1	-0.8	2.8	-0.7	4.7	-2.1	-0.1
3710	Iron and steel	10.2	7.7	5.0	1.8	-1.9	-7.2	15.0	-4.1	13.6	-11.3	2.5
3720	Non-ferrous metals	19.0	5.5	1.9	5.9	-12.0	-19.9	14.4	-17.2	35.4	7.1	3.4
3810	Fabricated metal products	12.6	4.6	-3.1	9.9	3.1	-2.5	13.2	-13.7	10.9	-4.2	2.7
3820	Machinery, exc. electrical	9.2	2.6	22.9	7.1	-10.0	23.5	24.4	-26.5	9.7	-12.2	0.5
3830	Machinery electric	9.4	3.0	2.3	4.9	-0.1	-19.2	15.7	-12.6	6.6	-3.4	-0.6
3840	Transport equipment	12.4	2.3	7.3	3.8	-13.6	-11.0	34.8	-25.3	22.7	3.7	2.4
3850	Professional & Scientific equip.	7.8	38.7	10.1	44.8	-13.5	5.9	0.4	3.4	9.9	-32.7	5.2
3900	Other manufactured products											
3000	TOTAL MANUFACTURING	6.1	4.0	4.0	5.9	-2.6	-3.0	7.8	-10.5	10.2	-3.8	1.4

SOURCE: Banco Central de la República Argentina

ARGENTINA 2.1
July, 1983

TABLE 1 "A" Annual Growth Rates of Real Manufacturing Value Added, 1970-1980, 1970-1975 and 1976-1980 (Percentages on the basis of values (in 1970 pesos, constant prices).

ISIC	ISIC - DESCRIPTION	1970-1980	1970-1975	1976-1980
3110	Food products	2.2	1.3	1.7
3130	Beverages	1.4	4.4	-1.7
3140	Tobacco	2.6	5.3	-
3210	Textiles	-0.9	2.5	-4.0
3220	Wearing apparel, exc. footwear	-1.2	4.5	-6.5
3230	Leather products	-0.7	0.9	-2.3
3240	Footwear, exc. rubber or plastic	-7.1	-5.6	-8.4
3310	Wood products, exc. furniture	-0.6	3.5	-4.5
3320	Furniture, exc. metal	1.6	-0.6	3.8
3410	Paper and products	0.9	4.7	-2.8
3420	Printing and publishing	-1.0	2.9	-3.1
3510	Industrial chemicals	2.7	6.1	-0.6
3520	Other chemicals	2.9	7.2	-1.3
3530	Petroleum refineries	1.9	-1.0	4.8
3540	Misc. petroleum and coal products	-1.1	-5.3	3.5
3550	Rubber products	4.1	6.3	1.7
3560	Plastic products	3.1	5.0	1.3
3610	Pottery, china, earthenware	-0.6	1.8	-3.0
3620	Glass and products	0.6	3.7	-2.3
3690	Other non met. mineral products	1.6	2.6	0.7
3710	Iron and steel	2.5	4.5	0.6
3720	Non-ferrous metals	3.4	3.5	3.1
3810	Fabricated metal products	2.7	5.3	0.2
3820	Machinery, exc. electrical	3.7	5.8	1.7
3830	Machinery electric	-0.6	3.9	-3.4
3840	Transport equipment	2.4	2.0	2.7
3850	Professional & Scientific equip.	5.3	15.6	-4.0
3900	Other manufactured products			
3000	TOTAL MANUFACTURING	1.4		-0.2

SOURCE: Banco Central de la República Argentina.

and non ferrous metals (372) - in which an aluminium plant --- entered into operation-. As it will be referred to in 3.1. be-- low, the poor performance of the 1976-80 period is mainly the - result of a set of policies applied during those years.

In table 2 the sectoral shares are presented. As it --- comes out from the data, food products represented in 1980 the most important single branch in the argentine industry followed by transport equipment, petroleum refinery and fabricated metal products. A glance at the table also shows that textiles and -- wearing apparel are among the branches that have reduced their share more substantially during the decade.

Preliminary estimates for 1981 indicate (see last column of Table 2) an important increase in the respective shares of - branches such as food products, other chemicals and petroleum - refineries. In contrast, in that year a significant reduction - in the absolute level of output occurred in the transport equip ment branch.

ARGENTINA 2.1
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TABLE 2: Structural Changes of Value Added in Manufacturing, 1970-1981
(Sectoral shares (percentages) on basis of values in 1970 $ constant prices)

ISIC	ISIC - DESCRIPTION	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981 a)
3110/3120	Food products	14.93	13.63	13.75	13.39	13.03	13.76	14.76	13.96	15.31	14.73	14.75	17.08
3130	Beverages	4.99	4.83	4.74	4.57	5.33	5.23	4.74	3.92	3.97	4.23	4.82	5.15
3140	Tobacco	3.84	3.69	3.75	3.79	4.08	4.20	4.20	3.91	4.35	4.08	4.20	4.61
3210	Textiles	8.79	8.64	8.19	8.27	8.60	8.40	8.15	8.10	7.75	7.95	6.86	6.63
3220	Wearing apparel, exc. footwear	2.42	2.43	2.54	2.34	2.66	2.56	2.44	2.15	1.86	1.98	1.83	1.35
3230	Leather products	0.94	0.87	1.00	0.86	0.76	0.83	0.92	0.94	1.07	0.85	0.74	0.84
3240	Footwear, exc. rubber or plastic	0.83	0.75	0.55	0.55	0.59	0.53	0.45	0.39	0.37	0.34	0.34	0.36
3310	Wood products, exc. furniture	1.36	1.43	1.38	1.34	1.42	1.37	1.21	1.12	1.17	1.10	1.05	1.07
3320	Furniture, exc. metal	0.66	0.56	0.55	0.52	0.61	0.54	0.39	0.45	0.56	0.63	0.66	0.72
3410	Paper and products	2.30	2.29	2.33	2.45	2.51	2.45	2.18	2.15	2.48	2.50	2.12	1.57
3420	Printing and publishing	2.36	2.67	2.63	2.59	2.57	2.79	2.53	2.25	2.58	2.18	2.38	2.46
3510	Industrial chemicals	2.65	2.70	3.08	3.23	3.15	3.02	2.75	2.78	2.78	3.28	2.73	3.10
3520	Other chemicals	5.54	5.50	5.80	6.29	5.40	6.64	6.72	5.85	5.68	5.65	6.23	7.49
3530	Petroleum refineries	8.00	7.92	7.83	7.66	6.89	6.93	7.08	6.94	7.81	7.42	8.12	9.26
3540	Misc. petroleum and coal products	0.51	0.43	0.42	0.41	0.36	0.33	0.33	0.38	0.35	0.37	0.37	0.48
3550	Rubber products	2.24	2.37	2.54	2.59	2.56	2.58	2.91	2.72	2.55	2.89	2.82	2.22
3560	Plastic products	0.99	1.02	1.25	1.30	1.13	1.06	0.96	0.96	0.96	1.09	1.14	1.01
3610	Pottery, china, earthenware	0.55	0.54	0.55	0.55	0.54	0.51	0.52	0.41	0.40	0.43	0.44	0.26
3620	Glass and products	1.10	1.00	0.99	0.86	0.88	1.11	0.99	0.86	1.05	1.06	1.00	0.90
3690	Other non met. mineral products	3.59	3.75	3.71	3.24	3.43	3.44	3.51	3.37	3.72	3.53	3.57	3.69
3710	Iron and steel	4.35	4.52	4.67	4.71	4.55	4.58	4.37	4.68	5.00	5.15	4.72	5.01
3720	Non-ferrous metals	1.08	1.21	1.22	1.19	1.20	1.08	0.59	0.95	0.93	1.14	1.26	1.12
3810	Fabricated metal products	7.22	7.65	7.68	7.16	7.47	7.89	7.91	8.36	8.03	8.07	7.99	7.69
3820	Machinery, exc. electrical	5.02	5.16	5.08	6.01	6.11	5.64	7.15	8.30	6.78	6.75	6.13	5.18
3830	Machinery electric	3.82	3.94	3.89	3.83	3.82	3.91	3.25	3.50	3.40	3.30	3.29	3.02
3840	Transport equipment	8.52	9.44	9.27	9.56	9.43	8.34	7.63	9.60	7.97	8.88	9.54	6.54
3850	Professional & scientific equip.	0.45	0.46	0.61	0.67	0.58	0.78	0.36	0.80	0.92	0.92	0.64	0.54
3900	Other manufactured products												
3000	TOTAL MANUFACTURING	100.00	100.00	100.00	[illegible]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	Crafts												
	TOTAL												

SOURCE: IIDE with data from Banco Central de la República Argentina

a) Estimated

2.2. Geographical distribution of manufacturing industries

According to the results of the last industrial census, in 1973 86% of total manufacturing value added in Argentina was generated in establishments located in the capital city (Buenos Aires) and in the provinces of Buenos Aires, Córdoba -- and Santa Fe. If Mendoza, Tucumán and Jujuy are included the -- corresponding share goes up to 93%. The data also indicates that the establishments in the province of Buenos Aires were by - themselves responsible of approximately half the value added of the industrial sector. Similar conclusions can be drawn regarding the geographical distribution of: i) total manufacturing employment and ii) total number of industrial establishments.

A better knowledge of the characteristics of the --- spatial distribution of industry in Argentina can be gained by analysing some simple relationships as the ones presented in --- table 3 . The first column shows the ratio of value added by - establishment in the different provinces. According to it, only in Buenos Aires, Capital, Chubut, Jujuy and Tucuman that coefficient is higher than the national average. This is in -- part the result of the larger size of the undertakings located in those areas. In fact, many of the bigger factories the country has are placed in the first two regions. In Jujuy two big - establishments explain most of that province's industrial activity and in Tucuman the large average size of the sugar mills - located there is also responsible for its higher ratio. The recent incentives given to industrial production in Chubut, promoting the construction of modern factories, contribute to explain the relatively higher ratio of value added by establishment in this province. With regard to the second ratio shown in table 3 - the higher figures for Mendoza are a consequence of the impact that the inclusion of taxes have in the calculus of value added in the wine and petroleum refinery industries. A similar argument can be applied to another important wine producer province ---

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TABLE 3. Regional shares in manufacturing, value added, employment, and establishments, 1973. Regional manufacturing value added, 1980

Region	Shares in total manufacturing value added (per cent) 1.973	Shares in total manufacturing employment (per cent) 1.973	Shares in total Nº of establishments (per cent) 1.973	Shares in total manufacturing value added (per cent) 1.980
Buenos Aires	45.90	44.13	36.87	45.88
Capital	21.20	21.75	18.86	19.44
Córdoba	6.18	9.38	10.63	6.50
Corrientes	0.75	0.63	1.05	0.94
Catamarca	0.06	0.13	0.41	0.25
Chaco	0.58	1.03	1.69	0.71
Chubut	0.55	0.68	0.50	1.19
Entre Ríos	0.83	1.55	2.49	0.75
Formosa	0.13	0.27	0.60	0.14
Jujuy	1.05	0.99	0.56	1.16
La Pampa	0.14	0.29	0.94	0.12
La Rioja	0.07	0.12	0.32	0.09
Mendoza	4.22	2.88	4.22	6.19
Misiones	0.49	1.07	2.13	0.65
Neuquén	0.25	0.18	0.31	0.46
Rio Negro	0.41	0.60	0.87	0.66
Salta	0.95	0.85	1.14	0.66
San Juan	0.80	0.55	0.81	0.75
San Luis	0.22	0.31	0.70	0.39
Santa Cruz	0.04	0.10	0.16	0.05
Santa Fe	9.67	9.40	11.95	9.90
Santiago del Estero	0.19	0.45	0.91	0.21
Tucuman	2.29	2.73	1.83	2.96
Tierra del Fuego	0.03	0.04	0.05	0.05
TOTAL %	100.00	100.00	100.00	100.00
values	92,876	1.525.221	126.388	104.245.565

Source: For 1973: INDEC "Censo Nacional Económico, Industria Manufacturera" 1974

For 1980: Estimates from Consejo Federal de Inversiones

(San Juan) and to Neuquen, were a petroleum refinery operates.- For Corrientes the some reasoning can be used, in this case because of the importance that indirect taxes have in the tobacco industry which is very important in that province.

The last column in table 3 presents some estimates regarding the distribution of manufacturing value added in 1980. A -- comparison with the data for 1973 reveals that the two most important regions, Buenos Aires and Capital have reduced their -- shares while Mendoza, Córdoba, Santa Fe, and Chubut among others, have increased theirs. The relative increase of Mendoza's share is explained by the development of some metal working shops, -- that of Santa Fe and Córdoba by the growth experienced in them by some food industries and by transport equipment production, that of Chubut by the positive impact of a series of policy incentives aimed at promoting the establishment of manufacturing firms in the province. A similar case has been the one of Tierra del Fuego where a special regime was created to promote industrial activities.

2.3. Manufacturing activity by size of enterprises

The size distribution of industrial enterprises accord-- ing to a series of indicators is presented in table 4. The data show on the one hand that in Argentina in 1973 108.200 establish ments had less than 10 persons employed. Those undertakings were responsible for approximately 9% of manufacturing value added -- and around 20% of all industrial employment. On the other hand, table 4 demonstrates that only 126 establishments generated 26.6% of all the country's manufacturing value added and employ around 16% of all persons engaged in industrial activities. The last -- column in table 4 shows that a positive correlation exists between firm's size and value added per employee. At the same time, the data suggests that in average those establishments with more --- than 50 employees and up to 1.000 have a similar level of labour productivity.

Unfortunately no more recent data is available with respect to the size distribution of industrial firms since the surveys conducted from 1973 on only include a segment of the total number of establishments. Thus, no conclusion can be reached with regard to the changes that have occurred during the decade, al-- though is quiet probable that the serious crisis that affected - manufacturing activities during the second half of the seventies have influenced the above mentioned distribution.

TABLE 4. Establishments, Manufacturing Value Added, Employment and Value Added per Employee, by Size of Enterprises, 1973

Size in terms of numbers employed	Percentage of total manufacturing establishments 1973	Percentage of total manufacturing value added 1973	Percentage of total manufacturing employment (1) 1973	Value added per employee 1973
0 - 10	85.64	8.98	10.7	44.5
11 - 50	11.02	14.24	20.6	72.7
51 - 100	1.62	9.60	10.7	102.3
101 - 500	1.47	29.70	28.6	121.8
501 - 1000	0.15	10.86	10.3	123.4
More than 1,000	0.10	26.60	19.1	164.5
Total manufacturing	100.00	100.00	100.0	63.5
	126.388	92.876.- (2)	1.293.170	

Source: INDEC, "Censo Nacional Económico, Industria Manufacturera, 1974, Resultados definitivos", Buenos Aires

(1) Includes only paid roll employees

(2) In million pesos

2.4. Ownership and investment patterns

Like in other large semi-industrialized developing --- countries, the structure of the manufacturing sector of Argentina is relatively complex and diversified in terms of the number, nature and origin of the enterprises and investors operating in the market. Three segments of enterprises are clearly represented in industrial activities: state-owned corporations, which operate in a number of branches of the basic and heavy industry; private -- firms of domestic capital, which predominate in several medium-- sized and traditional industries, and foreign-owned subsidiaries, which are strongly present in capital-technology intensive sec-- tors and dynamic industries. Table A shows how these three categories are distributed among the 100 largest industrial firms: 6 are public, 39 are foreign and 55 are domestic private. Foreign subsidiaries occupy 7 positions among the largest 10, 12 among - the largest 20 and 21 among the largest 50. There are 23 private domestic firms among the largest 50, but only one among the largest 10. Finally, the largest enterprise in the ranking is a -- public one, but the state is represented only 6 times among the biggest 100 industrial firms, although some are big holdings controlling several subsidiaries.

I. State-owned enterprises

Apart from a number of small minority participa--- tions of state entities in private industrial firms, there were 297 public enterprises in 1982, 78 operating in the manufacturing sector (+). Table B reveals their important participation in the Argentine economy. Although the relative weight of public - enterprises in the manufacturing sector is still limited, it has been constantly increasing. Since mid-60s, when the first significant industrial investments of the public sector were carried out and over the following period of 10 years, the share of public enterprises

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(+) See Comisión Económica para América Latina (CEPAL, oficina en Buenos Aires): Las empresas públicas en la Argentina: su magnitud y origen, 1983, and Secretaría de Industria y Minería, "Características de las empresas manufactureras estatales", - in Boletín Semanal de Economía, Nº 457, Sept. 1982.

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July,1983

TABLE A

THE LARGEST 100 INDUSTRIAL COMPANIES (1981) ACCORDING TO SALES VOLUME AND CLASSIFIED BY ORIGIN OF CAPITAL

COMPANIES	CAPITAL	SECTOR	RANKING 81	RANKING 80
YPF	P	Oil	1	1
ESSO	F	Oil	2	3
NOBLEZA-PICCARDO	F	Tobacco	3	4
FORD	F	Auto	4	2
MASSALIN-PARTICULARES	F	Tobacco	5	13
RENAULT	F	Auto	6	7
SHELL	F	Oil	7	5
SOMISA	P	Steel	8	6
DALMINE	F	Steel	9	15
MOLINOS RIO DE LA PLATA	N	Food	10	10
ACINDAR	N	Steel	11	9
MASTELLONE	N	Food	12	16
IBM	F	Equip.	13	21
SEVEL	F	Auto	14	S/D
AFNE	P	Shipbuilding	15	30
LOMA NEGRA	N	Cement	16	14
MERCEDES BENZ	F	Auto	17	S/D
ALPARGATAS	N	Textiles	18	19
PROPULSORA	F	Steel	19	18
ALUAR	N	Aluminium	20	22
SANCOR	N	Food	21	17
VOLKSWAGEN	P	Auto	22	12
LEDESMA	N	Sugar	23	23
FABRICACIONES MILITARES	P	Industrial holding (steel, petrochemicals, etcétera)	24	20
REFINERIA DE MAIZ	F	Food	25	35
PEREZ COMPANC	N	Oil	26	35
RIO COLORADO	N	Oil	27	--
LEVER	N	Chemical	28	32
TERRABUSI	N	Food	29	28
BAGLEY	N	Food	30	41

COMPANIES	CAPITAL	SECTOR	RANKING	
			81	80
CLARIN-AGEA	N	Printing	31	24
NESTLE	F	Food	32	26
PHILLIPS	P	Electric	33	31
PIRELLI	F	Conductores	34	33
SWIFT-ARMOUR	F	Food	35	42
BRIDAS	N	Oil	36	29
CELULOSA	N	Paper	37	27
DUCILO	P	Textiles	38	40
SIAM	P	Mechanic	39	77
COCA-COLA	F	Beverages	40	50
EQUITEL	N	Telecommunication	41	51
ALBA	N	Paints	42	43
FATE	N	Tires	43	52
GOOD YEAR	F	Tires	44	46
AZUCARERA CONCEPCION	N	Sugar	45	65
ASTRA	N	Oil	46	55
PETROQUIMICA GRAL MOSCONI	P	Petrochemical ...	47	57
ARCOR	N	Food	48	49
MOLINOS CONCEPCION.	N	Food	49	45
LA ISAURA	N	Oil	50	48
BAYER	F	Chemicals	51	61
GRAFANOR	N	Textiles	52	97
CIA.ARG.DE CEMENTO PORTLAND	F	Cement	53	56
CORCEMAR	N	Cement	54	54
INGENIO S.M.TABACAL	N	Sugar	55	66
CIBA-GEIGY	P	Chemicals	56	70
STANDARD ELECTRIC .	F	Telecommunication	57	60
ROCHE	F	Chemicals	58	73
CIA QUIMICA	N	Chemicals	59	63
CANALE	N	Food	60	75
TRANSAX	F	Autoparts	61	S/D
UNION CARBIDE	F	Chemicals	62	82
JOHNSON Y JOHNSON..	F	Chemicals	63	S/D
KODAK	F	Photo	64	79
JUAN MINETTI	N	Cement	65	91

COMPANIES	CAPITAL	SECTOR	RANKING	
			81	80
BAGO	N	Chemicals	66	86
CALERA AVELLANEDA..	N	Cement	67	84
PASA	F	Petrochemicals ...	68	47
COLORIN	N	Paints	69	114
ASTILLEROS ALIANZA.	N	Shipbuilding	70	109
PAPEL PRENSA	N	Paper	71	124
ING.LA ESPERANZA ..	N	Sugar	72	93
EDITORIAL CREA	N	Printing	73	99
AZUCARERA ARGENTINA	N	Sugar	74	113
EDIT. ATLANTIDA ...	N	Printing	75	80
CIA.GRAL.DE COMBUSTIBLES	F	Oil	76	103
SAFRA	N	Meat	77	92
FERRUM	F	Ceramics	78	90
PEPSI-COLA	F	Beverages	79	89
RIGOLLEAU	F	Glass	80	88
SIEMENS	F	Electrical prod...	81	72
MOLINOS FENIX	N	Food	82	136
KICSA	N	Aluminium	83	68
ASTARSA	N	Shipbuilding	84	120
CAMEA	F	Aluminium	85	67
ATANOR	F	Chemicals	86	116
GIOL	N	Beverages	87	36
LA VASCONGADA	N	Food	88	115
PFIZER	P	Chemicals	89	152
MASSUH	N	Paper	90	151
VASA	N	Glass	91	117
FIAT MATERFER	F	Mechanics	92	S/D
CENTENERA	N	Packaging	93	95
PESCARMONA	N	Metalworking	94	119
NOEL	N	Food	95	121
FEDERAL	N	Chemicals	96	102
GILLETE	F	Cosmetics	97	108
LA OXIGENA	F	Chemicals	98	98
MINETTI Y CIA	N	Food	99	S/D
CAFE LA VIRGINIA ..	N	Food	100	145

Note: P: Public (state owned)
F: Foreing owned
N: Domestic, private capital

Source: Prensa Económica, August 1982.

TABLE B

SHARE OF PUBLIC ENTERPRISES IN THE ARGENTINE ECONOMY - MAIN INDICATORS

Variable-period	Share (%)
GDP (1980)	9,6
Gross Domestic Investment (1976-1980)	24,5
. Construction (1979)	16,1
. Equipment (1979)	29,4
Employment (1980)	4,36
Sectoral GDP (1974)	
. Mining	55,9
. Manufacturing	5,8 (1980=8,42)
. Electricity,gas,water	90,3
. Trade	1,6
. Transport and Communications	29,1
. Total sectors	11,0

Source: Fundación de Estudios Contemporáneos, cited in Informe Industrial Nº 66, 1983, and Secretaría Técnica de Desarrollo Industrial, op.cit.

in such activities increased from 1% to 5,5% of total investments (+). Industrial public enterprises are relevant in the following sectors:

a) Basic metals: The State accounts for 25,03% of the sectoral production. It controls SOMISA, the largest integrated steel plant. In 1981, public enterprises accounted for 45,5% of the volume of steel produced.

b) Chemicals and petrochemicals: About 64% of the oil refinery production and 45% of the installed capacity of the petrochemical industry (estimated at 2 million tons) are in the hands of a network of public and mixed (with state and private participation) enterprises. The chemical sector as a whole has 26% of state participation.

c) Paper: The state participates in two of four large projects for the production of paper, in one with 24% and in the other with 88% of the equity capital.

d) Other sectors: State enterprises account for 40% of the elaboration of wine. The largest shipbuilder is public; weaponry and the manufacture or certain equipment (road machinery, railway wagons, etcétera) are produced by state enterprises. On the other hand, all the iron is produced by the State; oil exploitation is a state monopoly -although private enterprises operate under service agreements- and the state enterprise refines 70% of oil; one of two big copper mines is state-owned and the production of uranium is controlled by a public corporation. The production of electricity is almost entirely made by State enterprises.

During the period 1976-1982, the government tried to sell or liquidate a number of participations, following a general policy of "privatization" of productive activities. Many equity holdings explained by previous "rescue" operations of "sick" companies were eliminated in this manner, including a number of important firms in the manufacturing sector (textiles, meatpacking, sugar,

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(+) See CEPAL, op.cit., p.21.

TABLE C

PERCENTAGE STRUCTURE OF THE STATE-OWNED MANUFACTURING INDUSTRY (1981)

Activity	Nº of companies	Employment	Value of Production
Total manufacturing	0,20	4,36	8,42
Food, beverages, tobacco...	0,23	2,01	0,97
Textiles, garments, leather.	0,02	0,07	0,09
Wood and furniture	0,14	1,75	0,70
Paper, printing, editorial.	0,27	2,98	4,38
Chemicals, rubber, plastics	0,60	8,40	26,29
Non metallic minerals	0,10	0,43	0,25
Basic metals, machinery and metalworking	0,50	27,91	25,03
Equipment	0,16	3,37	2,79
Other industries	0,00	0,00	0,00

Source: Secretaría Técnica, op.cit.

automaking, etcétera. Yet on the other hand, new industrial firms were created by the state, such as three companies in the Atomic energy sector and one builder of submarines.

II. Foreign investments

According to the United Nations Center on Transnational Corporations, the stock of foreign direct investment in Argentina at end-1978 was estimated in 3.340 U$S million. Annual average flows in 1978-1980 amounted to 637,4 U$S million, accounting for 1.06% of the GNP and 3% of domestic investment.

By 1973, the share of foreign enterprises in the manufacturing industry accounted for 10-12% of employment and 28% of sales in the sector (18,2% in 1955) (+). During 1955-1973, the rate of growth of industrial foreign subsidiaries was 8,8 %, against 4,3% of national firms. About 56% of FDI came from the U.S., 11% from Italy, 10% from the U.K., 10% from the FRG, and 5% from France. Two thirds are estimated to be located in the manufacturing sector.

Foreign participation is concentrated on several manufacturing branches characterized by large investments. The following represent roughly 85% of the value of foreign investments in Argentina in 1973.

(+) See UNCTC, Transnational Corporations in World Development, 1983. See also A.E.Calcagno, Informe sobre las inversiones directas extranjeras en América Latina, Cuadernos de la CEPAL, 1980.

TABLE D

Industries	Share of Foreign participation (%)
Automotives	96,4
Oil refinery	40,7
Cigarettes	99,6
Beverages	86,9
Synthetic fibers	88,2
Engines and turbines	90,7
Balanced food	58,1
Alcoholic beverages	72,7
Plastics and synthetic resins	66,1
Autoparts	37,5
Non ferrous metals	33,7
Tires	67

Source: ECLA (Buenos Aires Office), based on data of the 1973 Census.

Foreign penetration in the industry of Argentina started to increase in the early 60s. In the latter part of this decade, a number of de-nationalizations took place, such as in the cigarettes industry. During the early seventies, control-oriented legislation and other factors affected the speed of entry of foreign capital. The régime that took power in 1976 initiated an open-door policy for foreign investments, yet with the exception of operations in the oil sector and modernization investments in the automotive industry, foreign capital was not attracted to the argentine manufacturing sector, where a few --

cases of divestment took place in the automotive, chemicals and - other sectors.

2.5. Efficiency of manufacturing sector

According to the data derived from the 1973 census, in - that year total value added per employee in Argentina's manufacturing sector was U$S 6.100 (see Table 7). Significant differences existed at this respect between branches. In fact, the corre-sponding figure was 57.6 thousand for petroleum refineries while 2.5 thousand was the overall labour productivity in furniture. As a general pattern, those industries with a high capital -labour ratio- like the ones producing intermediates goods -had a higher value added per employee than either the capital goods or the consumer goods industries. Some branches are constituted by a small number of establishments most of them of large size. This is the -- case of petroleum refineries which by 1983 had only 40 production units. It's not surprising then to find out that the ratio of -- value added per establishments in those branches is much bigger than the average. On the contrary, the referred coefficient is low in the case of branches in which small and medium size firms predominate (i.e. metal products or furniture).

Table 7 also allows to notice the differences that exist between branches with respect to the share of wages and salaries in value added. Consistent with the data already presented, pe-- troleum refineries have the lowest share while transport equip-- ment the highest. Some branches with a significant labour intensity such as furniture, leather products or some capital goods - present a higher than average ratio. At the same time, the data suggest a relatively small variation on the respective shares -- among branches.

In order to present a more complete picture of the performance of the country's manufacturing sector, in table 7A data on the evolution of total industrial employment for the 1971-81 period has been included. The information corresponds to a ---- special survey conducted by the Statistical Office.

Argentina [illegible]
July, 1983

[illegible] output, value added, wages and salaries, employment, establishments and employees
Values [illegible] current prices, 1973 - In million pesos

ISIC	ISIC - DESCRIPTION	Gross output 1973	Value added 1973	Wages and salaries 1973	Employment 1973	Nº of establishments 1973	Employees a/ 1973	Employees a/ 1981
3110/3120	Food products	44.375	13.851	3.603	260.676	15.636	216.856	178.993
3130	Beverages	12.246	4.541	745	50.897	7741	37.061	37.044
3140	Tobacco	3.972	633	191	8.791	85	8.648	7.028
3210	Textiles	20 440	7485	2 142	134.151	6125	122.697	57.263
3220	Wearing apparel, exc. footwear	5.629	2268	574	64.130	7597	50.520	26.265
3230	Leather products	1.384	531	166	[illegible]	1595	12.290	8.738
3240	Footwear, exc. rubber or plastic	2.096	919	[illegible]	32.135	2703	[illegible]	14.965
3310	Wood products, exc. furniture	3 060	1537	431	[illegible]	11790	35.260	27.633
3320	Furniture, exc. metal	1.741	825	309	33.667	7858	20.842	14.291
3410	Paper and products	5.174	2130	551	29.446	1071	27.408	22187
3420	Printing and publishing	3 655	2186	725	42.772	4373	34.657	26.727
3510	Industrial chemicals	7 204	3 140	461	24.206	915	28.016	21236
3520	Other chemicals	9 566	5 309	1329	[illegible]	2 112	55.611	41.931
3530	Petroleum refineries	12 672	5880	364	[illegible]	40	10.040	8785
3540	Misc. petroleum and coal products	636	219	34	[illegible]	127	1960	1744
3550	Rubber products	4075	2171	423	21.646	988	19.382	17.379
3560	Plastic products	2 412	1250	315	23.417	2125	21.427	15.655
3610	Pottery, china, earthenware	749	541	190	9.980	441	9.216	5.752
3620	Glass and products	1 453	850	290	[illegible]	510	15.275	10.527
3690	Other non met. mineral products	4751	2159	845	77.293	13.745	52 314	43 426
3710	Iron and steel	16 055	7162	1641	65.664	734	63.543	51247
3720	Non-ferrous metals	2759	959	287	15.575	767	14.385	12.462
3810	Fabricated metal products	10 812	5 425	1 643	123.416	17 854	94.035	64.548
3820	Machinery, exc. electrical	10 028	4967	1611	[illegible]	4773	80.614	36.574
3830	Machinery electric	6 813	3649	1 187	[illegible]	3028	53.947	30.743
3840	Transport equipment	23 963	9351	3760	[illegible]	4367	163.246	121.030
3850	Professional & scientific equip.	736	451	145	8442	538	7.472	5.251
3900	Other manufactured products	873	497	137	15.312	2993	9.953	10.062
3000	TOTAL MANUFACTURING	219 329	92.846	24.444	1.523.221	126.388	1.793.170	918.021

SOURCE: INDEC: "Censo Nacional Económico. Año 1974"
For 1981, estimates from Consejo Federal de Inversiones
a/ Includes only pay roll employees

[illegible] output, value added, wages and salaries, employment, establishments and employees
Branch shares (in per cent) in total manufacturing, 1973

[illegible]
July, 1983

ISIC	ISIC - DESCRIPTION	Gross output 1973	Value added 1973	Wages and salaries 1973	Employment 1973	Nº of establishments 1973	Employees 1973	Employees 1981
311[illegible]/3120	Food products	20.23	14.9	14.56	17.09	15.54	16.77	19.50
3130	Beverages	5.58	4.9	3.41	3.34	6.12	2.86	4.04
3140	Tobacco	1.84	0.7	0.77	0.58	0.07	0.67	0.77
3210	Textiles	9.32	8.1	8.66	8.80	4.85	9.49	6.24
3220	Wearing apparel, exc. footwear	2.54	2.4	2.32	4.20	6.24	3.51	2.86
3230	Leather products	1.03	0.6	0.67	1.60	1.26	0.95	0.95
3240	Footwear, exc. rubber or plastic	0.95	1.1	1.30	2.11	2.14	2.66	1.63
3310	Wood products, exc. furniture	1.90	1.7	1.74	3.54	4.33	2.73	3.01
3320	Furniture, exc. metal	0.79	0.9	1.25	2.21	6.25	1.61	1.56
3410	Paper and products	2.20	2.3	2.23	1.93	0.85	2.12	2.42
3420	Printing and publishing	1.67	2.3	2.93	2.80	3.46	2.68	2.91
3510	Industrial chemicals	2.78	4.1	3.08	1.91	0.64	2.17	2.31
3520	Other chemicals	4.26	5.1	5.41	3.89	1.67	4.30	4.57
3530	Petroleum refineries	5.78	6.2	1.47	0.66	0.03	0.78	0.56
3540	Misc. petroleum and coal products	0.29	0.2	0.14	0.14	0.10	0.15	0.19
3550	Rubber products	1.86	2.3	1.75	1.42	0.79	1.54	1.89
3560	Plastic products	1.10	1.4	1.27	1.67	1.68	1.66	1.64
3610	Pottery, china, earthenware	0.34	0.6	0.77	0.66	0.33	0.71	0.57
3620	Glass and products	0.66	1.0	1.17	1.08	0.44	1.18	1.15
3690	Other non met. mineral products	2.11	3.1	3.41	5.07	10.48	4.04	4.73
3710	Iron and steel	7.32	7.7	6.63	4.26	0.58	4.91	5.58
3720	Non-ferrous metals	1.26	1.1	1.16	1.04	0.61	1.11	1.36
3810	Fabricated metal products	4.93	5.8	6.64	8.09	14.13	7.27	7.03
3820	Machinery, exc. electrical	4.37	5.4	6.51	5.83	3.78	6.19	3.78
3830	Machinery electric	3.11	3.9	4.80	3.38	2.39	4.17	3.29
3840	Transport equipment	10.92	10.6	15.20	11.25	2.45	12.62	12.15
3850	Professional & scientific equip.	0.34	0.5	0.60	0.55	0.42	0.58	0.51
3900	Other manufactured products	0.40	0.5	0.55	1.00	2.37	0.77	1.10
3000	TOTAL MANUFACTURING	100.00	100.0	100.00	100.00	100.00	100.00	100.00

SOURCE: Same as Table 5

Table 7. Performance of manufacturing sector by branches, 1973

Argentina 2.5
July, 1983

ISIC	ISIC - DESCRIPTION	Value added per employee a/ 1973		Value added per establishment a/ 1973		Shares of wages and salaries in value added 1973		Share of value added in gross output b/ 1973		Value added per paid worker a/ 1973			
3110/3120	Food products	5.3		70.6		26.0		31.2		11.0			
3130	Beverages	8.9		58.8		16.4		37.1		12.3			
3140	Tobacco	7.2		745.5		30.2		15.9		7.3			
3210	Textiles	5.6		122.2		28.6		36.6		6.1			
3220	Wearing apparel, exc. footwear	3.5		28.8		25.3		40.3		4.5			
3230	Leather products	5.5		33.4		31.3		27.4		4.3			
3240	Footwear, exc. rubber or plastic	3.1		36.3		32.8		46.7		3.7			
3310	Wood products, exc. furniture	2.9		13.0		28.0		50.2		4.4			
3320	Furniture, exc. metal	2.5		10.4		37.5		47.4		4.0			
3410	Paper and products	7.2		199.3		25.9		41.2		7.8			
3420	Printing and publishing	5.1		50.0		33.2		59.8		6.3			
3510	Industrial chemicals	13.2		471.9		19.8		53.3		13.7			
3520	Other chemicals	9.0		251.5		25.2		55.5		9.6			
3530	Petroleum refineries	57.6		14,529.0		6.3		45.8		51.9			
3540	Misc. petroleum and coal products	10.0		172.3		15.5		34.4		11.1			
3550	Rubber products	10.0		217.9		19.9		53.3		10.9			
3560	Plastic products	4.9		58.9		25.2		51.8		5.8			
3610	Pottery, china, earthenware	5.4		131.8		35.1		72.2		5.9			
3620	Glass and products	5.4		[illegible]		32.6		64.3		5.8			
3690	Other non met. mineral products	3.7		21.5		25.6		60.2		5.5			
3710	Iron and steel	11.0		931.0		22.9		44.6		11.3			
3720	Non-ferrous metals	6.3		130.3		27.7		36.2		7.0			
3810	Fabricated metal products	4.4		30.1		30.3		50.2		5.8			
3820	Machinery, exc. electrical	5.6		104.2		32.4		49.5		6.2			
3830	Machinery electric	6.2		120.7		32.5		53.6		6.8			
3840	Transport equipment	5.8		226.5		38.1		41.2		6.1			
3850	Professional & scientific equip.	5.3		84.0		33.0		61.2		6.0			
3900	Other manufactured products	3.3		16.6		27.6		56.9		5.0			
3000	TOTAL MANUFACTURING	6.1		73.6		26.6		42.3		7.2			

SOURCE: INDEC "Censo Nacional Económico. Año 1974"
For 1981, estimates from Consejo Federal de Inversiones

NOTE: Exchange rate 9.98 pesos per dollar

FOOTNOTES: a/ In thousands dollars
b/ In per cent

[illegible] Index of employment (1970 = 100) 1971-1981

[illegible]
July, 1983

ISIC	ISIC - DESCRIPTION	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
3110/3120	Food products	101.2	108.1	[illegible]	122.2	120.3	123.2	117.7	105.0	104.7	[illegible]	93.6
3130	Beverages	100.3	106.1	108.3	117.8	126.5	121.0	119.1	111.1	114.6	116.9	108.4
3140	Tobacco	97.5	104.9	100.0	102.8	112.6	117.6	97.8	92.7	94.4	90.8	81.3
3210	Textiles	100.5	99.2	97.7	105.6	109.2	105.3	96.9	54.8	75.8	60.4	45.6
3220	Wearing apparel, exc. footwear	104.8	107.4	110.4	118.0	119.1	111.9	99.2	87.9	82.7	65.0	57.4
3230	Leather products	109.6	122.2	135.5	154.3	149.2	152.2	159.8	161.9	146.3	115.1	99.4
3240	Footwear, exc. rubber or plastic	97.8	98.4	91.7	94.1	90.8	82.1	69.3	55.7	66.3	53.7	51.6
3310	Wood products, exc. furniture	103.6	105.4	106.8	113.8	135.3	136.3	130.2	114.3	113.6	93.0	83.7
3320	Furniture, exc. metal	91.7	93.3	94.8	94.3	84.1	71.9	61.8	58.1	57.9	64.0	65.0
3410	Paper and products	103.9	108.3	116.0	117.3	122.0	124.1	113.9	119.0	117.1	100.8	93.9
3420	Printing and publishing	98.8	94.6	94.4	97.3	97.7	95.4	74.4	70.6	69.3	75.0	72.8
3510	Industrial chemicals	[illegible]	106.7	109.5	113.4	121.3	124.6	115.2	106.6	102.2	95.9	83.0
3520	Other chemicals	[illegible]	104.5	106.1	110.2	144.3	111.6	100.1	95.5	94.4	88.6	80.0
3530	Petroleum refineries	101.6	113.2	114.6	126.2	137.4	164.1	145.3	136.1	120.6	105.7	107.9
3540	Misc. petroleum and coal products	91.7	94.5	81.5	90.2	96.1	98.6	96.7	77.5	84.3	91.1	73.1
3550	Rubber products	106.7	110.1	121.5	131.6	141.5	141.8	140.7	125.7	134.3	125.2	106.2
3560	Plastic products	95.5	110.7	190.3	200.7	207.2	119.5	154.9	136.5	144.2	109.2	134.0
3610	Pottery, china, earthenware	100.5	110.7	112.3	114.0	113.7	115.5	100.1	87.0	96.3	95.4	64.0
3620	Glass and products	95.9	105.1	113.3	[illegible]	113.6	103.9	108.6	109.0	99.6	89.1	74.2
3690	Other non met. mineral products	[illegible]	100.2	96.5	102.6	107.0	102.9	95.2	91.9	94.2	85.6	80.1
3710	Iron and steel	101.8	111.0	121.4	128.5	134.2	129.1	126.0	117.5	117.3	112.6	97.9
3720	Non-ferrous metals	123.3	124.4	137.6	137.3	147.0	140.6	137.1	127.2	128.4	126.2	115.2
3810	Fabricated metal products	104.2	107.7	112.9	118.2	119.0	111.1	105.1	97.8	99.9	91.6	74.5
3820	Machinery, exc. electrical	99.4	102.6	104.2	114.9	116.5	109.4	111.3	95.6	85.2	71.5	49.0
3830	Machinery electric	102.3	103.2	101.5	101.4	95.4	91.8	88.5	81.3	78.6	74.7	56.9
3840	Transport equipment	102.5	110.5	111.3	124.7	134.6	131.8	118.9	101.7	104.3	104.5	87.0
3850	Professional & Scientific equip.	101.0	105.8	122.8	144.1	113.4	155.0	145.4	143.1	131.5	95.9	79.0
3900	Other manufactured products											
3000	TOTAL MANUFACTURING	103.0	109.2	105.6	114.8	119.2	115.3	108.2	97.7	95.6	88.2	77.1

SOURCE: INDEC: "Evolución de la Industria Manufacturera. 1970 - 1981"

The data is particularly revealing of the significance of the country's industrial crisis from 1976 on. In fact, the index of employment increased from 1970 to 1975 in 19% but came down to 77 in 1981. Some branches like textiles and non elec--tric machinery had reduced by 1981 their total labour force by more than half the figure of 1970. Only a few branches, most of them of relatively less importance (i.e. plastic products, --- beverages) experienced an increase in their absolute level of employment by 1981.

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

Exports of manufactures accounted for more than half of Argentina's total exports during the 1970-80 period. According to table 8, this trend has been relatively stable at least for the three years for which official data are presented. Imports of manufactures, on the other hand, have represented traditionally a bigger share of total imports. For the years mentioned, the corresponding participation has been over four-fifths. As a result of the disimilar relevance of manufactures in the structure of exports and imports, the country has had a persistent - negative trade balance in its trade of industrial products, which of course have grown substantially when Argentina has incurred, as in 1980, into important trade deficits. If a more restrictive definition of manufactures is used (SITC 5-8 less 68) the bal-- ance between exports and imports is even more asymmetrical. Thus for 1980, for instance, the former accounted for U$S 1.856 thousand while the latter summed up to U$S 8.150 thousand.

Meat and meat preparations represent the most important single item in Argentina's exports of manufactures, although -- its relative importance has been diminishing steadily during -- the seventies (see table 8). Other important goods are machinery and transport equipment, vegetable oils, feeding-stuff for - animals and chemical products. The data indicates that certain items such as chemicals, leather goods, and non-ferrous metals have increased their share in total exports during the seventies. Others, such as non electric machinery and transport equipment experienced a significant expansio in the first half of the -- decade but lost their impetus in the second half. As it will be referred to in section 3, this performance is a consequence of a set of policies implemented during those years.

With regard to imports, the most relevant items are machinery, chemicals, transport equipment and iron and steel. The data in table 8 indicate that by the end of the decade the ---

share of transport equipment had grown significantly and that a similar development occurred with respect to electrical machinery and appliances. Given the fact that total imports of manufactures trebled between 1975-80 the above mentioned growth in relative shares clearly suggests the dynamism that that trade acquired.

Exports of manufactures have in other developing countries an important market, particularly if a restricted definition of those goods is used (see table 9 B). On the contrary, - the origin of most imports of those products are the developed countries (table 9 A). This means that Argentina has usually a positive trade balance on manufactures with less developed na-- tions, and particularly with other countries of Latin America, but a deficit with developed nations.

In addition to it's trade in manufactures, Argentina - also participates in the "technology trade". The interesting comment to make at this respect is that the country has started in the last decades to become an exporter of technology. Industrial firms established in the country have sold turn-key plants, licenses or other technical knowledge abroad in a series of manufacturing activities, specially in the Latin American region. A recent survey has estimated that between 1973-80 argentine firms were involved in 61 industrial projects abroad, with total ex-- ports of technology amounting to 160 million dollars. (+).

(+) See Interamerican Development Bank, Economic and Social Progress in Latin America, The External Sector, 1982, Washington.

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TABLE 8. PRODUCT MIX OF TRADED MANUFACTURED GOODS ,1970,1975,1980 */

SITC	DESCRIPTION OF TRADE GOODS	EXPORTS 1970 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1975 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1980 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1980 (1000 US $)	IMPORTS 1970 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1975 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1980 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1980 (1000 US $)
01	Meat and meat preparations	43.527	18.270	19.694	965929	0.000	0.008	0.561	50826
02	Dairy products and eggs	0.188	1.399	0.430	21100	0.421	0.053	0.512	46409
032	Fish n.e.s. and fish preparations	0.033	0.055	0.059	2901	0.021	0.006	0.090	8902
0422	Rice,glazed or polished not otherwise worked	0.653	1.065	0.404	19801	...	...	0.016	1424
046	Meal and flour of wheat or of meslin	0.636	1.465	0.171	8397	0.000	...	0.000	33
047	Meal and flour of cereals,except above	...	...	0.000	6	0.000	...	...	...
048	Cereals preparat. & starch of fruits & vegetab.	0.322	1.015	0.345	16932	0.005	0.001	0.143	12929
052	Dried fruit	0.366	0.308	0.296	14520	0.044	0.009	0.025	2272
053	Fruit,preserved and fruit preparations	0.569	0.722	1.059	51932	0.132	0.161	0.164	14863
055	Vegetables,roots & tubers,preserved or prepared	0.498	0.766	0.441	21636	0.024	0.003	0.213	19334
06	Sugar,sugar preparations and honey	1.737	8.402	6.919	339385	0.028	0.025	0.163	14793
0713	Coffee extracts,essences,concentrates & similar	...	...	...	...	0.000	...	0.018	1594
0722	Cocoa powder,unsweetened	...	...	0.000	13	0.000	...	0.007	605
0723	Cocoa butter and cocoa paste	...	0.000	...	...	0.154	0.210	0.390	35369
073	Chocolate and related food preparations	0.010	0.017	0.010	472	0.009	0.001	0.109	9865
074	Tea and mate	1.007	1.045	0.764	37468	0.049	0.001	0.023	2053
081	Feeding-stuff for animals	11.247	8.982	8.415	412721	0.125	0.012	0.044	3996
09	Miscellaneous food preparations	0.489	0.322	0.513	25172	0.192	0.074	0.175	15830
11	Beverages	0.078	0.300	0.310	15208	0.411	0.328	0.495	44821
122	Tobacco manufactures	0.022	0.044	0.005	253	0.042	0.007	0.103	9365
2219	Flour and meal of oil seeds,nuts,kernels	...	...	...	...	0.008	0.000	...	...
231	Crude rubber,synth. & reclaimed(excl.SITC 2311)	0.362	0.179	0.098	4816	0.608	0.533	0.337	30519
243	Wood,shaped or simply worked	0.001	0.001	0.003	150	4.029	2.714	1.579	143104
251	Pulp and waste paper	0.006	0.001	...	...	2.224	2.337	0.771	69838
2626	Wool shoddy	0.005	0.007	0.003	140	..	...	...	...
2627	Wool or other animal hair,carded or combed	0.229	...	...	...	0.004	0.003	0.000	35
2628	Wool tops	0.389	0.705	0.720	35293	...	...	...	...
2629	Waste of wool and other animal hair n.e.s.	0.163	0.166	0.070	3427	...	...	...	...
263	Cotton	2.437	2.569	2.565	126791	0.472	0.731	0.223	20164
266	Synthetic and regenerated(artificial) fibres	0.027	0.001	0.028	1217	0.247	0.238	0.324	29365
267	Waste materials from textile fabrics(incl.rags)	0.011	0.001	0.001	32	0.000	0.000	0.006	571
332	Petroleum products	0.717	0.771	5.655	277341	1.862	2.494	1.687	152862
4	Animal and vegetable oils and fats	9.823	5.633	10.319	506127	0.150	0.190	0.093	8458
411	Animal oils and fats	2.108	0.003	0.585	28897	0.007	0.005	0.006	580
421	Fixed vegetable oils,soft(incl.SITC 422)	7.279	5.572	9.621	471886	0.087	0.150	0.048	4353
431	Animal and vegetable oils and fats processed	0.436	0.058	0.109	5344	0.056	0.036	0.039	3525

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TABLE 8. PRODUCT MIX OF TRADED MANUFACTURED GOODS ,1970,1975,1980 */

SITC	DESCRIPTION OF TRADE GOODS	EXPORTS 1970 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1975 PERCENT	EXPORTS 1980 PERCENT	EXPORTS 1980 (1000 US $)	IMPORTS 1970 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1975 PERCENT	IMPORTS 1980 PERCENT	IMPORTS 1980 (1000 US $)
5	Chemicals	5.437	7.443	8.060	395349	15.283	23.561	14.332	1298739
51	Chemicals elements and compounds	1.219	2.780	3.893	190932	7.399	12.587	6.295	570404
52	Tar and chemicals from coal,petroleum,nat. gas	0.002	0.002	0.048	2377	0.111	0.266	0.098	8861
53	Dyeing,tanning and colouring materials	1.584	1.683	0.997	48881	0.857	1.079	0.672	60873
54	Medicinal and pharmaceutical products	1.469	1.523	0.750	36775	1.850	2.022	1.435	130011
55	Essential oils and perfume materials	0.238	0.305	0.730	35812	0.438	0.671	0.588	53288
56	Fertilizers,manufactured	0.024	0.006	0.012	589	0.354	0.513	0.425	38538
57	Explosives and pyrotechnic products	0.005	0.082	0.031	1536	0.069	0.032	0.209	18962
58	Plastic materials,regenerated cellul. & resins	0.237	0.180	0.224	10979	1.563	3.487	2.698	244535
59	Chemical materials and products n.e.s.	0.661	0.883	1.376	67469	2.643	2.904	1.912	173266
6	Manufactured goods classified by material	8.743	8.961	16.408	804781	33.257	36.608	19.140	1734494
61	Leather manufactured n.e.s. & dressed fur skins	3.591	4.206	7.678	376601	0.015	0.000	0.107	9707
62	Rubber manufactures n.e.s.	0.405	0.182	0.161	7879	0.393	0.524	0.804	72863
63	Wood and cork manufactures(excl.furniture)	0.006	0.011	0.004	215	0.074	0.199	0.351	31771
64	Paper,paper board and manufactures thereof	0.179	0.269	0.355	17416	4.453	3.487	2.574	233236
65	Textile yarn,fabrics,made-up articles	0.459	0.151	0.736	36087	1.725	0.948	2.537	229861
66	Non-metallic mineral manufactures,n.e.s.	0.236	0.363	0.570	27938	1.865	1.231	2.007	181911
67	Iron and steel	2.767	1.410	2.935	143939	16.371	23.748	6.565	594902
68	Non-ferrous metals	0.195	0.039	2.837	139127	5.786	5.199	1.782	161521
69	Manufactures of metal,n.e.s.	0.905	2.330	1.133	55579	2.555	1.271	2.414	218721
7	Machinery and transport equipment	6.562	25.307	10.695	524590	34.923	25.768	46.790	4240046
71	Machinery,other than electric	4.749	13.613	5.970	292813	23.228	16.397	21.645	1961439
72	Electrical machinery,apparatus and appliances	0.808	2.397	1.489	73027	6.528	5.112	13.822	1252550
73	Transport equipment	1.004	9.297	3.227	158750	5.166	4.260	11.323	1026057
8	Miscellaneous manufactured articles	3.707	4.071	5.523	270879	5.274	3.924	11.459	1038427
81	Sanitary,plumbing,heating & lightning fixtures	0.016	0.096	0.020	998	0.047	0.020	0.241	21799
82	Furniture	0.012	0.095	0.101	4931	0.016	0.002	0.158	14286
83	Travel goods,handbags and similar articles	0.018	0.065	0.250	12254	0.014	0.001	0.087	7878
84	Clothing	1.547	1.004	2.869	140720	0.158	0.030	1.726	156386
85	Footwear	0.030	0.273	0.041	2009	0.004	0.002	0.402	36450
86	Professional,scient. & controll. instruments	0.445	0.732	0.844	41402	3.029	2.607	3.866	350337
89	Miscellaneous manufactured articles,n.e.s.	1.639	1.786	1.398	68565	2.007	1.260	4.980	451289

	Exports 1970	Exports 1975	Exports 1980	Imports 1970	Imports 1975	Imports 1980
TOTAL MANUFACTURES	1013880	1578111	4904776	1487211	3141769	9061905
TOTAL: SITC 5-8 LESS 68 a/	245894	721851	1856471	1233646	2659869	8150184
TOTAL TRADED GOODS: SITC 0-9	1773173	2961264	8021402	1688566	3945306	10539232

Note:Data and SITC descriptions refer to SITC revision 1

*/ 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 9A. ORIGIN OF IMPORTS OF MANUFACTURES BY BRANCHES, 1980 */

SITC	DESCRIPTION OF TRADE GOODS	WORLD TOTAL (1000 US$)	DEVELOPING COUNTRIES (PERCENT)	DEVELOPED MARKET ECONOMIES TOTAL (PERCENT)	DEVELOPED MARKET ECONOMIES USA (PERCENT)	DEVELOPED MARKET ECONOMIES EEC (PERCENT)	DEVELOPED MARKET ECONOMIES JAPAN (PERCENT)	CENTRALLY PLANNED DEVELOPED COUNTRIES (PERCENT)
01	Meat and meat preparations	50826	43.87	52.73	12.13	38.61	0.00	3.39
02	Dairy products and eggs	46409	21.67	75.99	8.04	29.34	0.00	2.35
032	Fish n.e.s. and fish preparations	8902	63.68	21.38	0.63	2.33	0.12	0.00
0422	Rice,glazed or polished not otherwise worked	1424	99.98	0.02	0.00	0.00	0.00	0.00
046	Meal and flour of wheat or of meslin	33	0.00	100.00	0.00	0.00	20.80	0.00
048	Cereals preparat. & starch of fruits & vegetab.	12929	5.68	94.27	1.82	88.53	0.07	0.00
052	Dried fruit	2272	49.56	50.44	30.80	1.25	0.00	0.00
053	Fruit,preserved and fruit preparations	14863	64.56	35.32	9.45	8.99	0.00	0.01
055	Vegetables,roots & tubers,preserved or prepared	19334	27.64	70.47	5.99	26.82	0.01	0.32
06	Sugar,sugar preparations and honey	14753	19.18	75.89	25.88	24.14	0.91	0.50
0713	Coffee extracts,essences,concentrates & similar	1594	96.44	3.56	0.00	3.56	0.00	0.00
0722	Cocoa powder,unsweetened	605	82.73	17.27	17.27	0.00	0.00	0.00
0723	Cocoa butter and cocoa paste	35369	99.87	0.13	0.02	0.11	0.00	0.00
073	Chocolate and related food preparations	9865	38.04	61.96	19.39	38.32	1.68	0.00
074	Tea and mate	2053	66.88	33.12	0.29	32.59	0.23	0.00
081	Feeding-stuff for animals	3996	54.84	44.80	27.23	10.92	0.68	0.24
09	Miscellaneous food preparations	15830	61.39	38.56	3.49	18.53	0.85	0.00
11	Beverages	44821	14.73	84.96	3.05	72.42	1.52	0.31
122	Tobacco manufactures	9365	2.42	97.58	54.28	42.00	0.00	0.00
231	Crude rubber,synth & reclaimed(excl.SITC 2311)	30519	2.88	97.03	57.71	27.25	8.43	0.08
243	Wood,shaped or simply worked	143104	93.45	6.55	3.82	0.04	0.00	0.00
251	Pulp and waste paper	69838	75.49	24.51	11.80	0.03	0.00	0.00
2627	Wool or other animal hair,carded or combed	35	44.80	55.20	0.00	37.03	0.00	0.00
263	Cotton	20164	91.48	8.52	8.42	0.10	0.01	0.00
266	Synthetic and regenerated(artificial) fibres	29365	24.08	75.92	47.44	12.89	3.54	0.00
267	Waste materials from textile fabrics(incl.rags)	571	2.04	96.47	72.76	13.05	10.38	0.00
332	Petroleum products	152862	61.57	38.43	18.45	11.45	0.21	0.00
4	Animal and vegetable oils and fats	8458	58.75	41.25	11.68	24.80	0.39	0.00
411	Animal oils and fats	580	1.74	98.26	23.21	33.04	0.20	0.00
421	Fixed vegetable oils,soft(incl.SITC 422)	4353	90.86	9.14	3.38	3.13	0.00	0.00
431	Animal and vegetable oils and fats processed	3525	28.48	71.52	20.04	50.20	0.41	0.00

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TABLE 9A. ORIGIN OF IMPORTS OF MANUFACTURES BY BRANCHES, 1980 */

SITC	DESCRIPTION OF TRADE GOODS	WORLD TOTAL (1000 US$)	DEVELOPING COUNTRIES (PERCENT)	DEVELOPED MARKET ECONOMIES TOTAL (PERCENT)	DEVELOPED MARKET ECONOMIES USA (PERCENT)	DEVELOPED MARKET ECONOMIES EEC (PERCENT)	DEVELOPED MARKET ECONOMIES JAPAN (PERCENT)	CENTRALLY PLANNED DEVELOPED COUNTRIES (PERCENT)
5	Chemicals	1258739	13.34	84.31	32.76	34.88	2.45	2.18
51	Chemicals elements and compounds	570404	9.57	85.95	26.43	35.36	2.67	4.41
52	Tar and chemicals from coal,petroleum,nat. gas	8861	0.96	99.04	87.72	8.55	0.43	0.00
53	Dyeing,tanning and colouring materials	60873	10.23	89.26	17.60	49.24	7.17	0.29
54	Medicinal and pharmaceutical products	130011	8.16	90.77	21.88	46.95	2.44	0.93
55	Essential oils and perfume materials	53288	18.52	81.42	36.85	38.27	0.65	0.04
56	Fertilizers,manufactured	38538	15.27	82.49	74.91	4.21	0.10	2.24
57	Explosives and pyrotechnic products	18962	78.50	19.39	8.67	7.31	0.02	1.59
58	Plastic materials,regenerated cellul. & resins	244535	20.89	78.48	36.27	35.30	1.85	0.14
59	Chemical materials and products n.e.s.	173266	11.57	88.17	51.32	28.72	2.41	0.12
6	Manufactured goods classified by material	1734494	28.07	70.72	14.53	28.65	12.49	0.33
61	Leather manufactured n.e.s. & dressed fur skins	9707	7.60	91.76	5.15	82.99	1.55	0.23
62	Rubber manufactures n.e.s.	72863	27.60	70.58	22.78	32.08	4.25	0.43
63	Wood and cork manufactures(excl.furniture)	31771	52.91	44.99	3.48	6.75	0.29	0.03
64	Paper,paper board and manufactures thereof	233236	25.92	73.86	13.06	12.28	0.91	0.13
65	Textile yarn,fabrics,made-up articles	229861	32.23	66.03	27.36	20.38	13.22	0.45
66	Non-metallic mineral manufactures,n.e.s.	181911	33.95	64.65	14.80	36.70	2.39	0.30
67	Iron and steel	594902	16.89	82.91	6.75	38.82	26.99	0.16
68	Non-ferrous metals	161521	71.78	28.19	8.28	14.91	1.01	0.00
69	Manufactures of metal,n.e.s.	218721	16.60	78.42	27.46	30.25	6.52	1.13
7	Machinery and transport equipment	4240046	11.16	86.91	29.25	32.81	13.53	1.14
71	Machinery,other than electric	1961439	10.88	87.35	32.02	37.46	6.54	1.83
72	Electrical machinery,apparatus and appliances	1252550	13.89	83.20	22.91	33.33	18.84	0.82
73	Transport equipment	1026057	8.95	90.60	31.71	23.30	20.40	0.24
8	Miscellaneous manufactured articles	1038427	25.52	69.74	24.95	19.44	14.33	0.48
81	Sanitary,plumbing,heating & lighting fixtures	21799	49.59	48.55	8.98	27.67	1.23	0.04
82	Furniture	14266	22.70	71.46	19.58	38.23	6.97	2.15
83	Travel goods,handbags and similar articles	7878	33.84	48.72	31.80	8.93	3.03	0.18
84	Clothing	156386	35.04	60.25	33.97	19.17	2.84	0.09
85	Footwear	36450	35.32	41.15	27.53	7.80	4.40	0.05
86	Professional,scient. & controll. instruments	350337	21.55	76.88	24.98	20.70	21.07	0.87
89	Miscellaneous manufactured articles,n.e.s.	451289	23.30	71.19	22.41	16.68	14.94	0.33
	TOTAL manufactures	9061905	20.20	77.72	25.17	29.51	10.77	1.00
	TOTAL: SITC 5-8 LESS 68 a/	8150184	15.74	82.03	3.24	30.91	11.89	0.00
	TOTAL traded goods: SITC 0-9	10539232	29.21	68.96	22.57	25.87	9.27	0.90

Note:Data and SITC descriptions refer to SITC revision 1

*/ 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 9B. DESTINATION OF EXPORTS OF MANUFACTURES BY BRANCHES, 1980 */

SITC	DESCRIPTION OF TRADE GOODS	WORLD TOTAL (1000 US$)	DEVELOPING COUNTRIES (PERCENT)	DEVELOPED MARKET ECONOMIES TOTAL (PERCENT)	USA (PERCENT)	EEC (PERCENT)	JAPAN (PERCENT)	CENTRALLY PLANNED DEVELOPED COUNTRIES (PERCENT)
01	Meat and meat preparations	965929	11.81	70.06	14.42	41.18	2.71	18.14
02	Dairy products and eggs	21100	68.61	31.39	20.73	1.36	0.00	0.00
032	Fish n.e.s. and fish preparations	2901	44.60	55.40	37.46	0.61	13.40	0.00
0422	Rice,glazed or polished not otherwise worked	19801	93.03	6.97	0.00	6.22	0.00	0.00
046	Meal and flour of wheat or of meslin	8397	100.00	0.00	0.00	0.00	0.00	0.00
047	Meal and flour of cereals,except above	6	100.00	0.00	0.00	0.00	0.00	0.00
048	Cereals preparat. & starch of fruits & vegetab.	16932	98.39	1.61	1.42	0.02	0.00	0.00
052	Dried fruit	14520	87.36	12.64	0.74	11.22	0.00	0.00
053	Fruit,preserved and fruit preparations	61932	12.91	87.09	54.31	26.42	2.30	0.00
055	Vegetables,roots & tubers,preserved or prepared	21636	99.36	0.64	0.64	0.00	0.00	0.00
06	Sugar,sugar preparations and honey	339365	33.74	52.27	46.60	4.27	0.61	13.99
0722	Cocoa powder,unsweetened	13	46.88	53.12	0.00	0.00	0.00	0.00
073	Chocolate and related food preparations	472	93.29	6.71	4.41	0.00	0.00	0.00
074	Tea and mate	37468	56.42	43.50	25.07	13.98	0.02	0.08
081	Feeding-stuff for animals	412721	9.41	85.68	0.02	78.26	3.89	4.91
09	Miscellaneous food preparations	25172	88.46	11.54	4.08	4.27	0.35	0.00
11	Beverages	15208	73.36	26.24	10.87	5.13	7.52	0.40
122	Tobacco manufactures	253	99.75	0.25	0.00	0.25	0.00	0.00
231	Crude rubber,synth. & reclaimed(excl.SITC 2311)	4816	92.83	7.17	0.00	7.17	0.00	0.00
243	Wood,shaped or simply worked	150	99.27	0.73	0.73	0.00	0.00	0.00
2626	Wool shoddy	140	87.56	12.44	12.44	0.00	0.00	0.00
2628	Wool tops	35293	29.97	57.97	0.00	42.22	9.70	10.69
2629	Waste of wool and other animal hair n.e.s.	3427	11.02	76.27	35.62	29.68	10.62	12.72
263	Cotton	126791	27.47	62.95	0.27	19.03	35.47	0.00
266	Synthetic and regenerated(artificial) fibres	1217	89.50	10.50	0.00	10.50	0.00	0.00
267	Waste materials from textile fabrics(incl.rags)	32	50.45	49.55	49.40	0.15	0.00	0.00
332	Petroleum products	277341	34.68	65.32	4.90	58.86	1.55	0.00
4	Animal and vegetable oils and fats	506127	40.62	33.88	0.62	30.46	0.06	25.50
411	Animal oils and fats	28897	87.58	12.42	0.00	9.28	0.00	0.00
421	Fixed vegetable oils,soft(incl.SITC 422)	471886	37.74	34.91	0.67	31.80	0.06	27.35
431	Animal and vegetable oils and fats processed	5344	40.88	59.12	0.00	27.32	0.89	0.00

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TABLE 9B. DESTINATION OF EXPORTS OF MANUFACTURES BY BRANCHES, 1980 */

SITC	DESCRIPTION OF TRADE GOODS	WORLD TOTAL (1000 US$)	DEVELOPING COUNTRIES (PERCENT)	DEVELOPED MARKET ECONOMIES TOTAL (PERCENT)	DEVELOPED MARKET ECONOMIES USA (PERCENT)	DEVELOPED MARKET ECONOMIES EEC (PERCENT)	DEVELOPED MARKET ECONOMIES JAPAN (PERCENT)	CENTRALLY PLANNED DEVELOPED COUNTRIES (PERCENT)
5	Chemicals	395349	43.07	54.44	31.66	15.72	4.97	2.48
51	Chemicals elements and compounds	190932	40.14	58.96	32.29	16.24	9.45	0.90
52	Tar and chemicals from coal,petroleum,nat. gas	2377	38.14	61.86	13.25	48.60	0.00	0.00
53	Dyeing,tanning and colouring materials	48881	49.07	34.31	9.35	16.34	1.13	16.54
54	Medicinal and pharmaceutical products	36775	57.96	42.04	24.73	13.50	1.44	0.00
55	Essential oils and perfume materials	35812	41.87	58.06	44.68	10.30	0.00	0.00
56	Fertilizers,manufactured	589	100.00	0.00	0.00	0.00	0.00	0.00
57	Explosives and pyrotechnic products	1536	100.00	0.00	0.00	0.00	0.00	0.00
58	Plastic materials,regenerated cellul. & resins	10979	73.08	26.92	2.36	23.77	0.07	0.00
59	Chemical materials and products n.e.s.	67469	33.02	66.98	49.29	15.92	0.73	0.00
6	Manufactured goods classified by material	804781	34.50	54.13	12.63	25.87	6.20	11.20
61	Leather manufactured n.e.s. & dressed fur skins	376601	10.82	66.53	18.09	31.66	0.30	22.31
62	Rubber manufactures n.e.s.	7879	97.02	2.98	0.03	0.30	0.00	0.00
63	Wood and cork manufactures(excl.furniture)	215	52.07	47.93	21.26	26.58	0.00	0.00
64	Paper,paper board and manufactures thereof	174166	78.55	21.45	9.48	11.87	0.02	0.00
65	Textile yarn,fabrics,made-up articles	36087	33.45	60.82	2.41	37.03	0.00	5.72
66	Non-metallic mineral manufactures,n.e.s.	27938	96.36	3.64	0.63	1.29	0.90	0.00
67	Iron and steel	143939	79.86	17.29	9.68	6.09	0.04	2.85
68	Non-ferrous metals	139127	18.74	81.26	2.47	43.88	34.82	0.00
69	Manufactures of metal,n.e.s.	55579	63.81	36.19	24.06	5.86	0.02	0.00
7	Machinery and transport equipment	524590	77.62	21.94	6.86	9.45	2.73	0.12
71	Machinery,other than electric	292813	72.98	26.24	9.23	7.84	4.88	0.21
72	Electrical machinery,apparatus and appliances	73027	88.46	11.54	5.59	5.48	0.05	0.00
73	Transport equipment	158750	81.21	18.78	3.07	14.25	0.01	0.01
8	Miscellaneous manufactured articles	270879	47.85	51.97	16.86	24.27	0.17	0.18
81	Sanitary,plumbing,heating & lightning fixtures	998	88.84	11.16	11.00	0.13	0.00	0.00
82	Furniture	4931	73.82	26.18	18.44	6.68	1.01	0.00
83	Travel goods,handbags and similar articles	12254	49.83	50.17	44.38	5.05	0.12	0.00
84	Clothing	140720	23.81	75.86	18.89	43.11	0.12	0.34
85	Footwear	2009	47.40	52.60	31.76	18.65	0.00	0.00
86	Professional,scient. & controll. instruments	41402	91.09	8.91	1.52	6.22	0.07	0.00
89	Miscellaneous manufactured articles,n.e.s.	68565	68.28	31.71	16.59	1.70	0.27	0.01
	TOTAL manufactures	4904776	35.90	54.05	13.67	30.64	3.77	9.73
	TOTAL: SITC 5-8 LESS 68 a/	1856471	51.64	42.75	2.49	17.48	1.93	0.00
	TOTAL traded goods: SITC 0-9	8021402	32.39	45.02	8.95	27.08	2.63	22.36

Note:Data and SITC descriptions refer to SITC revision 1
*/ 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 1980 AND TREND GROWTH RATES 1970-1975 AND 1975-1980

CLASSES	EXPORTS				IMPORTS			
	CLASS SHARE OF TOTAL (PERCENTAGE)		CLASS GROWTH RATE (PERCENTAGE)		CLASS SHARE OF TOTAL (PERCENTAGE)		CLASS GROWTH RATE (PERCENTAGE)	
	1970	1980	1970-1975	1975-1980	1970	1980	1970-1975	1975-1980
A : Non-processed goods for further processing	42.25	36.06	18.32	18.36	9.42	8.75	35.10	8.50
B : Processed goods for further processing	14.52	22.64	18.10	33.60	29.59	17.73	25.27	10.04
C : Non-processed goods for final use	21.86	14.83	1.98	27.71	2.81	5.87	41.25	18.84
D : Processed goods for final use	21.37	26.47	26.20	19.81	58.18	67.65	12.05	33.32

	EXPORTS 1970	EXPORTS 1980	IMPORTS 1970	IMPORTS 1980
Sum of classes: A+B+C+D in 1000 current US$	1773173	8021402	1688566	10524762
Total trade SITC 0-9 in 1000 current US$	1773173	8021402	1688566	10539232

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 countrys" 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, objectives and targets

In the first months of 1976 a military uprising took over power from a freely elected government.

The economic program of the new régime aimed at "ordering" the economy, had as its most important objectives the following: a) abatement of inflation, b) liberalization of the financial and money markets, c) reduction of import tariffs, d) elimination of export subsidies and e) reduction of the government deficit and of the public's sector size as a whole (+). With respect to industrial policy, the program stated the importance of promoting basic industries, the need to increase industrial efficiency and its decision to encourage the private sector to carry out new investments.

During the first five years of application of the Program the priorities given to the different objectives were changed. As a result, the industrial sector was affected in various forms, according to the emphasis given to certain specific policies in different moments. It is difficult, hence, to refer to the impact of certain instruments of economic policy on the manufacturing sector as a whole, since such effects varied significantly among industrial branches.

At first, the authorities allowed industrial prices to behave freely while maintaining wages low in order to promote private investments. After some months, this policy was discontinued and a brief freeze in prices suddenly was enforced. The

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(+) See Adolfo Canitrot "La Disciplina como Objetivo de la Política Económica. Un ensayo sobre el Programa Económico del gobierno Argentino desde 1976", Desarrollo Económico, Nº 76, January-March, 1980.

priority given to stabilization over modernization of manufacturing activities from the very beginning of the program had a profound impact. Business confidence was affected and investments in industry were inhibited by the fall in local demand - that accompanied the stabilization policies. In fact, with salaries reduced and imports dearer(because of devaluations), manufacturing had to work with significant idle capacity. Exports of industrial goods increased but the reduction of export subsidies made this alternative less attractive than in the past.

Late in 1977 the government freed interest rates and -- capital movements. The first decision made credit -at least for an important segment of industrial firms- more expensive than before. Actually, this represented a significant departure from the past experience in which firms obtained finance at -- real negative interest rates. The increase in the real cost of money coupled with shrinking profits led entrepreneurs to perceive the rate of return of financial assets higher than -- that from industrial assets, and as a result investment decisions in this activity were postponed.

The liberalization of capital movements was supposed to contribute to an increased industrial finance. In fact, foreign loans expanded substantially during the period, causing a huge external indebtedness. Given the segmentation and imperfection of the argentine capital markets,foreign currency denominated loans became cheaper than credit in local currency. Thus industrial firms that had access to the former were in a much better position than those in the latter. Subsidiaries of international companies or big argentine enterprises were the main -- benefitiaries of the situation.

The economic program was structured under the assumption that import substitution policies followed in the past were -- responsible for the lack of efficiency of argentine industry.-

An increase in competition from imported goods was supposed to lead to a more rational allocation of resources and thus to the abandonment of certain overly protected industrial productions. At the same time, greater specialization of local firms should have contributed to an increase in manufacturing exports.

To obtain this goal the government lowered import --- tariffs. After a mild start, in 1978 a schedule was approved by which significant tariff reductions were anticipated for a five year period. For some branches of industry the lowering of import taxes was particularly harmful. This was the case, for example, of capital goods producers for which a faster reduction schedule was enforced.

Nevertheless, the crucial decision in terms of the --- opening of the economy had to do with the appreciation of the exchange rate. In fact, by 1978, the authorities decided to - tie the exchange rate to an anticipated devaluation schedule. Domestic prices were supposed to follow that pattern This - led prices of tradeable goods to approach the target, but -- those of non-tradeable goods continued rising. Most industrial products were in the first category and as a consequence began to face strong external competition simultaneously -- with an increase in their domestic costs. Of course, not all branches of industry were equally affected, since some activities with a high import content saw their relative costs diminish. At the same time, those firms that decided to renew - their equipment had an opportunity to do so.

The authorities saw the opening of the economy as a -- means to increase the competitiviness of industry. What actually occurred was that firms suffered foreign competition in the local market but with few possibilities of exporting their own - goods. This led many firms to lay off workers and to reduce -

their production activities, but only exceptionally to carry out the needed investments.

By 1981 the negative effects of the program were evi-- dent. In addition, firms were heavily indebted and a large -- number of bankruptcies deteriorated seriously the country's - financial system. The new economic team that took office in - 1981 intended to modify this situation. A series of signifi-- cant devaluations were decided, and a special refinancing --- scheme was announced in order to help industrial firms. Yet - as a result of the drastic reduction in imports and the need to serve the external debt which had reached record figures, - the country entered into a deep recession which deteriorated - further the industrial sector, and continued in 1982.-- By mid 1983, the government was limiting itself to manage the pervasive economic crisis in a context of increasing social - and business pressures matched by the requirements of debt re financing and stabilization objectives. The proximity of gen- eral elections, scheduled for the last quarter, made any -- major decision regarding policies for the industrial sector hardly improbable.

3.2. Policy instruments

The economic policy approach applied since 1976 had as one of its major objectives a profound restructuring of the industrial sector through the effects of the opening of the domestic economy to the international market forces and a drastic reduction of State intervention. The emphasis on de-regulation was expressed in the liberalization of the financial system and the program of tariffs reduction, as well as in the flexibilization of the foreign investment law and the virtual elimination of technology transfer controls. Other important instruments, - however, such as the "Buy-National" regime which regulates the procurement of State entities since 1963, were maintained, as - well as the industrial promotion system, which was significantly revised, however, in order to adapt it to the basic philosophy. The following is a brief summary of the main instruments - of direct industrial promotion applied in the last period.

a) Industrial promotion law 21.608 of July 1977

The main changes introduced by the new régime were: a) the inclusion of foreign-owned enterprises among the benefitiares; b) the emphasis on the improvement of industrial efficiency, international quality standards, profitability and cost structure of the production to be promoted; c) the lack of emphasis in other objectives, such as the promotion of small and medium-sized enterprises and technological development; d) the elimination of financial incentives; e) the introduction of an annual fiscal quota for incentives. These include tax and tariff exemptions,deferrments and reductions for a 10 year period and accelerated depreciation. Protective duties and restrictions on competing imports were granted but on a temporary and decreasing basis. Incentives are granted on a sectorial and regional basis. Sectors subject to special regulations include petrochemicals, steel, pulp and paper and motor engines. The regional scheme is based on two zones including provinces at different development levels.

Other complementary incentive measures are a regime of temporary imports of goods to be elaborated and re-exported, as well as other fiscal benefits to exports (drawbacks, tax refunds) and the tax reimbursment of investments in equipment. According to the Secretary of Industrial Development, 616 projects have been approved in the period January 1974-June 1983, representing planned investments for U$S 5.800 million and a total employment of 48.171. Sectors with more projects approved are textiles and garments (183) and food, beverages and tobacco (100), while the largest investments are in chemicals, non metallic minerals and paper industry. The information shows an erratic trend in terms of the number of projects being approved

TABLE E

INDUSTRIAL PROJECTS APPROVED FOR INCENTIVES (1974-1983)(I)

SECTOR	Number of projects	Investments (thousands) (U$S)	Employment
1 - Food, bev., tobacco	100	395.463	7.716
2 - Textiles, garments	183	758.506	13.929
3 - Wood	44	265.160	3.466
4 - Paper	17	1.073.591	2.223
5 - Chemicals	79	1.496.303	5.280
6 - Non metallic minerals ..	64	1.152.240	5.076
7 - Basic metals	21	365.508	3.344
8 - Machinery and equipment.	97	289.580	6.723
9 - Other industries	11	15.261	414
Total	616	5.811.612	48.171

Source: Secretaría de Desarrollo Industrial.

INDUSTRIAL PROJECTS APPROVED FOR INCENTIVES (1974-1983) (II)

(Number of projects and investments by year of approval)

Year	Number of projects	Volume of investments (thousand U$S)
1974	5	6.348
1975	59	515.835
1976	51	1.130.085
1977	148	578.340
1978	56	249.404
1979	82	879.990
1980	58	339.227
1981	112	1.720.698
1982	6	58.596
1983 (June)	39	333.089

Source: Secretaría de Desarrollo Industrial.

over the 10 year period, which covers very different economic - circumstances. On the other hand, no complete data are available about the effective execution of the approved projects, except for the period 1974-July 1979 which covers the application of the former industrial promotion law and the first two years of the new régime. According to this information, the rate of execution under the previous law was much higher (30,18%) than under the present regime (4,8%). (+)

b) Buy National regime

Decree 5340 of 1963 and Law 18875 of 1970 established a system requiring government entities to source their

(+) See J.Zalduendo, El sistema argentino de Promoción Industrial en la década de los años 70, in Revista del Derecho Industrial Nº 6, 1980.

procurement of goods and services in the local market, under -- certain conditions including the comparison with international prices and qualities. The system, conceived as a way to put the important purchasing power of the public sector of the services of industrial development, has survived several attempts to --- flexibilize its application at the light of the "opening" and - efficiency imperatives of the economic policy applied since 1976.

c) Foreign investment and technology transfer legislation.

In 1976 a new foreign investment law was adopted. Previous control-oriented measures such as prohibition of take-overs of local firms, limits on profit remittances and access - to local credit were eliminated or relaxed. The law, however, - maintained authorization and register requirements, except for smaller investments and re-investments. In 1977 the government passed a new transfer of technology law which flexibilized significantly the previous system for the control of licensing contracts. In 1981, the new law was replaced by a system which -- virtually abolished state intervention in this field. Contracts between independent firms are exempted of state approval, while those between parent and subsidiary companies are only subject to the control of royalty levels.

3.3. Major Planned industrial projects.

The present government made an explicit option against industrial development planning, which was supposed to be sub--stituted more efficiently by the free initiative of investors - following market signals. The Ministry of Economy has prepared a Cathalogue of Large Investment Programs and Projects of the public sector which includes several industrial operations, all of them in the petrochemical sector. The projects included are those that imply investments for more than U$S 5 million. They are listed in the following table.

TABLE F

MAIN INDUSTRIAL INVESTMENT PROJECTS OF THE PUBLIC SECTOR (1981)

	OBJECTIVE	Fixed investments ($US million)(1)	Implementation period (years)	Initiation
1	Expansion of ethilene and propilene plant	44.6	4	1977
2	Production of chlorine, - caustic soda and sodium carbonate	142.7	3	1980
3	Production of Poliethilene	56.3	3	1980
4	Production of vinile chlorine	82.3	3	1980
5	Production of Poliethilene	91.8	3	1979
6	Oil refinery and production of several petrochemicals imports	966.3	4	Before 1985
7	Capralactam	100.0	3	To determine
8	Oil derivatives	137.47	3	2º sem 1980
9	Light hydrocarbons	92,82	3	2º sem 1980
10	Light hydrocarbons	97,06	4	1981
11	Vinile resins	50.09	3	1980
12	Vinile Polichloride	97,30	3	1980

(1) Based on million of pesos of 1980 (one dollar = 1.850 pesos)

Source: Ministerio de Economía, grandes proyectos y Programas de Inversión, 1981.

4. Institutional framework for industry

I. General regulation and promotion

The Ministry of Economy concentrates under its authority most of the centralized and de-centralized government organizations with competence over industrial activities. The main entities or departments are:

a) Secretary of Industry and Mining. Has responsibility - for formulation and coordination of industrial policy. The undersecretary of Industrial Development is in charge of the application of the Industrial Promotion Law and a number of other sectoral norms. It controls the National Institute of Industrial - Technology (see IIIc) below) and the National Direction of Industrial Property.

b) Secretary of Commerce. Responsible for domestic and -- foreign trade activities, it is in charge of the National Bureau of Price Analysis, which controls prices of domestic products; - of the National Commission on Defense of Competition, the anti-monopoly body; and of the application of import and export regulations and incentives.

c) Undersecretary of Economy. Controls the Foreign Investment Register and elaborates legislation proposals on economic affairs.

d) Finance Secretary. Responsible for the National Budget, it decides upon the level of subsidies and incentives to - be granted to industrial promotion projects.

e) Dirección General de Fabricaciones Militares (National Direction of Military Manufactures). A big state holding operating 13 dependent companies and participating in a number of --- other ventures. Under its charter it has capacity to enter any field that will promote national development.

f) Provincial governments. Apart from the Industrial Promotion system applied by the Central Government, several Prov--

inces have their own Industrial Promotion incentives, including financial benefits and industrial parks (15 currently in operation).

II. Finance (see also 5.4.)

a) National Development Bank (BANADE). Grants medium-and long term loans to industrial and mining projects, but in recent years was required to apply market interest rates and to compete with private banks.

b) Private investment Banks. Banco Argentino de Inversión, Banco Unido de Inversión.

c) Stock market. The main stock market in the capital city, Buenos Aires; others operate in a number of provinces.-- Despite occasional booms, they doesn't constitute a major source of long term finance for industry, as a result of permanent --- changes in the financial sector. Government bonds have predominated in recent years.

III. Technology.

According to some estimates, Argentina dedicates about 0,7% of its GDP to Research and development activities. Nearly 90% is financed by the public sector. The Annual Budget dedi--- cates around 3% to science and technology activities assigned - to various entities and Centers.

DISTRIBUTION OF SCIENCE AND TECHNOLOGY

EXPENDITURES (Annual Budget 1981)

Entities	Percentage
National Universities (13)	8,3
National Commission of Atomic - Energy	23,2
National Council of Science and Technology	28,7
Under-Secretary of Science and Technology	3,2
National Institute of Industrial Technology	0,1
Armed Forces Center for Technological Research	1,5
Others	35,0

The institutions listed above are the most relevant - from the viewpoint of the manufacturing industry, although with the exception of the National Institute of Industrial Technology. They are only partially related to the industrial sector.

a) Undersecretary of Science and Technology (SUBCYT). A - small department of the Planning Secretary in charge of policy making and coordination of basic and applied research. It manages a number of National Programmes of research in cooperation with universities and the private sector (food, electronics, -- energy, petrochemicals).

b) National Council of Science and Technology (CONICET). An autonomous entity created in 1958 and operating in the sphere of the Ministry of Education. Its main programmes include a --- career of researchers and assistant researchers, a system of -- scholarships and a network of Research Centers decentralized in several provinces, some of which are of relevance for industry (petrochemicals, biochemistry, chemical engineering).

c) National Institute of Industrial Technology (INTI). Dependent from the Secretary of Industry and Mining, it has a "Technology Park" with various Centers working in applied research; a program of short courses for industry personnel and a service of technical assistance to manufacturing industry, including quality control services. INTI is also in charge of the Register of Technology contracts. Until recently it was in charge of a régime for the promotion of technology development projects.

d) National Council of Technical Education (CONET). See 5.1.

e) Public enterprises. Several State-owned corporations have important programs of R&D. By far the most important is carried out by the Atomic Energy Commission (CNEA) which receives more than 20% of the total budget dedicated to science and technology. Other relevant programs are developed by State oil Fields (the petroleum company); LANTEL (The research lab of the Telecommunications Company); Agua y Energía (The Electricity Company).

f) Other institutions. Other relevant entities include the National Institute of Fishing Development; the National Institute of Hydrological Science and Technology; the Science Research Center of the Province of Buenos Aires; the Armed Force Center of Technological Research.

IV. Institutions for regional and international cooperation.

The Undersecretary of International Economic Relations of the Ministry of Foreign Affairs, the Undersecretary of International Negotiations of the Secretary of Commerce, and the Direction of International Cooperation of the Secretary of Planning are the main bodies specialized in international economic relations. Argentina is a member of the following organizations related to industry:

a) Latin American Integration Association (LAIA). The country has an active participation in this system of trade liberalization among 11 Latin American countries. The LAIA market has accounted for about 50% of the total export of manufactures from Argentina in recent years. Argentina participates in a --- number of industrial complementation agreements with other member countries and in bilateral agreements for accelerated trade liberalization with Uruguay and Chile.

b) River Plate Basin Commission. A regional cooperation scheme for the identification and promotion of hydroelectrical, infrastructure and productive projects between Argentina, Bolivia, Brazil, Paraguay and Uruguay.

c) The Latin American Economic System (SELA). A regional organization of 25 Latin American countries concerned with - consultation, coordination and cooperation projects among Latin American and Caribbean Countries. Argentina participates in the Action Committee on food products.

d) Interamerican Development Bank.

e) Bilateral cooperation agreements. Argentina has arranged economic and technical cooperation agreement with many - Latin American countries, covering general and sectoral exchanges. The National Atomic Energy Commission, the State Oil Company and the electricity company are among the most active parties of the productive sector in these agreements.

f) Technical and Business cooperation organizations. Argentina participates in several regional organizations of technical and business cooperation, including ARPEL (oil companies), ILAFA (Steel companies), CIER (electricity), ALIFAR (pharmaceuticals), FELAC (consulting), ALICA (food), petrochemicals (IPLA).

dents were in industrial-oriented disciplines and 27,8% in commercial - courses, against 41,4% in general education. In University careers, the respective share of the population (18-24 years old) was estimated in 12% in 1980, but graduated students were a small proportion (8,1% in 1975 or 33.321 out of a population of 536.959). Moreover, it is estimated that 90% of professional graduates are working in the service sector, despite the fact that students in disciplines oriented towards the productive process increased --- significantly in the last period. By the early seventies, the share of un-educated persons in the non-agricultural labour - force was of 3,2% of the total and 21,8 % had secondary education.

Technical education in Argentina is offered by the National Council of Technical Education (CONET), a government entity created in 1959 (+). Its objective is to improve the training, specialization and professional development of middle-level technicians and workers. Industrial technicians attend a 6 years --- course in the National Schools of Technical Education, graduating in some 26 specializations which provide access to the labour market and the University. The "professional formation" level of --- CONET offers courses for workers, trainers and supervisors, some in agreement with enterprises, and consist of programs of two --- years or shorter courses of technological orientation.

Participants in Technical Education Schools are 10 --- times more numerous than those in Professional Formation Programs. In 1978, middle level technicians accounted for 12% of all graduates in the education system and 27% of the matriculation in -- secondary education. In contrast, the matriculation in professional formation programs is very low: 10.000 workers, out of 3.000.000 censed in 1978.

The matriculation in technical training amounted to -- 352.000 students in 1977, about 30% in mechanical programs, fol--

(+) The following data are based on "La oferta de educación técnica", Coyuntura y desarrollo Nº 30, 1981.

5. Resources

5.1. Human resources for industry and their development

According to the last National Census (1980) total population in Argentina was 27.863.000. The growth rate was of 16,5 %o annually during 1960-1980. 83% is located in urban areas (72,0% in 1960). Labor force was estimated in 38.8% of total population.

The official share of unemployment in the city of Buenos Aires was estimated in 5% at mid-1981. In other important productive centers the rate was higher: 6,7% in Rosario, 9,2% in Tucuman, 8% in Mendoza. The shares of under-employment (+) were in general higher. The public sector occupied 1.638.938 persons in 1981 (1.772.298 in 1977).

By 1980, only 16% of the labor force was engaged in the industrial sector (20% in 1970). The industrial employment declined sharply (more than 30%) between 1975 (1.650.000) and 1981 (1.120.000). It seems that the reduction of employment in the industrial sector was partially compensated by a rise in the share of "self-employed" in the total working population, some of which are small enterpreneurs or independent workers.

The fairly high educational base of the Argentine population originated in early social investments of the government and free and compulsory education adopted at the end of last century. Vast flows of european inmigrants in the last part of the last century and the early decades of the present were also a formidable channel for the development of human resources. Already in 1947, illiterates accounted for 13,6% of the population and the share had dropped to 7,4% in 1970. By 1975, 96% of the population between 6 and 13 years of age was attending school. The share of participation in secondary school is much smaller (about 40% in 1975-1980,for 13-19 years old). About 15,2% of secondary stu

(+) Persons working less than 35 weekly hours and looking for more work.

lowed by construction, electromechanics and electricity.

In terms of the levels of training of human resources, the most dynamic branches of industry are chemicals, oil, metal--working, electronics and automotives. The metalworking industry has the largest training programs in the manufacturing sector.

TABLE G

MATRICULATION IN THE UPPER-LEVEL CYCLE OF TECHNICAL SCHOOLS, CLASSIFIED BY SPECIALIZATION: 1974-1978 (in shares)

SPECIALIZATION	1974	1978
Management	2,8	5,3
Automotives	5,2	4,3
Aircrafts	0,7	1,0
Construction	15,1	18,1
Electricity	9,0	7,0
Electromechanics	19,7	20,3
Electronics and telecommunications	6,8	7,3
Mechanics	29,4	25,4
Metalworking	0,7	0,6
Mining and oil	0,4	0,5
Optical	0,5	1,4
Chemicals	7,9	6,8
Others	1,8	2,0
Total upper cycle	100,0	100,0
Number of graduates	46.740	56.501

Source: Ministerio de Educación, Departamento de Estadísticas.

The development of managerial skills is the role of the Business Administration Schools in various universities and private entities such as the Institute for the Development of - Executives (IDEA).

The National Council of Sciences and Technology (see 4) has an important role in the development of high level human resources, through its careers of Researchers (1300 in 1981, -- about 10% dedicated to technology disciplines), and Research - Assistants, and a program of scholarships (in 1981, 879 devoted to technological studies). The research and technical assistance activity of other centers also contribute to the training and - development of skills for productive activities (see 4).

The number of scientists and technologists has been estimated in 530.000 in 1980, or 19 each 1.000 inhabitants.---- About 22.000 are dedicated to Research and development activi-- ties. Yet less than 6% of the total number of scientists and - engineers seem to be related to productive activities. On the - other hand, during the last decade many scientists and profes-- sionals have left the country as a result of the decadent situa tion of the economy, the lack of support for high-skilled acti- vities and political circumstances.

5.2. Natural resources endowment

5.2.1. Agricultural resources

One of the main resources of the country consists of a vast and very rich land. More than 50% of it is located -- in the Pampa region. Harvested areas cover about 29.800 hectares. Areas of natural and artifical fields, partially suited for agri culture, cover some 137.000 hectares. There are four broad types of crops: 1) cereals and oilseeds; 2) industrial crops; 3) - fruits; 4) vegetable crops.

a) Cereal and oil crops. Account for 3/4 of the - total planted area and more than 1/3 of the value of total ex-- ports -(Argentina is one of the main world exporters of these products). Six crops concentrated 85% of the planted area and - 95% of the production in 1981/2 and 1982/3. Wheat covered 31% of the planted area; production in 1981/82 amounted to 8.3 million tons, or 1,8% of the world production, and exports to 4,4 million tons, representing 4,3% of the volume of world exports. Corn harvest was of 9,6 million tons in 1981/1982 (2,2% of world production) and exports of 8,2 million (11,6% of world exports). Third crop in importance was grain sorghum: Argentina accounted for 11,6% of world production and 35,4% of world exports. Other cereals and oilseeds relevant in terms of world production and exports are soybeans, sunflower, barley and lineseed.

b) Industrial crops. Most important is sugar cane (15 million tons in crop year 1981/82, planted area of 350.000 hectares), followed by grape (3,5 million tons -Argentina is the 5th world producer of wine), tea, tobacco, yerba mate, etcétera.

c) Fruits. Crop year 1980/81 yielded 2,9 million tons. Apples (0,8 million tons), oranges (0,68 million tons) are the most important. Others include lemon, peach, mandarin --- oranges, pears.

TABLE H

MAIN CROPS AND OILSEEDS, CROP YEARS 1981/82 AND 1982/83

PLANTED AND HARVESTED AREAS, YIELD AND PRODUCTION

CROPS	CROP 1981/82						CROP 1982/83					
	Area (Thousand Hectares)			Yield (Kg/ hect. Har-vested)	Production (thousand tons)		Area (Thousand Hectares)			Yield (Kg/ hect. Har-vested)	Production (thousand tons)	
	Planted	%	Har-vested			%	Planted	%	Har-vested			%
WHEAT	6.566	31	5.926	1.400	8.300	24	7.410	32	7.320	2.067	15.130	37
CORN	3.695	17	3.170	3.028	9.600	28	3.440	15	2.970	2.976	8.840	22
GRAIN SORGHUM	2.712	13	2.510	3.187	8.000	24	2.627	12	2.491	3.262	8.125	20
SOYBEAN	2.040	9	1.986	2.090	4.150	12	2.200	10	2.115	1.810	3.850	9
SUNFLOWER	1.733	8	1.673	1.184	1.980	6	1.954	8	1.901	1.210	2.300	6
BARLEY	1.615	7	299	1.136	339	1	1.793	8	375	1.398	524	1
Sub-Total	18.361	85	15.564		32.369	95	19.424	85	17.172		38.769	95
OTHERS	3.183	15	1.569		1.709	5	3.389	15	1.723		1.887	5
TOTAL	21.544	100	17.133		34.078	100	22.813	100	18.895		40.656	100

Source: Ministerio Economía, Hacienda y Finanzas: Informe Económico 1978-81
FIDE: "Coyuntura y Desarrollo No. 49, Sept. 82

d) Vegetable crops. The production of 1980/81 --- amounted to 4,3 million tons and in 1981/82 to 3,3 million tons, including 1,8 million tons of potato, 0,57 million of tomato, and significant volumes of sweet potato, dry beans, onion.

5.2.2. Livestock

According to the Census of 1977, livestock included cattle - 61 million; sheep - 34,5 million; horses - 3 mil-- lion; pigs - 3,5 million. More than 80% of the cattle and porcines are in the Pampean Region, while about half the procines are in the Southern area.

By mid-1982, the stock of cattle was estimated in 52,7 million. The decline is explained by an increased utilization of land for agriculture. On the other hand, since the early 70s, the restrictive measures introduced by the EEC and other - traditional export markets have affected the livestock sector - and its industries. Meatpacking is in a critical situation since some years ago. In 1980, 14 million cattle were slaughtered, -- but exports accounted for only 13%. The slaughter of sheep was of 6,9 millions, and the exports share 16%, wool production averaged 145-150.000 tons in recent years. The slaughter of pigs -- amounted to 3 million in 1980, with almost negligible exports.

5.2.3. Fisheries

The extensive marine coast of Argentina offers -- significant fishing possibilities which only recently have been exploited at certain scale. Production in 1982 was 460.000 tons, 50% of which was exported.

5.2.4. Forestry

Forests and natural woods occupy an area of 63.300 hectares. Total forestry production in 1978 amounted to 4,9 million tons. Timber logs accounted for 70%. Other products include firewood (15,5%), charcoal (6,6%), etcétera. Forestry exports - are not significant.

5.2.5 . Mining

The mining sector contributed with 2,3% of the -- GDP in 1981, including oil and gas production. Total mining production (excluding oil and gas) amounted to about 68.000 thousand tons. Metallic minerals accounted for 1,6%, non metallic for 8,7% and various rocks (sand, granite, marble) for 89,7%. Total mining - exports amounted to U$S 35 million in 1979, while imports reached U$S 700 million.

Mining production covers the needs of the construction industry but is clearly insufficient with regard to most - minerals, particularily metallic minerals. Yet the mineral po-- tential of the country has not been adequately explored. In ---

PRODUCTION 1981 (thousands of tons)

	Production
Metallic	**1.060,7**
Plumb	52,5
Zinc	69,7
Iron	494,5
Tin	5,7
Uranium	472,0
Others	6,3
Non metallic	**5.831,0**
Salt	1.093,1
Borates	167,4
Clay	1.980,1
Gypsum	678,4
Others	1.912,0

Source: Anuario de Estadística y Censos.

1979, a Mining Promotion law was adopted offering wide incentives. A number of projects for the production of copper, molibdene, -- sodium, sulphur, silver, etcétera, are waiting execution. So far the main efforts have been carried out by the State holding Fabricaciones Militares, who owns the only integrated steel com--plex.

5.3. Energy resources

Argentina is richly endowed with energy resources. Yet despite the size and diversification of the country's sources, -- they have not been adequately exploited so far. Per capita con-- suption is relatively low (1981: 14,35 kep per capita ; self sufficiency has not been attained; there is still an excessive depen dence on hydrocarbons, as well a general under-utilization of the existing potential. There is also a serious imbalance between -- the structure of consumption and that of reserves:

SHARE OF MAIN SOURCES IN SUPPLY AND DEMAND OF ENERGY

	Supply	Demand
Oil	12%	56%
Gas	20%	25%
Hydro	50%	10%
Coal	6%	2%
Veget.combustibles		5%
Uranium	12%	2%

Source: Boletín Semanal de Economía, October 1982.

i) Oil and gas. In 1981 the production of oil was 28 m^3 million (about 0,8% of world production) and of gas 13 m^3 million (also 0,8% of world production). Imports amounted to U$S 660,6 -- millions and exports to U$S 471,4 U$S million. Established reserves are of 400 mm m^3 for oil and 150 x 10^9 for gas. Oil reserves are stagnated since the last 10 years, while those of gas have increas ed three times. The extension of the sedimentary basin of Argenti na is of about 1 million km^2, yet only 6.700 drills are effective ly exploited, producing 77.000 m^3 daily. The share of oil in the energy consumption has been constantly decreasing since 1960, especially after the 1973 oil crisis. However, it still accounts for about 56% of total consumption. In contrast, natural gas has been increasing its share significantly: from 6,1% of the total in ---

1960 to 24,6% in 1981. Part of this increase in due to the im--- ports of gas from Bolivia and Chile.

ii) Coal. Reserves are estimated in 450 million tons - (250 of commercial use); production in 1980 was 7 million tons -- (0,02 of world production). This important source has been under-utilized and its participation in total consumption has decreased from 5,4% in 1960 to 2,2% in 1981.

iii) Hydroelectricity. The potential of Argentina is significant : hydroelectrical reserves (estimated in 45.000 MW), account for 50% of all energy supply and only 10% is utilized. By 1980 its share in consumption is expected to arrive to 14,34% and in electricity generation, to surpass 50%. Since 1972 the role of hydroelectricity started to increase remarkably, due to the -- availability of new power generating projects, such as el Chocón (1650 mm) in the southern area, and Salto Grande, the big bina--- tional complex with Uruguay (1890 MW). Argentina has advanced -- projects for the construction of new dams, two of them with neighbor countries: the one with Paraguay, Yacyretá, will have an initial capacity of 2.700 MW, but its construction is being delayed since 1974. Another one with Brazil - GARABI - will have a capacity of 2.200 MW.

iv) Nuclear energy. The local reserves of uranium are estimated to cover the needs of the 9 nuclear plants planned by - the National Commission of Atomic Energy. Nuclear energy started to participate with the start-up of the first plant in 1974; in - 1983 a second plant was added. Four new plants are expected to - be added until 1997. By the end of 1982, nuclear energy was supplying 2,9% of the energy demand, and with the third plant now in construction it would account for 8,3% of the needs in the next - few years.

In sum, during the last two decades coal and vegetal combustibles have been gradually substituted by natural gas, and later oil has been gradually replaced by gas, hydro and more

TABLE I

ENERGY CONSUMPTION

(in thousands of tep)

Year	Oil	%	Gas	%	Coal	%	Vegetal	%	Nuclear	%	Hydro	%	Total	%
1960	13.414	75,6	1.020	5,8	955	5,4	2.099	11,8	-	-	252	1,4	17.740	100
1965	16.854	70,7	3.613	15,2	791	3,3	2.239	9,4	-	-	335	1,4	23.832	100
1970	21.324	71,0	5.335	17,8	869	2,9	2.077	6,9	-	-	433	1,4	30.038	100
1975	22.028	62,2	7.911	22,3	1.215	3,4	2.071	5,8	730	2,1	1.485	4,2	35.440	100
1980	23.675	57,0	9.907	23,9	970	2,3	1.939	4,7	679	1,6	4.376	10,5	41.546	100

Source: Coyuntura y Desarrollo Nº 49, Sept. 82.

recently by nuclear electricity.

The consumption of energy by the industrial sector accounted for about 40% of total supply until the mid seventies, but in last years of economic recession it has fell significantly.

Energy planning has two instruments: The National - Plan for Equipment for Generation and Transmission systems 1979-- 2000 and the Energy Plan 1980-2000. The plans contemplate a continuous emphasis on the substitution of traditional sources of -- energy:

ELECTRICITY GENERATION CAPACITY (end 1981) (%)

	Existing		In construction	
	MW	%	MW	%
Hydro	4150	38	2626	45
Thermic	6600	59	1808	31
Nuclear	370	3	1389	24
	11120	100	5823	100

Source: Subsecretaría de Energía Hidroeléctrica y Térmica.

5.4. Financial resources for industry

The economic plan of 1976 gave a central relevance to the free operation of the capital market, which in the following years had a spectacular growth, and made the financial sector the most dynamic of the economy (+). A number of huge financial conglomerates emerged and in a short time the industrial sector as a whole was put in a situation of dependency with regard to the increasingly powerful banking sector: about 209 financial institutions operating at end-1980 and behaving in oligopolistic manner -the 13 largest entities accounting for 50% of total credit and charging very high spreads for operations limited to the short term. The only long-term-lending institution was the State Owned Banco Nacional de Desarrollo, specialized in credit to industry and mining.

In effect, the financial reform introduced in 1976 freed the rates of interest, which reached exorbitant levels in real terms: e.g., 12,4% for the first quarter of 1981. In addition, the liberalization was unable to stimulate the supply of long term funds.

The transfer of financial resources to the industrial sector declined after the Financial Reform. The debt of the private industrial sector increased by 44% in real terms between mid-1977 and early 1980, due in part to a strongly inelastic demand for credit caused by falling industrial profits on the one hand and the full government guarantee on domestic deposits. But the increase in real debt was used mainly to finance higher interest charges, working capital, stock accumulation and the purchase of consumer durables . This led to a serious deterioration of the

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(+) This section is based on: World Bank Report Nº 4513-AR Argentina Economic Memorandum 1983; CEPAL, Politica Económica y proceso de desarrollo, la experiencia argentina 1976-1981, Buenos Aires 1983, A. Canitrot, Teoría y práctica del liberalismo, en Desarrollo Económico 82, Sept-1981.

debt-equity relation of the industrial sector, which increased -- from 68% in 1976 to 106% in 1980, reaching in 1981 to 154% for -- food products, 248% for machinery, 165% for paper products, etc.- This situation in a context of pervasive economic recession and - declining profits caused a large number of bankrupcies in the industrial sector, which accounted for 84% of the economy wide bankrupcies in 1981. The subsequent crisis was faced by the government with a number of changing policies, including re-financing - schemes which brought some temporary relief to firms, and other - changes in the financial system. By mid-1983, in the context of monthly inflation rates above 10 per cent and continuous recession, interest rates were still very high and the government was pursuing monetary stabilization efforts, still unsuccesful.

Investment in new equipment was generally made with - external credit, the access to which was concentrated on enterprises with international links and "low-risk" firms, mainly foreign subsidiaries. The distorted conditions of industrial financing - in Argentina are reflected in the decaying volumes of investment in the sector during the last years.

ESTIMATED NET INVESTMENT IN THE INDUSTRIAL SECTOR (millions of 1970 pesos) (+)

1975	1,808
1976	2,716
1977	4,961
1978	1,603
1979	1,660
1980	939
1981	- 938

(+) Net investment is defined as gross investment (Domestic production plus importation of equipment and machinery x 2) Estimated depreciation of capital stock.

Source: World Bank, based on Central Bank, FIDE and World Bank estimates.

INDUSTRIAL DEVELOPMENT CREDIT:

THE BANCO NACIONAL DE DESARROLLO (BANADE)

Since 1976, development credit for industry has - been limited to the role of BANADE, a state owned Bank created in 1944 with the objective of financing productive investments. In principle, BANADE promotes and participates in the financing of the setting-up, expansion and modernization of industrial and mining projects, -- with particular emphasis on basic industries and preference to small and medium enterprises located in de-centralized areas. Yet in 1977 the Statutes of BANADE were revised introducing traditional banking criteria. Since that time the bank doesn't subsidize interest rates --- (with the exception of projects located in border areas) and competes with other institutions in the attraction of domestic and external funds. The only special condition of the Bank loans are their long terms, up to 7 years and up to 70% of the value of the project, on a case by case basis.

During the period 1978-1981, BANADE provided U$S 850 millions in loans and an equivalent amount in guarantees to 33 manufacturing projects in the chemical (13 projects), metalworking (4), paper (2), food (2), tex-- tiles (5), cement (3), shipbuilding (1), and a few other sectors.

BANADE LOANS 1977-1981 (+)

LOANS	1977	%	1978	%	1979	%	1980	%	1981	%
NATIONAL CURRENCY	7.665	86	9.801	69	11.312	61	13.447	52	11.164	35
FOREIGN CURRENCY	1.203	14	4.402	31	7.181	39	12.433	48	20.360	65
	8.868	100	14.203	100	18.493	100	25.880	100	31.524	100

(+) In thousand of million pesos of December 1981.

Source: BANADE, Memoria Anual 1982

Argentina
July, 1983

Methodological note

The basic source of information with respect to industrial statistics is the manufacturing census of 1973. From it data on value added, gross output, employment, number of establishments, wages and salaries, firm's size and geographical distribution were derived. The census data have been used to elaborate tables 5, 6 and 7 related with the efficiency of industrial activities. It's useful to state that according to the census, value added was defined as the result of gross output minus consumption.

Tables 1 and 2 were constructed on the basis of information periodically collected by the Central Bank. The data provided by this institution corresponds to manufacturing gross output in constant market prices of 1970, and is based on surveys carried on for a sample of establishments.

Tables 3 and 4 were elaborated from information included in the census. In the former also data for a recent year was obtained from the Consejo Federal de Inversiones, an official institution devoted to the development of Argentina's hinterland.

For table 7A the source has been a special publication of the Statistical Office which includes the results of a survey conducted to measure the evolution of manufacturing during the 1970-81 period. It must be stated that the sample used in the referred survey is different from the one employed by the Central Bank.

Information on trade of manufactures (tables 8, 9A, 9B, and 10) was derived from UNIDO, Data Base.

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