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INDUSTRIAL DEVELOPMENT REVIEW SERIES

PERU

Prepared by the
Regional and Country Studies Branch
Division for Industrial Studies

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Preface

Within the framework of UNIDO country surveys and studies, a series of industrial development reviews on developing countries is prepared by the Regional and Country Studies Branch of the Division for Industria_ Studies.

The reviews provide a general survey and brief analysis of each country's industrial development, both as a service to those within UNIDO and other international agencies concerned with industrial policy, planning, project development and implementation, and as a ready source of information for Governments. It is hoped that the reviews will prove useful as well to financial and industrial enterprises, both public and private, to research institutes and to aid agencies in developed countries. The reviews also aim at providing a basis for undertaking in-depth studies of specific aspects of industrial policies, strategies and programmes in the developing countries and at providing a basis for informed dicussion and analyses of industrial development trends and policies.

The reviews draw on information provided by the UNIDO data base, material available from national and international statistical publications, and other sources. While up-to-date national statistics are not always available on every aspect of industrial development, the reviews will be updated periodically and efforts are being made to improve the UNIDO data base and to monitor industrial progress and changes in industrial policy on a regular basis.

The present review was prepared towards the end of April 1985 on the basis of information available at UNIDO headquarters. It is divided into two rather distinct parts. Chapters 1 and 2 are analytical in character, giving first a brief overview of the country's economy and its manufacturing sector and then a more detailed review of the structure and development of manufacturing industries. Chapters 3 and 4 contain various kinds of reference material - which it is hoped will be useful to readers - on national plans and policy

statements relevant to industrial development, on the country's natural, human and financial resources for industrial development and on the more important governmental and other institutions involved in industrial development. The review also contains relevant basic indicators, graphical presentation of manufacturing trends as well as statistical and other annexes.

It should be noted that the reviews are not official statements of intention or policy by Governments or by UNIDO, nor do they represent an official assessment by UNIDO of industrial development in the countries concerned. Readers are invited to comment on the findings and analyses, and thereby assist UNIDO in improving and updating the reviews.

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EXPLANATORY NOTES

Regional classifications, industrial classifications, trade classifications and symbols used in the statistical tables of this report, unless otherwise indicated, follow those adopted in the United Nations Statistical Yearbook.

Dates divided by a slash (1970/71) indicate a crop year or a financial year. Dates divided by a hyphen (1970-71) indicate the full period, including the beginning and end years.

References to dollars ($) are to United States dollars, unless otherwise stated.

In tables:

Three dots (...) indicate that data are not available or are not separately reported;
A dash (-) indicates that the amount is nil or negligible;
A blank indicates that the item is not applicable;
One dot (.) indicates that there is insufficient data from which to calculate the figure.

The following abbreviations and acronyms are used in this document:

ANDEAN	Andean Group of Countries
BCR	Central Reserve Bank
BID	Inter-American Development Bank
CEPALC	Economic Commission for Latin America and the Caribbean (ECLAC)
CERTEX	Certificado Tributario de Exportación (Export Incentive Tax Certificate)
CGTP	Confederacion General de Trabajadores del Peru
CNT	Central Nacional de Trabajadores
COFIDE	Corporación Financiera de Desarrollo (Development Finance Corporation)

CONADE	Corporacion Nacional de Desarrollo (National Development Corporation)
CONITE	National Committee of Foreign Investment and Technology
CPDC	Centrally Planned Developed Countries
CTP	Confederacion de Trabajadores del Peru
EEC	European Economic Community
FENT	Fondo de Exportaciones No Tradicionales (Non-traditional Exports Fund)
FIRE	Fondo de Inversiones Regionales (Regional Investment Fund)
FONCAP	Fondo de Bienes de Capital (Capital Goods Fund)
FONEX	Fondo de Exportaciones (Export Fund)
FOPEX	Fondo de Promoción de Exportaciones (Export Promotion Fund)
GDP	gross domestic product
ICSA	Inversiones Cofide S.A.
ISIC	International Standard Industrial Classification
ITINTEC	Institute of Technological Industrial Research and Technical Norms
MVA	manufacturing value added
NTX	Non-traditional exports
SENATI	Servicio Nacional de Aprendizaje y Trabajo Industrial (National Apprenticeship and Industrial Labour Service)
SITC	Standard International Trade Classification

BASIC INDICATORS 1
The economy

GDP at market prices:	$18,427.6 million (1984)
Population (mid-1983):	17.9 million
Labour force (1981):	5.37 million

Growth of GDP: (per cent) — (average annual real growth rate)

1960-70	1970-80	1981	1982	1983	1984
5.6	3.1	3.9	0.4	-11.9	4.5

GDP per capita (1984): $598 (at 1970 prices)

Structure of production: (percentage share in GDP)

	1970	1982	1984
Agriculture	17	13	14
Mining	7	9	10
Manufacturing	25	23	21
Services and other activities	51	55	55

Average annual rate of inflation (per cent):

1960-70	1970-82	1983	1984
10.4	37.0	125.1	111.5

Consumer price index: (1980 = 100)

1976	1979	1981	1982	1983
17.29	62.51	175.39	288.42	609.00

Currency exchange rate: (Sol equivalents to $1)[a/]

1970	1980	1983	1985 (March)
38.7	288.7	1,625.1	7,874

a/ The name of the currency "Sol" has been changed in 1985 to "Inti". One inti equals one thousand soles.

BASIC INDICATORS 2
Resources and transport infrastructure

Resources

Cash crops (1984): (millions of tons)	Sugar (7206 mn), cotton (200 mn), coffee (92 mn), rice (1134 mn), potatoes (1363 mn), maize (576 mn)
Livestock production (1984): (millions of tons)	Poultry meat (182 mn), beef (104 mn), pork (55 mn), mutton (19 mn)
Fisheries:	Anchovies, sardines, pilchards, tuna
total catch (1984):	2.96 millions of tons
Forests:	Dyewoods, cedar, mahogany, raw quinine, rubber and other tropical products from the Amazon Basin
Mining:	Copper, iron ore, lead, zinc, gold, silver
Energy production (1982):	3,238 megawatts
major sources:	petroleum, hydropower, natural gas

Transport

Roads:	58,500 km, of which 6,300 paved
Railways:	2,500 km
Ports:	Callao (handles 65 per cent of imports and 40 per cent of exports), 12 other major ports
Airports:	Lima, Arequipa, Iquitos, 25 other airports

BASIC INDICATORS 3

Foreign trade and balance of payments

Exports (1984)	total value:	$3,174 million
	main goods:	copper, silver, fishmeal, petroleum, coffee, zinc, lead, iron, sugar and cotton
	main destinations:	USA, Japan, EEC (mainly Netherlands and Italy), Colombia, U.S.S.R. and Eastern Europe
Imports (1984)	total value:	$2,722 million
	main goods:	foodstuffs, natural gas, tin, zinc, silver
	main origins:	Brazil, USA, Argentina, EEC and Japan
Balance of payments (1984): (Current Account)		$248 million
Trade balance (1984):		$452 million

Public/publicly guaranteed debt ($billion):	1983	1984
	11.0	13.3
Debt-service/exports ratio (per cent)		
including refinanced service	46.6	64.5
excluding refinanced service	19.5	16.4
Debt/GDP (per cent)	51.3	57.7

IMF financial assistance:

June 1982:	$220 million (compensatory financing facility)
	$715 million (extended fund facility)
February 1984:	$258 million (stand-by facility)

Exchange rate:

Year	Official Exchange Rate (annual average) Soles per US dollar	Annual Average Change of Real Exchange Rate Multilateral[a/]	Bilateral ($)
1970	38.7 soles	...	...
1975	40.8	-1.1	-7.9
1976	57.4	7.2	9.4
1977	83.8	20.1	16.6
1978	156.3	33.9	26.6
1979	224.5	-4.4	-4.7
1980	288.7	-9.2	-8.3
1981	422.9	-14.1	-8.0
1982	697.6	1.7	6.5
1983	1,625.1	12.9	14.2
1984	3,467.0		
1985 (March)	7,874.0		

a/ Trade weighted basket of currencies of main trading partners (United States, Japan, F.R. Germany, United Kingdom, France, Italy and the Netherlands).

BASIC INDICATORS 4
The manufacturing sector

Manufacturing value added (1981)	$4,24[illegible] million (in 1975 prices)					
MVA per capita (1980):	$334					
Employment in manufacturing (1980):	812,500					
per cent of total wage employment:	15.6 per cent					
MVA per worker:	$7,150					
Annual average growth of MVA:	1960-1970	1970-80	1981	1982	1983	1984
(per cent)	7.4	3.1	-0.02	-2.5	-17.2	2.5

Structure of MVA: (percentage share):	1973	1982
Mainly consumer goods	48.5	41.6
Mainly intermediate goods	35.4	44.6
Mainly capital goods	16.1	13.8

Trade in manufactures[a/] (1982)		
Total value - Exports:	$ 383.4 million	
- Imports:	$2,286.0 million	

Share of manufactures (1982)	SITC 5-8 less 68	SITC 5-8
- in total exports:	13.9 per cent	40.3 per cent
- in total imports:	77.8 per cent	78.4 per cent

a/ SITC 5-8 less 68.

BASIC INDICATORS 5
Trade in manufactured goods

In 1982

Exports Total value $383.4 million

Principal exports (per cent in total manufactured exports)		Destination (per cent)				
		Developing countries	USA	EEC	Japan	CPDCs
Manufactures of non-ferrous metals	43.0	18.3	26.1	36.5	13.4	0.0
Petroleum products	15.7	28.1	51.2	0.0	0.0	0.0
Clothing	6.5	44.5	50.5	3.1	0.5	0.0
Textile yarn, fabrics, made-up articles	6.0	17.0	42.5	27.3	1.8	0.2
Feeding stuff for animals	5.0	27.2	4.3	14.1	2.9	26.1

Imports Total value $2,286 million

Principal imports (per cent in total manufactured imports)		Origin (per cent)				
		Developing countries	USA	EEC	Japan	CPCDs
Non-electric machinery	24.4	12.8	42.6	24.2	5.9	0.7
Transport equipment	15.4	26.2	19.0	6.7	39.4	1.3
Chemicals	13.5	12.1	40.1	33.4	3.9	0.5
Electrical machinery, apparatus and appliances	9.9	14.1	29.2	21.2	25.3	1.1
Iron and steel	6.3	17.0	26.8	13.6	20.8	0.0
Manufactures of metal	5.1	36.3	23.9	18.6	4.6	0.3

BASIC INDICATORS 6

Inter-country comparison of selected indicators

	Unit	Bolivia	Colombia	Ecuador	Peru	Venezuela
I. Demographic indicators						
Population (mid-1983)	millions	6.0	27.5	8.2	17.9	17.3
Population growth (1973-83)	per cent per annum	2.6	1.9	2.6	2.4	3.5
Infant mortality (1983)	per 1000	123	53	76	98	38
Area (1980)	'000 Km^2	1,099	1,139	284	1,285	912
Density (1983)	persons per km^2	6	24	29	14	19
II. Economic indicators						
GDP (1983)	$ billion	3.34	35.31	10.70	17.63	8.17
GDP growth (1973-83)	per cent per annum	1.5	3.9	5.2	1.8	2.5
GNP per capita (1983)	US $	510	1,430	1,420	1,040	3,840
Agriculture (1983)	per cent of GDP	23	20	14	8	7
Industry (1983)	per cent of GDP	26	28	40	41	40
Manufacturing (1983)	per cent of GDP	16	17	18	26	17
Services (1983)	per cent of GDP	52	51	46	51	53
Exports of goods and non-factor services (1983)	per cent of GDP	19	10	25	21	26
Gross domestic investment (1983)	per cent of GDP	7	19	17	13	12
External public debt (1983)	per cent of GNP	77.7	18.3	63.0	48.1	19.8
III. Industrial indicators						
MVA (1982)	million $ at constant 1975 prices	344	2,686	1,247	3,963	5,709
MVA share of world MVA (1981)	per cent	0.02	0.18	0.06	0.20	0.26
Share of manufactured exports in total exports (1982) a/	per cent	2.2 b/	24.1	2.9	13.9	12.5
Average annual growth of MVA (1973-83)	per cent	1.7	1.9	8.9	0.4	3.7

a/ SITC 5-8 less (67 + 68).
b/ 1979.

Executive Summary

The pace of economic growth in Peru in the first half of the 1970s was around 4.3 per cent annually. It slackened during the second half except during 1979-80 and deteriorated rapidly during 1981-83. After three years of stagnation and negative growth rates since 1981 the Peruvian economy seems to have recovered in 1984, with a growth rate of 4.5 per cent in GDP. As a result of adverse economic trends, the manufacturing sector registered negative growth rates of -2.5 per cent in 1982 and -17.2 per cent in 1983. In 1984 the manufacturing sector grew by 2.5 per cent, well below the GDP growth rate. The economy, however, continues to be seriously affected by several macroeconomic imbalances.

The slow pace of structural transformation in the Peruvian economy has been a reflection of continued slowdown in economic activity for more than a decade, with 1979 and 1980 as notable exceptions. The share of agriculture in GDP fell from 16.8 per cent in 1970 to 11.8 per cent in 1980, while that of manufacturing increased marginally from 24.7 per cent to 25.1 per cent over the same period. This pattern of structural change was reversed in the early 1980s when manufacturing was severely affected by adverse external trends and changes in economic policy.

Industrial development has been influenced by the Peruvian Government's pursuance of an interventionist policy during the period 1968-1980. High protectionist barriers were erected to shelter domestic industries. Key industrial sectors were partly nationalized and were given considerable economic support. This policy led to an increased growth performance by the iron and steel and industrial chemicals branches and the decline of traditional labour-intensive manufacturing branches such as leather products and wearing apparel. As the initial shares of the capital-intensive priority sectors were low, however, this policy did not lead to significant structural change. In 1980 iron and steel accounted for only 2.9 per cent of MVA. Consumer goods branches - food products, textiles - and non-ferrous metal products - remained predominant within the industrial structure.

The new civilian Government which took office in 1980 shifted the emphasis from the inward-looking industrialization strategy of its

predecessors and implemented an economic liberalization programme. Domestic industry however was unable to adjust quickly to increased external competition. The elimination of external protection was not accompanied by an effective reduction of the internal rigidities that had been built into the policy framework during the 1970s. Furthermore, Peru was severely affected by the world recession. The prices of Peru's main primary commodities declined rapidly and the debt service burden rose. Non-traditional manufactured exports could not fully compensate for these negative trends. The impact on the manufacturing sector of the Peruvian economy was severe.

Macroeconomic stabilization remains an important priority. A triple-digit inflation rate was recorded in 1984 and the IMF suspended its standby credit agreement on the ground that targets specified in the agreement had not been met. Major structural imbalances between domestic savings and investments, imports and exports, public expenditure and revenue and between debt-service obligations and debt-service capacity continue to exist. The employment absorbing capacity of the manufacturing sector has not increased. Productivity growth has been largely related to rising international prices and falling real wages. The establishment of a consistent and continuous industrial policy framework can contribute towards a revitalization of the industrial sector. The Government has taken a series of measures - such as the provision of special incentives for investment in jungle areas and industrial parks as well as policies for reducing price and interest rate distortions which are aimed at reducing regional, sectoral and macroeconomic imbalances.

Peru is richly endowed with natural resources. Peru is the second largest producer of bismuth in the world and ranks third in silver, fifth in zinc and lead and seventh in copper production. Mineral products represent over 37 per cent of total exports. However, only 5 per cent of total reserves are currently being exploited. An increase in this rate opens up possibilities for accelerating the pace of resource-based industrialization. Peru also has substantial skilled manpower resources which can facilitate a restructuring of the industrial sector. An essential pre-condition for industrial development, however, remains macroeconomic stabilization.

Resumen ejecutivo

El ritmo de crecimiento económico en el Perú durante la primera mitad de los años setenta fue relativamente modesto. Este disminuyó durante la segunda mitad de la década salvo de 1979 a 1980; y se deterioró rápidamente de 1981 a 1983. Después de tres años de estancamiento y de índices negativos de crecimiento desde 1981, la economía peruana parece haberse recuperado en 1984, con un índice de crecimiento en el PIB del 4,5 por ciento. El sector manufacturero experimentó índices negativos de crecimiento de -2,5 por ciento en 1982 y -17,2 por ciento en 1983, como resultado de tendencias económicas desfavorables. El sector manufacturero aumentó un 2,5 por ciento en 1984, muy abajo del índice de crecimiento del PIB. Sin embargo, la economía sigue siendo afectada por diversos desequilibrios macro-económicos.

El lento ritmo de transformación estructural de la economía peruana ha sido un reflejo del prolongado retraso de la actividad económica durante más de una década, fuera de las notables excepciones de los años 1979 y 1980. En el PIB, la participación de la agricultura disminuyó de un 16,8 por ciento en 1970 a un 11,8 por ciento en 1980, mientras la de las manufacturas aumentó ínfimamente durante el mismo período de 24,7 por ciento, a un 25,1 por ciento. Este modelo de crecimiento estructural retrocedió a inicios de los años ochenta, al verse las manufacturas afectadas por tendencias externas desfavorables y por cambios en las políticas económicas.

El desarrollo industrial se vió influenciado debido a que el Gobierno peruano prosiguió una política intervencionista durante el período 1968-1980. Se erigieron grandes barreras proteccionistas, con el fin de proteger la industria doméstica. Los sectores industriales clave fueron nacionalizados en forma parcial y se les proporcionó considerable apoyo económico. Esta política condujo a un aumento en el crecimiento de las ramas de hierro y acero y de productos químicos industriales; y la disminución de las ramas manufactureras tradicionalmente intensivas en mano de obra, tales como los productos de cuero y la confección. Puesto que la participación inicial de los sectores prioritarios que son intensivos en capital fue baja, esta política no condujo a mayores cambios estructurales. En 1980 el hierro y el acero representaron únicamente un 2,9 por ciento del valor agregado por fabricación. Las ramas de productos de consumo tales como los productos

alimenticios, los textiles y los productos metálicos no ferrosos, mantuvieron su predominancia dentro de la estructura industrial.

Al llegar al poder en 1980 el nuevo Gobierno civil, cambió el énfasis de la estrategia de industrialización hacia adentro que preconizaban sus predecesores, e implementó un programa de liberalización económica. Sin embargo, la industria nacional fue incapaz de ajustarse rápidamente al aumento de la competencia externa. La eliminación de la protección externa no fue acompañada de una reducción efectiva de las rigideces internas que se habían formado dentro del modelo económico durante los años setenta. Además, el Perú se vió fuertemente afectado por la recesión mundial. Los precios de las principales mercancias peruanas disminuyeron rápidamente y se dejó sentir aún más el peso que representaban los pagos por los servicios de la deuda. Las exportaciones de manufacturas no-tradicionales no lograron compensar completamente las tendencias negativas. El impacto sobre el sector manufacturero de la economía peruana fue muy grande.

La estabilización macroeconómica continúa siendo una prioridad muy importante. Durante 1984 se registró una tasa de inflación de tres dígitos, y el FMI suspendió los acuerdos disponibles de crédito argumentando que no se habían cumplido algunas metas específicas del acuerdo. Existen aún grandes desequilibrios estructurales entre el ahorro doméstico y las inversiones, entre las importaciones y las exportaciones, entre los gastos públios y los ingresos y entre las obligaciones por los servicios de la deuda y la capacidad de cumplirlos. No ha aumentado la capacidad de absorción de empleo del sector manufacturero. El crecimiento de la productividad ha sido en gran parte relacionado al aumento en los precios internacionales y a la disminución de los salarios reales. El establecimiento de un marco de política industrial consistente y continuo podría contribuir a revitalizar el sector industrial. El Gobierno ha tomado una serie de medidas tales como proporcionar incentivos especiales a las inversiones en áreas de la selva y parques industriales, así como políticas para reducir las distorsiones en los precios y las tasas de interés que tienen por objetivo la reducción de los desequilibrios regionales, sectoriales y macro-económicos.

El Perú está ricamente dotado de recursos nacionales, es el segundo productor de bismuto en el mundo, el tercer productor de plata, el quinto productor de zinc y plomo y el séptimo productor de cobre. Los productos minerales representan más de un 37 por ciento de las exportaciones totales. Sin embargo, sólo un 5 por ciento de sus reservas están siendo explotadas . Un aumento en el ritmo de explotación abre, por lo tanto, grandes posibilidades para acelerar el ritmo de la industrialización basada en los recursos. El Perú posee también bastantes recursos de mano de obra calificada, lo cual podría facilitar la reestructuración del sector industrial. Una precondición esencial para el desarrollo industrial es, sin embargo, la estabilización macro-económica.

1. THE PERUVIAN ECONOMY

1.1 Recent economic trends

The Peruvian economy grew at an average annual rate of around 3 per cent during 1970-82. A relatively high GDP growth rate of 4.3 per cent was achieved during 1970-75 but growth declined in the late 1970s, except in 1979-80. A decline in the level of economic activity has become more acute in recent years. The year 1983 was the third consecutive year of either stagnation or decline in GDP and MVA growth rates. There was modest recovery in 1984, with GDP and MVA growing at 4.5 per cent and 2.5 per cent respectively. Despite the modest recovery in 1984, the economy and particularly manufacturing continue to be affected by high indebtedness and macroeconomic imbalances. Recent economic trends demonstrate the economy's vulnerability to both internal and external shocks. The continued deceleration in economic performance is evidenced by a sharp fall in real GDP per capita; in 1983 it was around 14.5 per cent below the 1982 level, 10 per cent below the 1970 level and about equal to that of 20 years ago.

The slowdown in the performance of the economy in the 1970s can be mainly attributed to imbalances in the growth of domestic expenditure and revenue, structural divergencies between supply and demand, and to the occurrence of external shocks. Additionally, import reduction objectives were unmet as import-substituting industrialization policies encountered increasing difficulties and also contributed to a stagnation in export sales.

The level of public investment exceeded the real resources available to the Government, and the structure and nature of the investment itself contributed to the declining growth rates. Public investment activities were predominantly confined to projects in sectors which had been given long-term development priority, e.g., oil, fishing industry, mining, basic industries and improvement of infrastructure.

Peru has seen a change in economic policy in 1980 when a new civilian administration took office. It introduced a wide ranging liberalization programme involving a dismantling of non-tariff trade barriers and a

rationalization of the tariff system. However, trade liberalization was not accompanied by a corresponding relaxation of internal policy rigidities. Moreover, the appreciation of the Peruvian currency aggravated the impact of the liberalization and trade deficits of $553 million and $557 million were recorded in 1981 and 1982 respectively compared to a trade surplus of $837 million in 1980 and $1.5 billion in 1979. This deterioration of the trade balance, however, was not only the result of import liberalization and exchange rate appreciation, but also of the reduced demand on the world market for Peru's traditional exports, particularly copper, silver, lead and zinc. In 1982, international copper prices fell in real terms to a 30 year low, lead prices fell by 26 per cent, the price of refined silver fell by over 30 per cent. As a result, the terms of trade declined from 130 in 1980 (1970 = 100) to 95 in 1983 and 82 in 1984 (estimate). To cope with this situation, increased international borrowing was no longer a feasible option as Peru's external debt had increased from $856 million in 1970 to $13.3 billion in 1984 resulting in a debt/GDP ratio of 57.7 per cent.

In 1983, Peru suffered her most severe recession in recent history. GDP declined by about -12 per cent within one year, as the general economic depression was aggravated by major crop failures due to adverse climatic conditions.

In August 1983, an emergency package was initiated by the Peruvian authorities, which included a slowdown of the monthly rate of devaluation, a reduction in the controlled prices for basic food commodities and fuel utilities, and an abandonment of the 4.1 per cent target set for the public sector deficit by the IMF.

At the same time, the depression of domestic demand resulted in a significant improvment of the trade balance which registered a surplus of $293 million in 1983 and $452 million in 1984, compared to a deficit of $557 million in 1982. This improvement was due to a 9.4 per cent increase in exports (mainly non-traditional) in 1983 compared to the first three quarters in 1982, whereas imports fell by 25.7 per cent in 1983 compared to 1982 (first three quarters). This fall in imports, however, reinforced the depression of the industrial sector, as every $1 of industrial output required $0.50 of

imported inputs. In addition, the positive development of the trade balance could not prevent the balance of payments from becoming negative, due to heavy outflows of short-term capital in the form of refinancing and repayment of commercial credits. As a result of a further reduction of imports by 21 per cent, and an increase in exports by 4.4 per cent, the balance-of-payments surplus (current account) increased from $40 million in 1983 to $248 million in 1984. The increased exports, the rescheduling of part of the foreign debt and the failing into arrears with some obligations reduced Peru's effective debt service/export ratio (excluding refinanced service) from 19.5 per cent in 1983 to 16.4 per cent in 1984.

In February 1984, Peru and the IMF signed a letter of intent for a new 18-month SDR 250 million stand-by facility. This loan was suspended as Peru failed to comply with the IMF targets. For instance, the share of the public deficit in GDP, targeted at 4.1 per cent in the agreement, approached some 11 per cent in 1984, while inflation reached 111 per cent in the same year. It remains to be seen, therefore, to which extent the economic recovery of 1984 - which was based on a strong recovery of agriculture - can be transformed into a new path of sustained economic growth.

1.2 Economic structure

As a result of these developments, Peru's economic position has deteriorated relative to other Latin American countries (Annex Tables A-1 and A-2). In fact, Peru's per capita GDP, which had accounted for 91 per cent of the regional average in 1970, had dropped in relative terms to 85 per cent of this average in 1975. It declined further to 71.5 per cent in 1981. Similarly, manufacturing value added per capita expressed as a share of the regional average dropped from 90.5 per cent in 1970 to 84 per cent in 1975 and fell to 70.5 per cent in 1981.

In the 1970s as a whole, economic development in Peru was characterized by a slow pace of structural transformation. The share of agriculture in GDP fell from 16.8 per cent in 1970 to 11.8 per cent in 1980, whereas the share of manufacturing rose slightly from 24.7 per cent to 25.1 per cent during the same period. (Table 1)

Table 1. Structure of gross domestic product by economic activity, 1970-1982

(Percentage)

Economic Activity	1970	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Agriculture	16.8	13.8	13.6	12.9	12.9	12.8	12.9	12.9	11.8	12.5	12.7
Mining	7.1	6.9	6.6	5.7	5.9	7.3	8.1	8.4	8.2	7.6	8.1
Manufacturing	24.7	25.4	26.2	26.1	26.6	25.4	24.6	24.6	25.1	24.1	23.4
Food processing	8.9	6.3	7.4	7.1	7.3	6.6	6.4	6.4	6.2	6.0	6.1
Textiles	3.6	3.6	3.5	3.4	3.5	3.0	2.1	3.1	3.0	2.6	2.5
Wood and wood products	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4
Paper and paper products	1.1	1.2	1.3	1.2	1.2	1.1	1.0	0.8	1.0	1.0	0.8
Chemical products	3.1	3.9	4.0	4.3	4.5	4.3	4.4	4.3	4.6	4.5	4.6
Non-mineral products	0.8	1.0	1.0	1.0	1.1	1.0	0.9	0.9	1.0	0.9	0.9
Basic metals	2.2	2.1	2.0	1.7	1.8	2.9	3.0	3.2	3.1	2.8	2.7
Metal products	2.2	3.5	3.7	4.0	3.9	3.6	3.0	3.0	3.6	3.5	3.0
Other manufacturing	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
Handicraft industry	2.2	2.4	2.4	2.4	2.3	2.1	2.1	2.1	2.1	2.1	2.1
Utilities	0.6	0.8	0.8	0.8	0.9	1.0	1.1	1.1	1.1	1.2	1.2
Construction	3.0	3.5	3.9	3.9	3.4	3.4	3.0	3.0	3.5	3.7	3.8
Commerce	12.6	14.0	14.3	15.0	14.3	13.7	13.4	12.6	13.9	14.1	13.6
Transport	5.0	5.5	5.7	6.0	6.2	6.3	6.4	6.5	6.7	6.8	6.8
Services and other activities	30.1	30.2	28.9	29.7	29.4	30.5	30.5	29.8	29.9	30.0	30.4
GDP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: World Bank, Peru, The Manufacturing Sector: Performance and Policy Issues, Report No. 4430-PE, July 22, 1983.

However, in terms of its contribution to employment the agricultural sector still weighs heavily in the Peruvian economy. Agriculture employed 41 per cent of the labour force in 1980. Agriculture's share in exports was markedly less, amounting to 8 per cent. Crucial for Peru's agricultural development is the provision of sufficient irrigation to the arid and coastal areas, using water flowing from the Andes.

A closer look at the pattern of structural change during the last decade reveals, however, that parallel to the levelling off of economic growth in the middle of the decade the "normal" pattern of structural change also came to a halt. Agriculture's share in GDP has stagnated at somewhat less than 13 per cent since 1975. The share of manufacturing was reduced from a maximum of 26.6 per cent in 1976 to 24.6 per cent in 1978, as it was particularly hard hit by the 1977/1978 recession. In line with the overall development of the economy, manufacturing resumed growth in 1979 and became a "leading" sector in 1980, resulting again in an increase of its share in GDP to 25.1 per cent. However, whereas total GDP continued to grow in 1981, due to an exceptionally good performance of the agricultural sector, manufacturing production stagnated. In 1982 and 1983, manufacturing was severely affected by the economic crisis, exhibiting negative growth rates of -2.5 per cent and -17.2 per cent respectively (Table 2). As a result, the Peruvian economy has experienced a "reversed" pattern of structural change since 1981, characterized by a rising share of agriculture and a falling share of manufacturing in GDP. The economic recovery of 1984, which was led by a strong recovery of agriculture, resulted in a further rise of the share of agriculture in GDP to 14 per cent, whereas manufacturing experienced a further relative decline to 21 per cent.

1.3 The manufacturing sector - an overview

Peru has a relatively high share of manufacturing in GDP. According to World Bank data presented in Table 1 the share of manufacturing in GDP increased from 24.7 per cent in 1970 to 25.16 per cent in 1980. By 1984 the share had declined to 21 per cent. The manufacturing sector was particularly severely affected by the crisis of the early 1980s.

Table 2. Annual real growth rates of GDP, manufacturing and agriculture, 1970-84

Year	GDP	Manufacturing	Agriculture
1970-73	3.6	4.5	-2.9
1974	7.5	10.9	5.3
1975	4.5	4.1	-0.07
1976	2.0	4.0	2.4
1977	-	-4.3	-0.09
1978	-0.06	-3.9	0.006
1979	4.1	4.2	4.5
1980	3.8	5.7	-5.4
1981	3.9	-0.02	10.7
1982	0.4	-2.5	2.1
1983	-11.9	-17.2	-8.5
1984	4.5[a/]	2.5[a/]	20.0

Source: 1970-82: calculated from Annex Table A-3 (based on 1973 soles).

1983: Banco Central de la Republica. Nota Semanal 9/1984, Marzo 1984, Cuadro 52 (based on 1979 soles).

1984: BCR, Reseña Economica, March 1985.

The manufacturing sector remains dominated by the food processing, chemical products, metal products and basic metal branches. The textile industry also has a relatively large share of MVA, but has experienced a significant decline since 1979. The basic metals, metal products, "other manufacturing" and wood-product branches have also experienced a decline in the early 1980s, whereas processed foods, chemical products and handicraft industries have had positive growth rates over the period 1980-82.

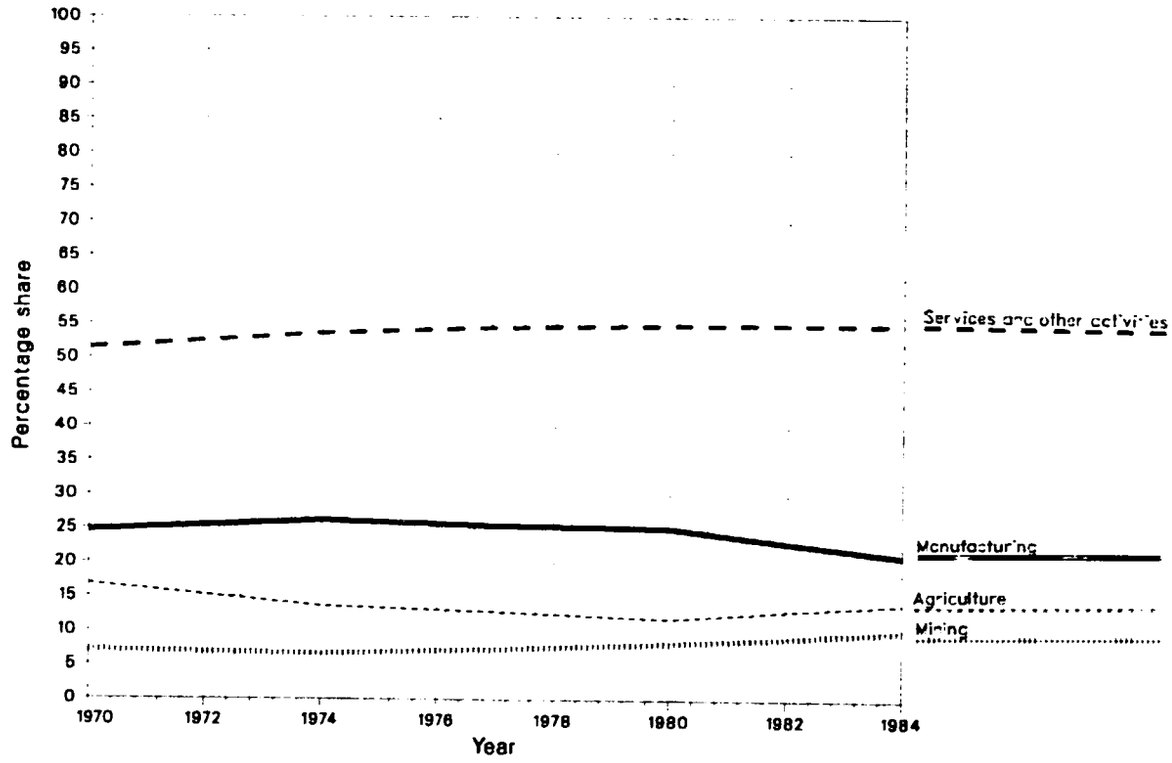
The manufacturing sector provided employment for 15.6 of the total wage earning labour force in 1980. During the 1980s the rate of growth of manufacturing employment has been below the 3 per cent annual average growth rate of the labour force. The manufacturing sector's share in employment is likely to have declined as a consequence of falling output and MVA levels. It is estimated that in 1983 manufacturing output fell by -17.2 per cent. Food products and textiles continue to be the leading branches in terms of manufacturing employment shares.

The export performance of many manufactured products had been better than that of traditional exports during the 1970s. During the period 1979-1983 non-traditional exports declined from $831.6 million to $555.0 million, but recovered to $726.0 million in 1984. The leading traditional exports include non-ferrous metals and petroleum products. Fishmeal, chemicals, textiles and iron and steel are the main non-traditional exports. The share of exports to gross output has increased for many of these products since the mid-1970s. In 1984 non-traditional exports accounted for 23 per cent of total exports. Textiles and fish-meal contribute around 59 per cent to the total non-traditional exports.

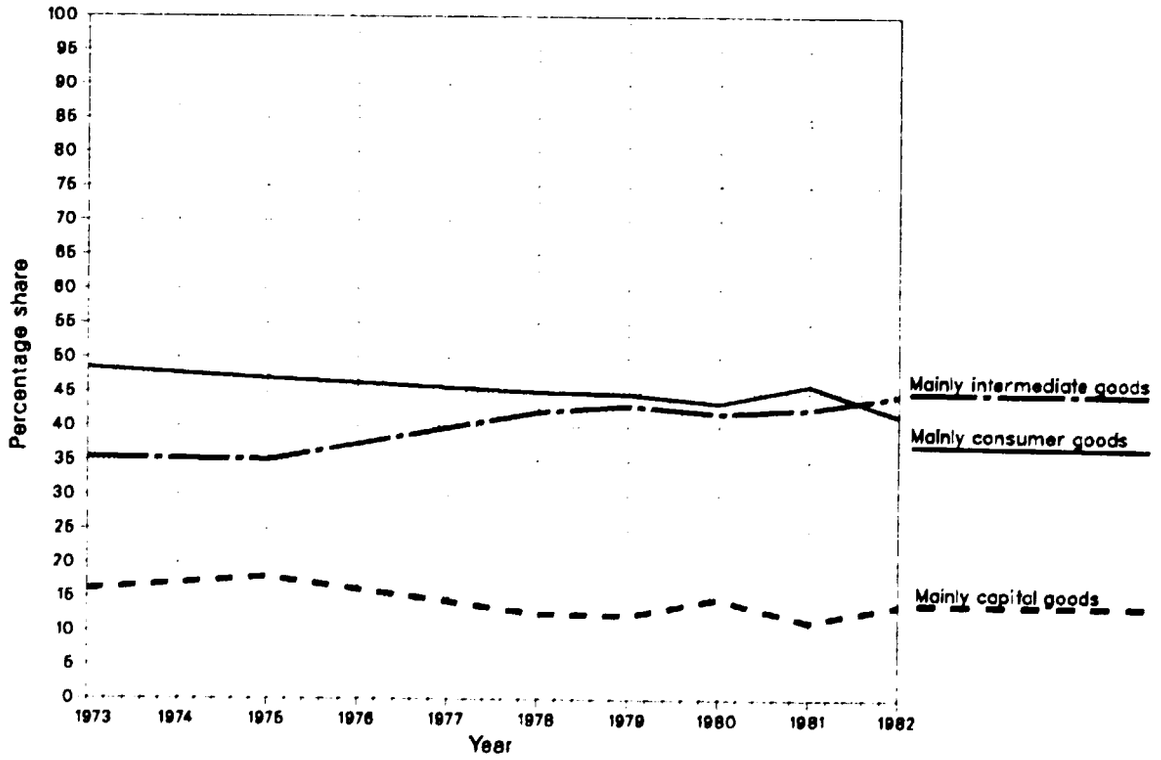
The decline in manufacturing output, employment and exports that occured in the early 1980s reflected the vulnerability of the se o external shocks. It also reflects the structural imbalances that developed within the sector in the latter half of the 1970s. The next chapter reviews the performance and the structural change that occured within the manufacturing sector since 1970.

MANUFACTURING TRENDS

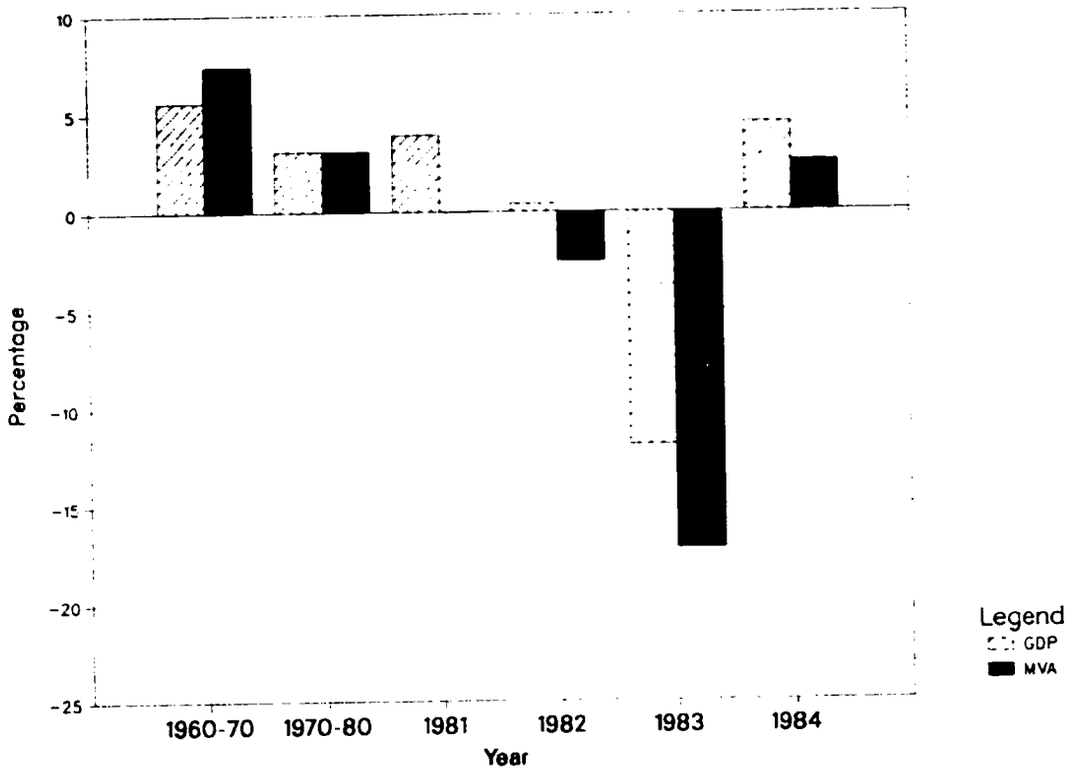
GDP BY ECONOMIC SECTOR, 1970-1984



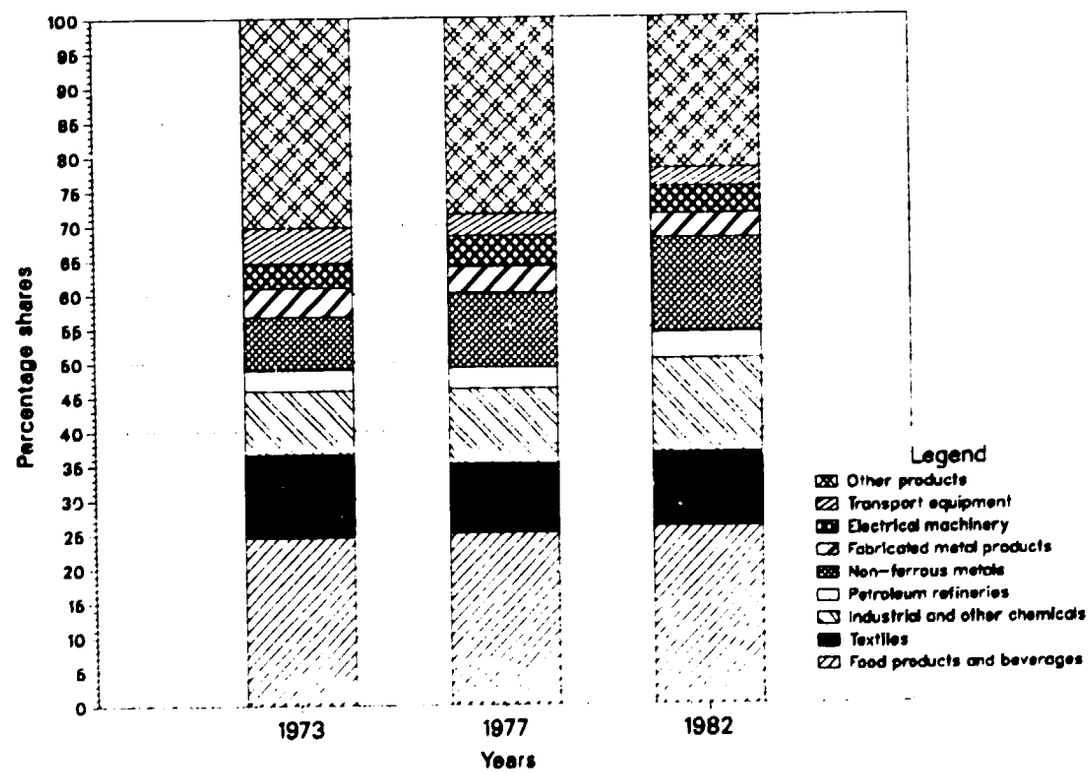
MANUFACTURING VALUE ADDED BY END USE, 1973-1982



ANNUAL RATES OF GROWTH OF GDP AND MVA, 1960-1984

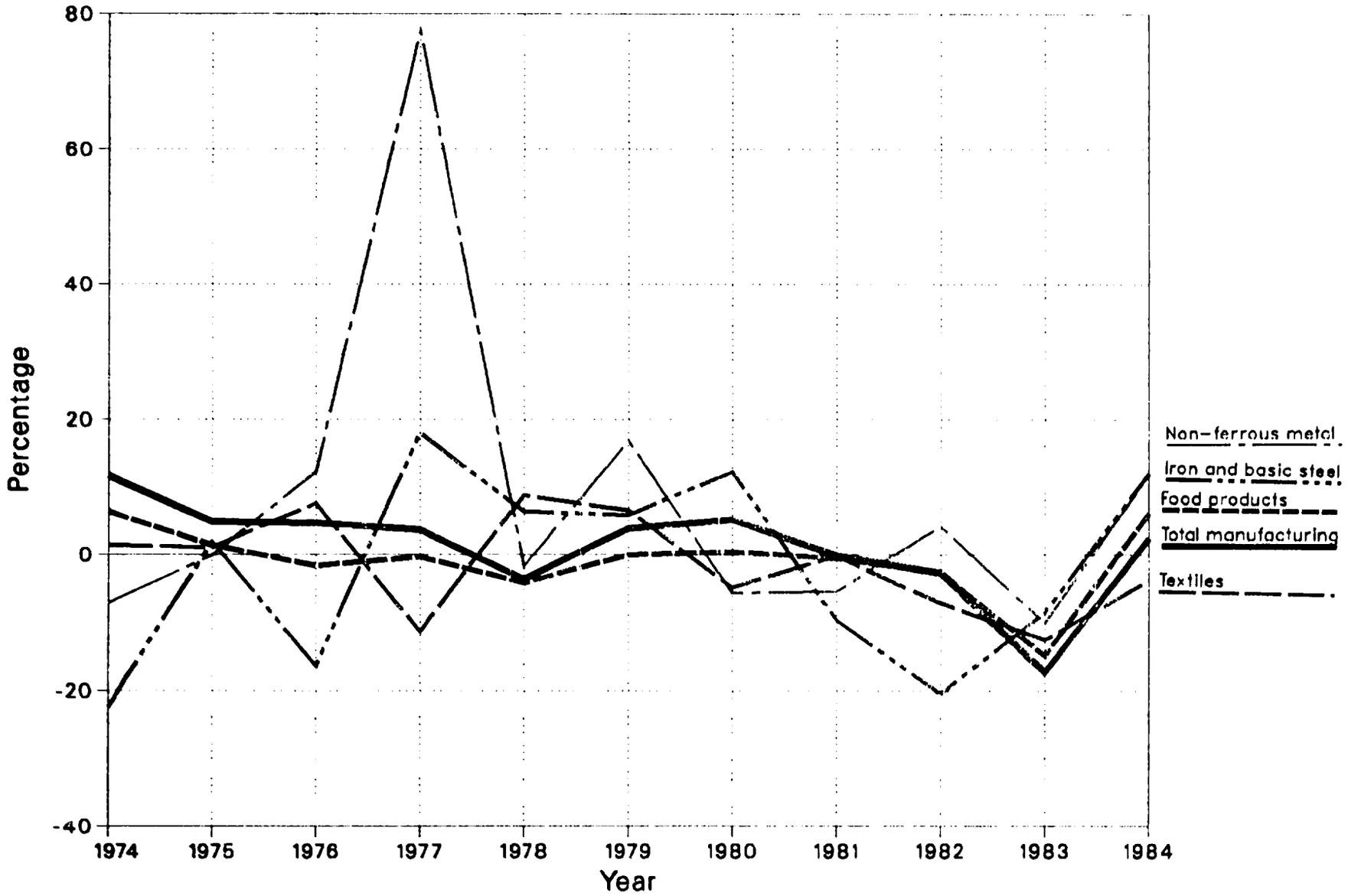


COMPOSITION OF MVA BY MAIN BRANCHES, 1973,1977 AND 1982



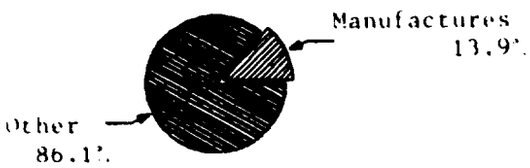
INDEX OF PHYSICAL OUTPUT,MAIN SUB-SECTORS,1974-84

(annual percentage change)

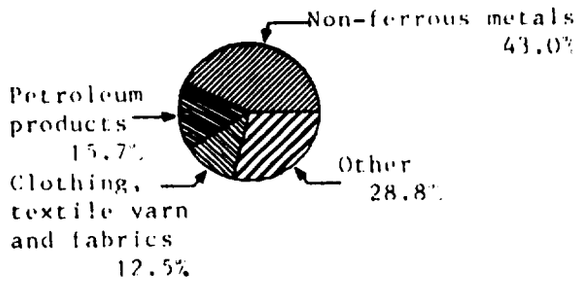


MANUFACTURED EXPORTS AND IMPORTS IN 1982

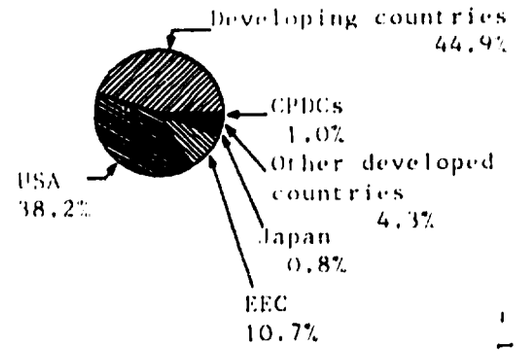
SHARE OF MANUFACTURES IN TOTAL EXPORTS



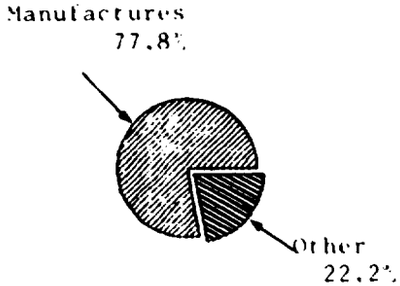
COMPOSITION OF MANUFACTURED EXPORTS



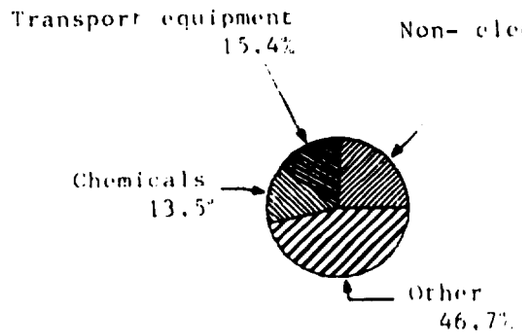
DESTINATION OF MANUFACTURED EXPORTS



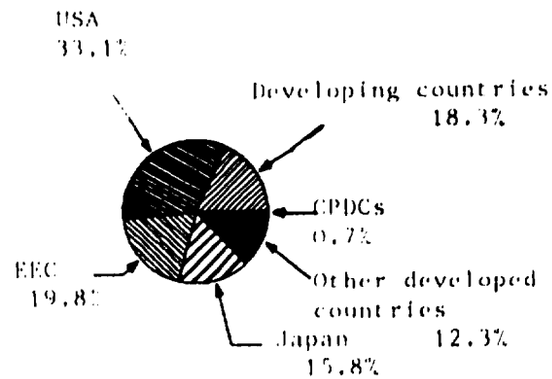
SHARE OF MANUFACTURES IN TOTAL IMPORTS



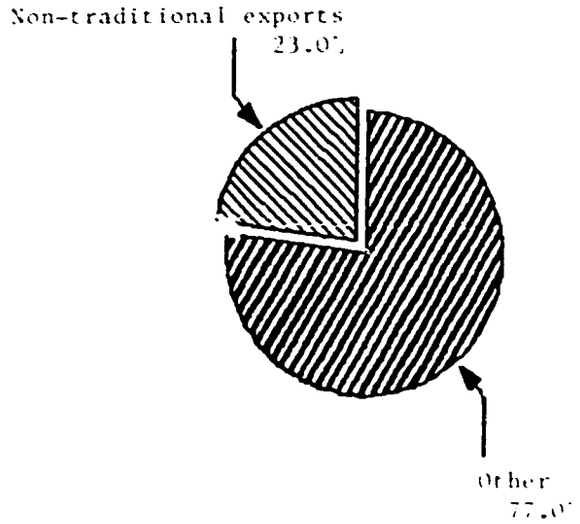
COMPOSITION OF MANUFACTURED IMPORTS



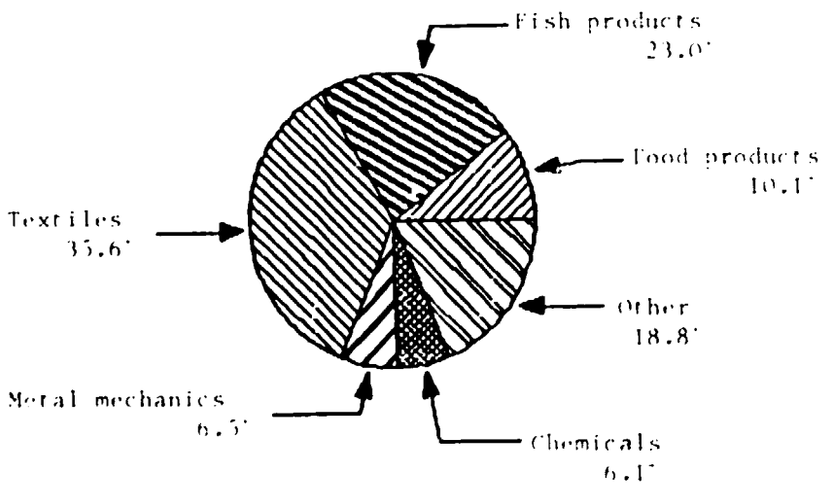
ORIGIN OF MANUFACTURED IMPORTS



SHARE OF NON-TRADITIONAL EXPORTS IN TOTAL EXPORTS,1984



COMPOSITION OF NON-TRADITIONAL EXPORTS,1984



2. STRUCTURE AND PERFORMANCE OF THE MANUFACTURING SECTOR

2.1 Growth and structural change

The manufacturing sector exhibited positive growth in production during 1974-80 except in 1978. The index of physical output in total manufacturing stagnated in 1981 and declined by -2.7 and -17.2 per cent in 1982 and 1983 (Table 3). The index of manufacturing production increased from 85 in 1983 to 87 in 1984 with the largest growth occurring in the natural resource-based industries. Significant production increases were observed in industrial chemicals, petroleum refineries, non-ferrous metals and food products. However, manufacturing production remained 15 per cent below the level achieved in 1982, and excluding primary processing industries, the gap was even 20 per cent.

The growth of iron and steel industry registered an upward swing in 1974. Industrial chemicals have maintained positive growth rates throughout the 1970s. These two sectors are highly capital intensive and their dynamic development in the course of the 1970s was influenced by the policy of extended import substitution pursued by the Government. On the other hand, "traditional" labour-intensive manufactured products like wearing apparel, leather products, footwear and furniture together with "other" manufactured products - industries which mainly consist of small-scale, private manufacturing enterprises - declined in relative terms.

The non-ferrous metals branch based on Peru's rich natural resources exercised a stabilizing effect on Peruvian manufacturing as a whole. During the years of deepest recession (1976 to 1978) this branch exhibited the highest growth rate of all manufacturing activities. In 1984 it was again a leading sector with a growth rate of about 12 per cent. On the other hand, in the periods with higher growth during the first half of the 1970s, the performance of non-ferrous metals fell below the average of the total manufacturing sector except in 1971. The explanation of this "anti-cyclical" pattern of development at the branch level can be traced to fluctuations in world prices for Peru's processed natural resources. Although linkages with the world market had a stabilizing effect on the manufacturing sector and

Table 3. Index of physical output by manufacturing branches, 1974-84 (annual percentage change)

		1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
311-12	Food products	6.4	1.4	-1.9	-0.3	-4.1	0.0	0.4	-0.5	-2.6	-14.8	6.1
313	Beverages	21.3	9.3	11.1	-8.4	-11.0	9.3	10.6	-1.2	2.6	-3.4	-8.0
314	Tobacco	16.5	1.2	-0.6	-0.8	-8.8	10.0	10.0	7.1	1.5	-12.1	...
321	Textiles	1.4	1.1	7.6	11.3	8.8	6.6	-4.8	-0.2	-7.1	-12.5	-3.8
324	Footwear	10.4	-8.2	25.0	-36.1	-6.2	-5.1	11.5	-8.5	-22.4	-27.3	...
331	Wood and cork prod.	3.1	-5.0	55.5	-7.6	-1.6	-3.8	-8.3	0.6	...	...	...
341	Paper and paper prod.	24.1	-16.4	13.2	5.7	-15.1	-5.5	21.7	-7.3	-27.3	-15.0	...
351	Industrial chemicals	15.8	13.0	9.4	8.9	7.6	4.6	5.4	-0.2	8.2	-16.0	25.7
352	Other chemicals	7.0	17.9	9.1	-10.5	2.9	-10.2	18.1	3.2	-1.4	-20.0	-19.4
352	Petroleum refineries	8.4	6.0	0.1	0.8	-1.6	16.0	3.0	2.0	1.8	-4.5	12.4
355	Rubber products	2.1	10.5	24.1	-16.6	-13.2	8.0	21.3	-2.3	-4.7	-14.0	...
356	Plastic products	13.5	8.6	-1.9	-9.8	-8.8	22.4	2.5	9.3	3.4	-28.5	...
362	Glass products	5.0	16.0	10.3	-10.3	-20.2	18.5	3.2	0.2	12.4	-17.0	6.0
369	Non-metallic minerals	23.8	4.2	-8.5	-8.2	-3.2	0.5	12.6	0.8	-10.8	-19.0	...
371	Iron and basic steel	22.4	1.9	-16.3	18.1	6.4	5.9	12.3	-9.6	-20.4	-8.5	12.0
372	Non-ferrous metal	-7.1	-0.1	12.3	77.6	-1.7	16.9	-5.6	-5.4	4.2	-10.0	11.9
381	Metal products	8.0	6.8	-5.3	-5.1	-6.4	-5.2	20.4	-9.3	-5.6	-20.4	1.3
383	Electrical machinery	23.9	20.8	-2.7	-3.3	-10.8	-8.4	17.6	13.1	-20.2	-40.0	2.0
384	Transport equipment	-10.9	22.4	0.6	-34.2	-46.8	13.0	54.6	4.9	-7.1	-60.1	-3.1
	T O T A L	11.7	4.9	4.7	3.7	-3.6	3.9	5.2	-0.1	-2.7	-17.2	2.4

Sources: 1974-1982: World Bank (1983).
1983 : Ministry of Industry, Commerce, Tourism and Integration.
1984 : BCR, Reseña Económica, March 1985.

on the economy as a whole, the vulnerability of Peru's industrial sector to external developments, particularly changing conditions in metal markets, remains a matter of concern.

The analysis of growth rates of individual sectors must take into account their relative weight in total manufacturing as individual high growth rates may not greatly affect the pattern of structural transformation of an economy if they are based on very low initial shares. Table 4 presents the shares of individual branches in total manufacturing value added. The most important branches in 1980 continued to be beverages and food products (27.3 per cent) followed by non-ferrous metals (12.1 per cent) and textiles (10.0 per cent). The significance of the non-ferrous metals branch for the manufacturing sector is evidenced by the fact that it is the country's main foreign exchange earner. The iron and steel branch was the fastest growing branch in the 1970s, particularly during 1970-74, and increased its small share of total MVA to 2.9 per cent of the total in 1980.

This pattern of structural transformation was reversed during the stagnation and decline of economic activity beginning in 1981. Individual sectors and branches were affected by the acute crisis to a different degree, as can be seen from Annex Table A-4. Apart from the production of fishmeal, which was affected by lack of inputs, the most seriously affected sectors were metal products and machinery. Production in this branch was 46.3 per cent lower in 1983 compared to 1981 and within the sector, the transport equipment (-57.1 per cent) and electrical machinery (-53.9 per cent) branches were especially affected. On the other extreme, agro-based (beverages and tobacco), traditional labour-intensive (textiles) and natural resource-based activities (industrial chemicals, petroleum refineries, non-ferrous metals) suffered smaller set-backs than the average manufacturing enterprise. As shown, it was just these agro/fishery based (particularly fishmeal) and the natural-resource-based branches which recovered in 1984.

Table 4. Composition of manufacturing value added (at 1975 prices), 1973-1982
(percentage share)

Description (ISIC)	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
TOTAL MANUFACTURING(300)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Food products(311)	16.6	16.4	15.7	14.8	15.8	16.7	16.6	18.4	16.2	15.5
Beverages(313)	7.9	8.9	9.3	9.9	9.3	8.5	8.9	8.9	9.2	10.4
Tobacco(314)	2.1	2.2	2.1	2.0	2.1	2.0	2.1	2.1	2.3	2.5
Textiles(321)	12.0	11.2	10.8	11.1	10.0	11.5	11.7	10.0	10.4	10.7
Wearing apparel,except footwear(322)	2.8	2.8	2.7	2.4	2.2	1.8	1.6	1.5	1.1	0.0
Leather products(323)	0.8	0.7	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.0
Footwear,except rubber or plastic(324)	1.7	1.6	1.6	1.9	1.2	1.2	1.1	1.1	1.0	0.9
Wood products,except furniture(331)	1.6	1.5	1.4	2.0	1.9	1.9	1.8	1.5	1.5	0.0
Furniture,except metal(332)	1.1	1.1	1.3	0.8	0.7	0.6	0.5	0.6	0.5	0.0
Paper and products(341)	3.0	3.5	2.7	2.9	3.1	2.8	2.5	2.8	2.7	2.2
Printing and publishing(342)	2.9	2.7	2.4	2.3	1.9	1.8	1.4	1.4	1.8	2.0
Industrial chemicals(351)	3.5	3.7	3.9	4.1	4.7	5.1	5.1	4.9	5.1	6.1
Other chemicals(352)	5.8	5.8	6.4	7.0	6.3	6.4	5.6	6.2	6.6	7.6
Petroleum refineries(353)	3.1	3.1	3.1	3.0	3.1	3.1	3.5	3.3	3.4	3.9
Misc. petroleum and coal products(354)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Rubber products(355)	1.5	1.4	1.5	1.8	1.5	1.4	1.4	1.6	1.6	1.7
Plastic products(356)	2.3	2.4	2.5	2.3	2.2	2.0	2.2	2.2	2.5	2.8
Pottery,china,earthenware(361)	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.5	0.5
Glass and products(362)	1.0	0.9	1.0	1.1	1.0	0.8	0.9	0.9	0.9	1.1
Other non-metallic mineral prod.(369)	2.6	2.9	2.8	2.7	2.5	2.5	2.4	2.5	2.6	2.5
Iron and steel(371)	2.4	2.7	2.6	2.1	2.5	2.8	2.8	2.9	2.7	2.4
Non-ferrous metals(372)	7.8	7.2	6.4	7.0	10.9	12.7	14.2	12.1	11.9	13.7
Fabricated metal products(381)	4.2	4.2	4.2	3.8	3.8	3.6	3.3	3.6	3.4	3.5
Machinery,except electrical(382)	2.7	3.0	3.6	3.5	3.6	3.0	3.2	3.4	3.9	3.3
Machinery electric(383)	3.6	4.1	4.7	4.4	4.4	4.0	3.5	3.7	4.4	3.9
Transport equipment(384)	5.2	4.4	5.0	4.8	3.2	1.8	1.9	2.7	2.6	2.7
Professional & scientific equipm.(385)	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.0
Other manufactured products(390)	1.0	0.7	0.7	0.6	0.6	0.5	0.4	0.4	0.3	0.0
TOTAL MANUFACTURING IN MILLIONS US $	3124	3373	3563	3724	3612	3503	3665	4042	3904	3532

Source: Statistics and Survey Unit, UNIDO. Based on data supplied by the UN Statistical Office, with estimates by the UNIDO Secretariat.

Note: Total manufacturing is the sum of the available components and does not necessarily correspond to ISIC 300 total.

2.2 Employment generation and performance

During the first half of the 1970s, output, employment and productivity grew at high rates, but fell dramatically during the recession in following years (Table 5). Employment, however, was much less affected due largely to the existing labour legislation, which makes it very difficult for enterprises to reduce their work force in times of recession.

Table 5. Growth rates of manufacturing output, employment and productivity, 1971-1981 (per cent)

	1971-75	1975-79	1979-81a/
Output	8.1	-8.2	3.7
Employment	5.2	1.0	1.5
Productivity	2.9	-9.2	2.2

Source: Survey of Establishments with 5 or more Employees, Ministry of Industry.

a/ 1979/81 estimated by World Bank.

Despite this legislation, unemployment and underemployment increased considerably in the second half of the 1970s, as employment growth fell short of the 3 per cent growth rate of the labour force. According to estimates by the Ministry of Labour, only 61.8 per cent of the economically active population in Metropolitan Lima in 1982 could be counted as fully employed, whereas 6.4 per cent were openly unemployed and 31.8 per cent underemployed. These figures can be expected to have deteriorated further in 1983, when manufacturing production fell by -17.2 per cent. The modest recovery of manufacturing output by 2.4 per cent in 1984 cannot be expected to have changed the employment picture, as it were mainly the resource-based, capital-intensive branches which expanded.

In 1979, the largest number of jobs were provided by food processing, textiles, fabricated metal products, other chemicals, wearing apparel, transport equipment, beverages, electrical machinery, printing and publishing and other non-metallic mineral products in that order. The

greatest relative gain in terms of employment creation since 1970 was in electrical machinery, moving up from 13th place in 1970 to 8th in 1979. In absolute terms, the largest number of new jobs were generated by textiles (21 per cent of new jobs) fabricated metal products (13 per cent), "other non-metallic mineral products" (10 per cent), "other chemicals" (10 per cent), electrical machinery (9 per cent), leather products (7 per cent) and wood products and plastic products (6 per cent). Food products, on the other hand, retained its position as the largest employing sector, even though the total number of jobs in the sector was reduced. In consequence, the share of food production in total employment declined from 21.1 per cent in 1970 to 14.6 per cent in 1979 (Table 6).

The food processing industry also accounts for the greatest portion of the wage bill, 13.8 per cent in 1979. Comparing this figure to its share in total employment in the same year indicates a wage level in food processing below the manufacturing average. Other branches with higher shares in employment than in the wage bill include wearing apparel, wood products and furniture. Above average wage rates, on the other hand, exist in tobacco, paper and products, petroleum refineries and iron and steel industries.

Relatively small wage bills in wearing apparel and wood products and furniture correspond to below-average labour productivity in these sectors, as indicated by the figures on value added per employee (Table 7). These low productivity levels reflect below-average capital intensities in these sectors, as indicated by the figures on gross fixed investment. Other branches with relatively little capital investment per employee are leather products, footwear and printing and publishing. Relatively high wage bills in paper and products, petroleum refineries and iron and steel can on the other hand be explained by high investments per work place. The two other branches which are highly capital intensive are industrial chemicals and beverages.

Differences in capital intensities are largely reflected in the figures for labour productivity. There are two notable exceptions, however, from the usually positive correlation between capital intensity and value added per employee. Non-ferrous metals and tobacco show by far the highest labour productivities, but below average investment

Table 6. Branch shares of establishments, employment, wages and salaries in total manufacturing, 1970 and 1979

(per cent)

ISIC	ISIC-DESCRIPTION	Number of establishments		Employment persons engaged		Wages and salaries	
		1970	1979	1970	1979	1970	1979
3000	TOTAL MANUFACTURING	100.00	100.00	100.00	100.00	100.00	100.00
3110	Food products	21.21	17.11	21.14	14.62	12.85	13.76
3130	Beverages	6.02	5.08	4.85	4.46	5.04	4.73
3140	Tobacco	0.06	0.02	0.36	0.28	0.50	0.40
3210	Textiles	8.09	7.89	12.38	12.62	15.41	12.85
3220	Wearing apparel, except footwear	8.11	8.29	5.00	5.41	2.74	3.10
3230	Leather products	2.86	1.94	1.39	1.31	0.93	1.00
3240	Footwear, except rubber or plastic	3.42	3.14	3.04	2.66	2.51	2.06
3310	Wood products, except furniture	4.42	5.66	2.68	3.41	1.88	1.96
3320	Furniture, except metal	5.36	4.67	3.76	2.35	2.80	1.44
3410	Paper and products	1.09	1.09	2.11	2.61	3.29	3.45
3420	Printing and publishing	5.71	5.36	4.69	3.97	4.99	4.37
3610	Industrial chemicals	2.24	1.82	3.35	3.06	11.21[a/]	4.25
3520	Other chemicals	4.10	4.77	5.42	6.31	...	7.54
3530	Petroleum refineries	0.20	0.13	0.98	1.13	...	2.51
3840	Misc. petroleum and coal products	0.25	0.09	1.03	0.05	...	0.04
3550	Rubber products	0.97	0.58	1.24	1.33	1.74	1.59
3560	Plastic products	1.70	2.51	2.22	2.99	2.63	2.84
3610	Pottery, china, earthenware	0.18	0.34	0.52	0.66	0.46	0.65
3620	Glass and products	0.64	0.84	1.75	1.74	1.59	1.51
3690	Other non-metallic mineral products	2.17	4.71	1.96	3.92	6.26	3.68
3710	Iron and steel	0.38	0.62	...	2.98	2.71	4.61
3720	Non-ferrous metals	0.28	0.57	1.91	1.51	1.98	1.77
3810	Fabricated metal products	5.84	8.84	5.05	6.73	5.09	5.80
3820	Machinery, except electrical	3.61	3.21	3.82	3.12	4.04	3.09
3830	Machinery electric	2.21	2.95	2.53	4.12	2.95	4.37
3840	Transport equipment	6.02	3.43	5.11	4.49	4.55	4.78
3850	Professional & scientific equipment	0.37	0.75	0.15	0.57	0.77	0.54
3900	Other manufactured products	2.49	3.58	1.55	1.59	1.08	1.29

Sources: 1970: UNIDO data base;
1979: Instituto de Investigacion Tecnologica Industrial y de Normas Tecnicas.

a/ 3510, 3520.

Table 7. Performance of manufacturing, by sub-sector, 1970 and 1979

ISIC	ISIC-DESCRIPTION	Value added per employee (thousand $) 1970	Value added per employee (thousand $) 1979	Value added per establishment (thousand $) 1970	Value added per establishment (thousand $) 1979	Share of wages & salaries in value added (per cent) 1979	Gross fixed investment per work-place 1/ ($) 1979	Share of value added in gross output (per cent) 1970	Share of value added in gross output (per cent) 1979
3000	TOTAL MANUFACTURING	8.4	15.6	250	431	25.0	10,851	45.1	40.2
3110	Food products	5.9	16.1	174	381	17.31	10,400	36.2	34.1
3130	Beverages	13.2	28.7	318	696	12.54	22,612	70.4	66.6
3140	Tobacco	53.0	92.7	9,283	34,642	6.79	9,818	80.0	78.7
210	Textiles	7.1	10.9	325	482	22.51	11,019	40.7	41.4
3220	Wearing apparel, except footwear	3.0	2.7	55	48	16.55	1,686	46.8	42.0
3230	Leather products	4.1	6.9	59	131	20.81	4,073	39.3	40.1
3240	Footwear, except rubber or plastic	4.2	4.8	110	112	41.98	1,953	53.3	48.4
3310	Wood products, except furniture	3.8	7.3	68	123	30.07	6,118	45.5	40.9
3320	Furniture, except metal	1.9	4.7	39	65	46.89	1,696	51.6	44.6
3410	Paper and products	8.1	15.4	468	1,022	24.78	24,419	38.6	39.5
3420	Printing and publishing	5.0	6.2	122	127	42.23	4,900	56.3	49.8
3510	Industrial chemicals	6.2	19.0	274	879	15.96	29,046	53.3	47.1
3620	Other chemicals	7.7	11.7	301	429	21.76	6,922	50.3	42.5
3530	Petroleum refineries	28.9	61.6	4,220	15,439	6.97	25,663	37.6	24.7
3540	Misc. petroleum and coal products	0.7	28.8	90	397	4.30	8,532	60.2	34.8
3550	Rubber products	10.1	12.3	384	782	22.21	11,720	57.3	43.9
3560	Plastic products	5.2	9.5	202	315	23.35	10,497	48.4	40.9
3610	Pottery, china, earthenware	7.0	4.8	579	257	34.19	7,609	69.3	67.9
3620	Glass and products	3.7	7.1	300	419	38.21	7,902	66.7	52.8
3690	Other non-metallic mineral products	11.4	8.2	308	188	24.30	4,446	55.5	42.4
3710	Iron and steel	...	15.0	855	2,019	21.28	38,862	47.0	41.4
3720	Non-ferrous metals	56.1	174.6	11,526	12,792	4.51	6,489	42.3	34.4
3810	Fabricated metal products	4.9	6.7	127	142	26.63	7,215	46.6	42.0
3820	Machinery, except electrical	3.8	12.1	120	326	27.15	5,729	54.6	42.9
3830	Machinery electric	6.7	[illegible]9	228	419	20.1[illegible]	6,587	50.6	43.6
3840	Transport equipment	5.2	[illegible]9	132	[illegible]%	37.[illegible]	8,113	37.8	43.8
3850	Professional & scientific equipment	8.4	6.5	106	135	38.41	7,948	47.3	44.0
3900	Other manufactured products	68.5	65.7	1,268	814	30.18	6,021	44.8	53.3

Sources: 1970 UNIDO data base; value added (in US $) was calculated using value added in national currency and mid-year exchange rates.

1979 Instituto de Investigacion Technologica Industrial y de Normas Tecnicas, (ITINTEC) Evaluacion economica y social de la industria manufacturera en el Peru.

a/ Value of gross fixed investment at end 1978 in current soles, converted to US dollars at exchange of 30 June 1979 (1$ = S2,25), divided by total number of employees.

requirements per work place. In the case of non-ferrous metals, the high value added per employee figures result from an upsurge of international prices, beginning in 1978. The share of wages and salaries in value added, on the other hand, remained extremely low, indicating a very high profitability. The second exception, tobacco, tends to indicate high profits as well.

2.3 Exports and imports of manufactured goods

During the last decade, Peru was successful in diversifying the export basket and in increasing the degree of processing. Taking the narrow definition of manufactures (SITC 5-8 less 68), the share of manufactures in total exports rose from 1.4 per cent in 1970 to 16.8 per cent in 1980, but fell subsequently to 13.9 per cent in 1982. This reduction of the share of manufactures reflects a fall in the value of manufactured exports by -30.3 per cent between 1980 and 1982, whereas the value of total exports fell by only -15.6 per cent during the same period.

The comparatively smaller decline in the total export value is partly a result of the increase of petroleum products exports by 121.2 per cent from 1980 to 1982. Correspondingly, the share of manufactures according to the wider definition[1/] in total exports, fell from 74.5 per cent in 1970 to 57.6 per cent in 1980, and rose to 61.5 per cent in 1982.

The successful diversification of Peru's export supply and expansion of manufactured exports, however, was outstripped by the rise in demand for essential manufactured imports for the country's industrialization. Thus, the trade deficit in manufactures (narrow definition) increased from $434.6 million in 1970 to $1,902.6 million in 1982 (Table 8).

This increase was to a significant extent facilitated by changes in policy parameters. Thus, the deficit increased from $557.7 million in 1979, when policies were initiated to open the economy to external markets, to $1,902.6 million in 1982. On the other hand, the trade deficit of $1,579.7 million in 1975 indicates that the deterioration of the balance of trade in manufactures subsequent to the liberalization policies cannot be attributed to the effects of these policies alone.

1/ See footnote under table A-5.

On the export side, manufactures of non-ferrous metals represented the most important single item in 1982, accounting for 43.0 per cent of all manufactured exports (wider definition), followed by petroleum products, which accounted for 15.7 per cent.

Table 8. Trade balance of Peru, selected years ($ million)

	1970	1975	1979	1980	1982
Manufactures[a/] (broad definition)	242.223	-966.393	803.666	-363.138	-920.898
Manufactures (SITC 5-8 less 68) (narrow definition)	-434.615	-1,579.677	-557.705	-1,317.653	-1,902.618
Total traded goods (SITC 0-9)	422.654	-1,064.979	1,904.125	692.154	-184.494

Source: UNIDO data base (Table A-5).

a/ See footnote under Table A-5.

However, non-traditional exports (NTX), excluding items such as non-ferrous metals and petroleum, gained increasing importance in the 1970s, in particular textiles, fishmeal, food products, iron and steel and chemicals accounting in 1984 for 35.5, 23.0, 10.2, 8.1. and 6.1 per cent respectively in total NTX. Starting from a relatively low base, NTX increased rapidly between 1972 and 1974 (Table 9) and accounted for around 10 per cent of total exports in 1974. NTX played an increasingly important role since the mid-1970s, and increase in exports for most of these goods could compensate a decline in sales on the internal market. As a result the share of exports in gross output of these sectors increased during the second half of the 1970s, particularly in the case of textiles. NTX have suffered significant set-backs in 1981 and 1983. In 1984, they regained growth momentum and increased their share in total exports to 23 per cent. The strong recovery of NTX in 1984 was led by fish products, which was facilitated by a normalization of climatic conditions resulting in increased fish catch. Textile exports grew by 39 per cent, the basis of success being efforts to diversify export markets, a realistic exchange rate and the provision of export credit through FENT (Non Traditional Exports Fund). The strong increase of textile exports is more remarkable as Peruvian producers had to renounce in October 1984 the use of CERTEX and FENT for exports to the US under the pending threat of the imposition of

Table 9. Non-traditional exports, 1970-1984

(Millions of US $)

Year	Total NTX	Annual Percentage Change	Food products	Fish products	Tex-tiles	Metal Mechanics	Chemicals	Iron & Steel Products	Other[a/]
1970	34.2	—	7.8	7.0	1.3	1.2	6.3	3.1	7.4
1971	30.6	-10.5	7.5	8.4	1.1	0.9	4.2	2.3	6.3
1972	51.6	68.6	10.1	10.1	5.6	1.3	8.1	7.8	7.0
1973	113.0	119.0	25.2	19.4	16.4	4.1	13.0	22.7	13.2
1974	154.3	36.5	20.9	22.0	27.4	10.7	15.4	43.4	14.3
1975	107.5	-30.3	13.1	19.2	13.2	16.6	11.1	26.5	7.5
1976	136.7	27.2	16.6	27.2	30.9	18.4	15.5	14.2	13.8
1977	237.9	74.0	26.1	42.3	62.5	41.8	24.7	18.7	21.9
1978	343.5	44.4	39.3	62.3	102.6	35.7	45.1	34.0	24.3
1979	724.7	110.0	76.1	119.6	178.8	65.5	107.8	75.0	102.1
1980	831.6	14.8	70.4	119.2	230.5	55.2	140.5	80.0	135.9
1981	693.0	-17.7	60.0	106.0	231.0	58.0	80.0	48.0	110.0
1982	762.0	70.0	70.0	98.0	281.0	50.0	65.0	71.0	127.0
1983	555.0	-27.2	56.0	80.0	186.0	43.0	45.0	55.0	90.0
1984	726.0	30.8	74.0	167.0	258.0	47.0	44.0	59.0	77.0

Sources: 1970-80 Schydlowsky (1983:8).
1981 Peru Exporta, No. 95 (Dic. 82-En. 83) p.6.
1982-84 BCR, Reseña Economica, various issues

a/ Including wood and paper, leather products, artensanry, jewelry, gold, silver, non-metalic minerals.

countervailing duties. Food products benefited from the extension of CERTEX to these products in January 1984, and increased exports by 32 per cent.

The expansion of NTX was also facilitated by the conclusion of agreements with the USSR and Romania on the repayment of debt in terms of kind payments. Exports worth around $280 million were agreed to be delivered between 1984 and 1986, 75 per cent of which were meant to be non-traditional exports.

Peru's exports show an increasing degree of processing as reflected in the figures shown in Table 10. From 1970 to 1982, the share of "processed goods for final use" (group "D" products) in total exports rose from 1.6 per cent to 21.8 per cent. The share of semi-manufactured exports fell in the same period from 67.9 per cent to 36.5 per cent, indicating an extension of the domestic processing chain. On the import side, the composition of total demand remained relatively unchanged during the last decade. The moderately rising share of group "D" imports (processed goods for final use) might reflect the effects of the liberalization of the foreign trade regime at the end of the 1970s.

Non-electrical machinery, transport equipment and chemicals are the most important imports, accounting in 1982 for 24.4 per cent, 15.4 per cent and 13.5 per cent respectively of all manufactured imports according to the wider definition (27.9 per cent, 17.6 per cent and 15.7 per cent respectively, according to the more narrow definition).

Annex Tables A-6 and A-7 show the direction of Peru's foreign trade in manufactured goods. The largest part of Peru's foreign trade is with the developed market economies, which purchased 74.2 per cent of Peru's total exports and supplied 78.5 per cent of her imports in 1982 (Table 11). This trade is characterized by an asymmetric exchange of Peruvian raw materials and relatively little processed manufactures for machinery and equipment with a high value-added content from the developed countries.

However, there is a slight trend towards reduced dependence on imports from the developed countries. From 1979 to 1982, the share of imports from this source in total imports fell from 80.1 per cent to 78.5 per cent. This change is widely accounted for by growing imports of manufactures from other developing countries (Table 11).

Table 10. Shares of exports and imports classified according to level of processing, 1970 and 1982, and trend growth rates, 1970-1975 and 1975-82

CLASSES	EXPORTS				IMPORTS			
	CLASS SHARE OF TOTAL (PERCENTAGE)		CLASS GROWTH RATE (PERCENTAGE)		CLASS SHARE OF TOTAL (PERCENTAGE)		CLASS GROWTH RATE (PERCENTAGE)	
	1970	1982	1970-1975	1975-1982	1970	1982	1970-1975	1975-1982
A : Non-processed goods for further processing	29.88	40.24	10.38	17.74	12.98	10.19	40.09	-4.86
B : Processed goods for further processing	67.87	36.52	5.84	3.84	15.40	12.54	30.79	4.07
C : Non-processed goods for final use	0.68	1.39	25.75	13.13	3.14	2.45	-0.78	27.47
D : Processed goods for final use	1.58	21.84	41.89	46.36	68.48	74.83	28.54	9.91
Sum of classes: A+B+C+D in 1000 current US$		1970 1044397		1982 2748083		1970 621743		1982 2888781
Total trade SITC 0-9 in 1000 current US$		1044397		2755753		621743		2940247

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.

Table 11. Direction of foreign trade by broad categories of goods and by country groupings, 1979 and 1982 (Shares of country groupings in totals of categories of goods, in per cent)

Categories of Goods	Exports						Imports					
	1979			1982			1979			1982		
	DME	DC	CPDC	DME	DC	CPDC	DME	DC	CPDC	DME	DC	CPDC
Manfactures (broad definition)	59.6	32.9	4.2	63.7	28.2	1.9	81.7	14.4	2.5	77.7	20.3	0.6
SITC 5-8 less 68	33.2	65.4	1.3	54.4	44.5	1.0	85.7	10.9	2.9	80.0	17.9	0.7
Total trade	69.1	25.3	3.6	74.2	20.3	1.6	80.1	16.6	2.1	78.5	19.6	0.6

Source: UNIDO data base (Annex Tables A-6 and A-7).

DME = Developed market economies.

DC = Developing countries.

CPDC = Centrally planned developed countries.

The growing importance of developing countries as sources of Peru's manufactured imports was not matched, however, by similar changes in the role of developing countries as market outlets for Peru's manufactured exports. The share of developing countries in total demand for Peru's manufactured exports (narrow definition) declined from 65.4 per cent in 1979 to 44.5 per cent in 1982, largely reflecting the economic recession and the declining demand in the region.

2.4 Geographical distribution[1/]

Manufacturing activity in Peru is heavily concentrated in the metropolitan area of Lima and Callao. Almost two-thirds of the country's industrial capacity is concentrated in this area. Smaller industrial centres are Arequipa in the South, and Chimbote, Trujillo and Piura in the North.

Lima is the centre of the main import-substitution industries like food, garments, footwear, oil refining and automobiles. Major industries outside Lima and Callao are located close to their resource bases. The large steel-making and non-ferrous metal refining plants of Siderperu and Centromin are close to mining areas, cotton spinning and weaving activities are located in the major cotton growing areas in the North, sugar refineries are in the northern sugar-cane growing areas and the fish processing industries are located in coastal areas.

During the 1970s the Government initiated policies to achieve a more balanced regional distribution of manufacturing establishments. As can be seen from Table 12 there has been some, though limited, success of these efforts. The share of the provinces in the number of establishments continued to be larger than their share in employment in 1979, indicating a smaller average size of establishments than in the metropolitan area. On the other hand, the share of the provinces in the total production value is larger than the respective shares in establishments and employment, which can be explained in terms of the capital intensity of steel-making and non-ferrous metal refining plants. Among the main impediments to a more balanced regional industrial development are infrastructural bottlenecks, particularly inadequate transport facilities.

1/ For additional information, see UNIDO/World Bank, "Peru, Development and Policy Issues of the Manufacturing Sector", 1981, UNIDO/IO.423/Rev.1.

Table 12. Regional distribution of industry[a/], 1971 and 1979

ITEM	1971			1979		
	Establishments	Employment	Production (billions of soles at current prices)	Establishments	Employment	Production (billions of soles at current prices)
Lima and Callao	4,8790 (71.6%)	155,990 (74.7%)	85.6 (68.8%)	6,502 (67.5%)	192,586 (72.2%)	1,130.3 (68.81%)
Provinces	1,898 (28.4%)	52,800 (25.3%)	38.9 (31.2%)	3,129 (32.5%)	74,296 (27.8%)	641.3 (31.2%)
Total	6,688 (100.0%)	208,790 (100.0%)	124.5 (100.0%)	9,631 (100.0%)	266,882 (100.0%)	1,771.6 (100.0%)

Source: 1971: Ministry of Industry.
1979: ITINTEC

a/ Excluding fish industry and including establishments with 5 or more employees.

2.5 Manufacturing activity by size of enterprise

Table 13 shows that the industrial sector in the mid seventies was dominated by relatively small enterprises. In 1974 almost half of all enterprises registered with the Ministry of Industry had fewer than 10 employees while 41 per cent of all enterprises had less than 50 employees. Only 10 out of 7,683 enterprises had one thousand or more employees. These few large enterprises, however, acccounted for almost 31 per cent of industrial production in 1974, whereas the 46 per cent of total enterprises having fewer than 10 employees accounted for only 4 per cent.

Table 13. Distribution of manufacturing by size of enterprise, 1974

Size of enterprise[a/] (number of employees)	Enterprises number (per cent)	Employees number (per cent)	Value of production (per cent)
5-9	3 544 (46.3)	23 320 (9.4)	3.9
10-49	3 173 (41.3)	64 725 (26.1)	17.8
50-99	486 (6.3)	33 451 (13.5)	11.9
100-199	267 (3.5)	38 111 (15.3)	15.1
200-999	193 (2.5)	70 156 (28.3)	32.5
1,000 and over	10 (0.1)	18 361 (7.4)	30.8
TOTAL	7 683 (100.0)	248 124 (100.0)	100.0

Source: Ministry of Industry; Estadística Industrial 1974.

a/ Including establishments with 5 or more employees, excluding the fish industry.

There were 45 large-scale industrial establishments employing more than 500 employees in 1974, which were concentrated in the chemical and metal-processing branches. These branches use more capital-intensive production processes, which are also reflected in a greater labour productivity.

Workers in the largest enterprises (those with more than 1000 employees) while accounting for only 7.4 per cent of total manufacturing workforce

contributed 30.8 per cent to the total value of industrial production. In contrast the employees of the smallest enterprises (5-9 employees), accounted for 9.4 per cent of total employment but contributed only 3.9 per cent to the total production.

This concentration of industrial output in a few big enterprises largely reflects high investment requirements and the importance of achieving economies of scale in basic industries, although it can also be found in most other branches. In 1975 the National Planning Institute found that the four largest enterprises in over two-thirds of all categories at the ISIC three-digit level accounted for over one half of the total production in those categories.

2.6 Ownership and investment patterns

Table 14 shows that direct foreign investment in Peru is concentrated in the manufacturing and mining sectors. In 1982, manufacturing accounted for 38 per cent and mining for 33 per cent of the total accumulated direct foreign investment. However, in 1978 the share of manufacturing was as high as 44 per cent, whereas mining accounted for only 26 per cent. The decline in Peru's domestic demand at the beginning of the 1980s drastically reduced the attractiveness of foreign investment in manufacturing relative to export-oriented mining investments.

Table 15 shows the ownership pattern within the Peruvian manufacturing sector in 1978 in terms of number of establishments, sales and employment. The data underline the commitment of the Peruvian Government(s) to a market-economy system based on private enterprises. Three quarters of all enterprises registered were private national enterprises, and almost one-fifth of the number of enterprises was accounted for by private enterprises with full or partly foreign participation.

However, in terms of sales public enterprises with Government participation (mainly Government enterprises) play a significant role in the Peruvian economy. In 1978, they accounted for one-third of industrial sales but only 4.5 per cent of firms, reflecting relatively large-scale enterprises. Social sector enterprises without direct government

Table 14. Accumulated direct foreign investment by economic sectors, 1978-1982

(in millions of US dollars)

Year / Sector	1978	1979	1980	1981	1982
Manufacturing	361.6	377.8	396.0	423.1	456.4
Mining	210.2	213.3	214.9	386.5	395.3
Commerce	58.6	64.7	78.7	94.5	112.8
Finance	43.0	43.8	44.9	55.6	58.3
Power	35.6	35.6	35.6	35.7	32.2
Housing	26.5	26.6	27.9	29.4	39.3
Services	18.4	19.6	23.7	25.6	28.9
Agriculture	17.8	17.8	17.8	17.9	17.9
Fishing	13.3	13.3	13.6	13.1	13.1
Petroleum	9.7	9.7	9.7	10.1	10.3
Communications	9.3	9.3	9.3	9.3	9.3
Tourism	7.0	7.0	7.1	7.1	6.8
Transportation	2.3	6.5	6.6	6.7	7.6
Others	2.3	2.4	2.8	3.0	3.6
TOTAL	819.8	847.5	888.8	1,126.6	1,191.8

Source: National Commission for Foreign Investment and Technology - CONITE.

participation, on the other hand, continue to play a marginal role in the Peruvian economy. The importance of "social property enterprises" which were once considered to become one of the main vehicles for "social transformation" in the early 1970s, has remained insignificant.

As to the ownership pattern in individual branches of manufacturing in 1978, private national enterprises were most important in garments (accounting for 100 per cent of sales in this branch), rubber products (90.5 per cent), glass products (91.5 per cent), metal products (86.4 per cent), wood products (85.0 per cent) and textiles (80.4 per cent).

Fully or partly foreign owned enterprises are dominant in electrical machinery (accounting for 87.2 per cent of sales), tobacco products (88.1 per cent), scientific equipment (80.3 per cent), transport equipment (77.4 per

Table 15. Ownership pattern in industry, 1978

Type of enterprise	Enterprises		Sales		Workers	
	Number	Percentage	Millions of soles	Percentage	Number	Percentage
Private enterprises	484	93.1	322,318	64.4	110,632	69.3
Private national enterprises	395	74.6	195,618	37.9	77,275	48.4
Private foreign enterprises	54	11.2	83,415	16.2	19,612	12.3
Private mixed enterprises	35	7.3	53,285	10.3	13,745	8.6
Enterprises with Government participation	22	4.5	174,582	33.8	40,290	25.2
Mixed enterprises with government participation	4	0.8	7,042	1.4	1,277	0.8
Government associated enterprises	4	0.8	3,681	0.7	1,189	0.7
Government enterprises	14	2.9	163,859	31.7	37,824	23.7
Social sector enterprises	11	2.2	9,214	1.7	8,685	5.5
Social property enterprises	1	0.2	192	0.04	32	0.02
Industrial co-operatives	6	1.2	3,723	0.7	4,082	2.6
Other social sector enterprises	4	0.8	5,299	1.0	4,571	2.9
Total	517	100.0	516,114	100.0	159,607	100.0

Source: Ministry of Industry.

cent) and footwear (59.7 per cent). Their share in sales is also significant in beverages (36.0 per cesnt), industrial chemicals (35.8 per cent), food products (30.7 per cent) and plastic products (28.7 per cent).

Government enterprises and enterprises with government participation are most important in petroleum refining (94.5 per cent of sales), non-ferrous metal products (91.9 per cent), paper and paper products (84.4 per cent), iron and steel (74.9 per cent) and "other non-metallic mineral products" (66.0 per cent).

To sum up, private national industries dominate in light industries, processing domestic natural resources with mature technologies. Foreign capital is important in branches where well established brand names (tobacco, beverages), technical know-how (electrical machinery, scientific equipment) and patents (industrial chemicals) offer an advantage to foreign products. Government owned or associated enterprises continue to dominate capital-intensive basic industries. This general picture derived from 1978 data is confirmed by more recent data on accumulated direct foreign investment, presented in Table 16.

The United States is by far the biggest foreign investor in Peru's economy, accounting for 49 per cent of accumulated direct foreign investment in 1982, followed by Switzerland (13 per cent) and Panama (9 per cent) (Table 17). However, the original source of the invested funds from Panama as well as from other "tax havens" like Bermuda, remains unknown.

Peru's efforts to reduce dependence on foreign technology and know-how have been successful in certain kinds of industrial activities and in some branches. One of the most evident successes was reduced dependence on foreign managerial skills. The vast majority of senior industrial managers are now Peruvian nationals. Also, in the field of technology some branches have

reached international standards, most notably some metal working activities including fishing boats, and some branches producing equipment for mining, fishmeal and fish oil production.

Table 16. Accumulated direct foreign investment in the manufacturing sector, 1978-1982
(in million of US dollars and per cent)

Branch/year	1978		1979		1980		1981		1982	
	million $	Per cent	million $	Per cent	million $	Per cent	million $	Per cent	million $	Per cent
31 Food, beverages and tobacco	90.8	25.1	97.6	25.8	102.3	25.3	111.5	25.8	114.7	25.1
32 Textiles and leather	28.1	8.0	28.1	7.8	34.1	9.0	35.8	9.0	38.6	8.5
33 Lumber and furniture	2.0	0.5	2.0	0.5	2.1	0.5	2.1	0.5	3.2	0.7
34 Paper and press	10.7	3.0	10.7	2.8	10.4	2.6	11.1	2.6	11.9	2.6
35 Chemical products	112.9	31.2	11[illegible].1	30.2	118.4	29.9	122.4	28.3	137.2	30.0
36 Non-metallic minerals	59.1	16.4	59.4	15.7	59.4	15.0	59.4	13.7	59.3	12.9
37 Basic metals	2.7	0.7	3.4	0.9	3.6	0.9	6.2	1.4	7.1	1.5
38 Machinery and equipment	53.7	14.9	55.5	14.7	63.8	16.1	78.7	18.2	83.7	18.3
39 Others	1.4	0.4	1.4	0.4	0.6	0.2	0.7	0.2	0.8	0.2
Total	361.4	100.0	378.2	100.0	396.4	100.0	432.1	100.0	458.5	100.0

Source: National Commission for Foreign Investment and Technology - CONITE.

Table 17. Accumulated direct foreign investment by country of origin, 1977-1982
(in millions of US dollars)

Country	1977	1978	1979	1980	1981	1982
United States	354.1	366.8	370.8	382.5	559.6	582.3
Switzerland	122.9	128.1	132.8	138.2	152.5	156.0
Panama	79.2	83.2	84.1	89.7	96.4	106.3
Italy	35.5	36.6	35.3	35.7	44.9	45.2
United Kingdom	40.4	40.9	46.3	49.0	41.2	40.0
Japan	17.3	20.0	20.9	22.0	32.6	38.0
Canada	21.2	21.2	22.0	23.3	27.7	31.4
France	11.6	11.6	11.6	11.9	21.4	22.2
The Netherlands	17.6	18.1	18.1	18.3	20.6	18.6
Luxembourg	6.4	6.6	7.5	7.9	15.8	24.2
Sweden	8.2	8.6	8.7	15.1	14.3	16.2
Bermuda	11.6	11.6	11.6	11.9	13.9	16.3
F. R. Germany	8.3	9.0	9.5	9.3	13.1	13.5
Dutch West Indies	7.6	7.6	9.0	9.0	11.6	12.5
Spain	7.80	7.9	9.3	9.4	10.7	11.1
Other countries	47.8	47.8	50.8	56.4	50.5	58.0
TOTAL	791.1	820.7	845.5	886.7	1,126.6	1,191.0

Source: National Commission for Foreign Investment and Technology - CONITE.

3. INDUSTRIAL DEVELOPMENT STRATEGIES, POLICIES AND PLANS[1/]

3.1 Strategies and objectives

Throughout the 1970s, the military Government treated industry as the engine of economic growth and as the main instrument of social reform policies. These policies were also designed to reduce foreign influence. Through increasing State participation, manufacturing was used as an instrument to expand the role of the Government in the economy.

The leading role of manufacturing as an instrument of promoting economic development was thus subordinated to the requirements of "structural transformation", as pointed out in the 1971-1975 National Development Plan. "Structural transformation" in this context does not refer to the "patterns of structural change" usually referred to in analysis of economic development but to the social order and specifically to the relation between capital and labour.

The civilian Government which took office in July 1980 ended both the policies of discriminating other sectors vis à vis industry and of making it a main instrument of social reform policies. Parallel to this, the influence of the Government on industry was reduced, and policy instruments became more indirect in nature substituting the direct instruments used in the 1970s. The new Government assigned a leading role to market forces in promoting industrial development and focussed main macro-economic policy targets on the control of inflation, the restoration of external equilibrium and the provision of employment.

3.2 Policy instruments

The military Government determined in law DL 18350 that "basic industries" (mainly steel, petrochemical, fertilizers, cement and paper) were reserved for the public sector. The remaining industries were

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1/ Annex C furnishes a list of major industrial projects included in the Sectoral Plan, 1983-1984.

tightly controlled by the Government through a system of branch-specific controls and incentives. The basis for this was the General Law of Industries introduced in July 1970. The law classified the industrial sector into four priority groups with respect to taxation, import duties and the granting of credit incentives.

The fist priority group consisted of iron and steel, non-ferrous metals, basic chemicals, fertilizers, cement, paper, capital goods and enterprises producing "industrial technology". The second priority group consisted of branches producing essential goods for private consumption and essential intermediate inputs for industry. In the third category consumer and intermediate goods regarded as not essential were grouped together, and the fourth group comprised branches producing "luxury goods".

The military Government aimed at establishment of the "Industrial Community" in accordance with the guidelines laid down in the 1970 General Law of Industries. The Industrial Community is a juristic person representing all full-time workers of an enterprise, with the purpose of administering collectively the assets which were acquired by the workers through receiving 15 per cent of the pre-tax income of the firm. This process was to continue until the Industrial Community had collectively acquired 50 per cent ownership of the firm. The envisaged 50 per cent stake by employees in Industrial Communities was reduced to one third by a new Law of the Industrial Community in 1977, which also restricted worker representation on the board to one third and required workers' shares to be held individually rather than collectively. In 1978 individual sales of workers' shares were facilitated in line with a general strengthening of individual compared to collective rights.

The labour market was regulated by the military Government through the Labour Stability Law of 10 November 1970. Permissible reasons for dismissals of workers, after a trial period of three months, were reduced to "serious defaults" and "reduction or complete dismissal of personnel, authorized by decision of the Labour Authority, due to economic or technical reasons and cases of force majeure". The new Labour Stability

Law of August 1978 prolonged the trial period during which workers may be released from three months to three years and added new items to the list justifying dismissal. It also included the possibility of employing up to 10 per cent of the work force as seasonal workers.

Another law introduced in May 1974 by the Military Government in order to promote the "structural transformation" of Peru was the Law of Enterprises of Social Property. This type of enterprises was regarded by the military Government as the most representative of the desired new social order. The mechanism of creating them differs totally from the mechanism of creating Industrial Communities. Whereas in the latter case private enterprises themselves were re-transformed, the creation of Social Property Enterprises required the provision of new funds. Under the law, workers receive a loan from the Government to cover initial investments. Firms established in such a way are managed entirely by their workers, although the Social Property Commission controls investment, salary and employment policies on a case-by-case basis. So far, however, enterprises of this type do not account for any significant share of the manufacturing sector.

As for the external sector the main instrument for the promotion of non-traditional exports dates back to a law of 1969, which included a negotiable tax credit certificate of 15 per cent of the f.o.b. value to reimburse exporters for import duties and incident taxes paid on production inputs (CERTEX, Certificado de Reintegro Tributario). The maximum CERTEX rate was increased to 30 per cent in 1972. The methods for calculating the CERTEX and its rates were modified several times during the 1970s. An additional decentralization component was introduced to the CERTEX system by granting firms outside the Lima and Callao area an additional decentralization CERTEX of 10 per cent of the f.o.b. value.

In November 1978, the system of export incentives was consolidated by the Non-traditional Exports Promotion Law, which includes the CERTEX regulations. The basic CERTEX rates were established by the Ministry of Commerce on a product-by-product basis, taking into account the capacity

of the product to generate foreign exchange, the use of domestic resources and factors of production, and the specific fiscal cost of the CERTEX.

Beginning in 1979 new policies were introduced in an attempt to rationalize the export incentive systems. In January 1981, the civilian Government, in line with its greater emphasis on the market forces, sharply reduced the wide disparity of CERTEX rates and consolidated them into three rates of 22, 20 and 15 per cent of the f.o.b. export value, depending on the value added in manufacturing. The additional 10 per cent decentralization CERTEX has been maintained, as well as a 30 per cent CERTEX for handicraft products.
In 1984, the Government increased the maximum CERTEX to 35 per cent (Decreto 291).

On the import side high tariffs and more importantly the extensive application of non-tariff barriers were the main instruments used by the military Government in its efforts to promote domestic industrialization. As mentioned previously, the non-tariff barriers were almost completely removed in 1979/1980 and the protection of domestic industry was based by the civilian Government on a rationalized system of ad valorem tariffs more conforming to a market economy system. Recently, however, the Government has come under increasing pressure to re-introduce quantitative restrictions as a means of assisting sectors most seriously affected by the current economic crisis.

Complementary to the liberalization of imports and in response to fears of unfair competition from low-priced imports in 1979 an Anti-Dumping Law created a commission to monitor import prices, recommend countervailing duties and establish minimum import prices.

Ministerial Resolution 310 of 22 July 1984 suspended until 31 December 1984 imports of certain textiles and leather shoes as well as luxury items such as chocolate, wine and some categories of automobiles. These import restrictions however did not apply to imports from other ANDEAN countries.

In line with its greater emphasis on market forces, the new civilian Government introduced on 28 May 1982 a new General Law of Industries. The system of incentives contained in the new law pursue as main objectives industrial growth, regional decentralization and promotion of small-scale industries. The selective application of incentives according to the priority status of a branch is no longer applied. The main incentive, the reinvestment tax credit, only differs with respect to geographical location and gives higher incentives for enterprises outside the industrial agglomeration in the Lima/Callao area. Additional tax exemptions are given to enterprises in border areas and in the "Selva" jungle region. Those enterprises located in the jungle area are fully exempt from income tax, sales tax on manufactured goods, payroll and transfer taxes, and revaluations of fixed assets tax. Furthermore, employees of enterprises in the jungle and border areas pay no income taxes.

According to the new General Law of Industries, small-scale enterprises are enterprises for which the annual value of net sales does not exceed the value of 720 minimum wages of an industrial worker in the Lima area. The law provides for various tax exemptions for small-scale enterprises and for special credit lines.

As to foreign investment, the basic legal framework is given by Decision 24 of the Andean Pact, which among other regulations prohibits the foreign acquisition of locally-owned companies. Peru, however, has adopted the policy to rely widely on Article 44 of Decision 24 which can give members exception under special circumstances. Presently 20 per cent of registered investment may be remitted as profits, but the Government is drafting legislation which would allow full remittance of profits. Under Decision 24, companies which would like to benefit from the trade and tariff incentives of the Andean Common Market have to be transformed within 15 years into mixed companies with at least 51 per cent ownership by Peruvian investors. The Peruvian legislation clarified that those companies not wishing to take advantage of the Andean Market are exempted from this transformation requirement.

3.3 Institutional framework for industry

The Ministry of Industry, Tourism and Integration is responsible for the formulation of industrial policies, in line with the Constitution and the National Development Plan. It is assisted by the Committee of Industrial Promotion, members of which, among others, are the Minister, the Vice-Ministers, and representatives of the Society of Industries and of the industrial workers.

Industry is organized by the Society of Industries, which also comprises working groups at the branch level like the Committee of Capital Goods and the Committee of Textiles.

The banking system is composed principally of the Central Bank, Banco de la Nacion, seven commercial banks (three Government-owned and four privately-owned), four foreign commercial banks with branches, three multinational banks, nine development banks (five Government-owned, four privately-owned), one Government-owned special function bank, the Caja de Ahorros and six regional banks. The Superintendencia de Banca y Seguros controls and supervises all banks and other financial institutions to assure their financial integrity.

The major private commercial banks are Banco de Credito del Peru, Banco Wiese and Banco de Lima. Foreign banks with branches operating in Peru are Bank of America N.T. and S.A., Bank of London and South America Ltd., Bank of Tokyo Ltd., Citibank S.A., Banco Arabe Latinoamericano ("Arlabank"), Banco Exterior de Los Andes y de Espana S.A. ("Extebandes"), and Banco Wells Latino Americano S.A. ("Wells Latin Bank"). In addition, 24 foreign banks maintain representative offices in Peru.

The Government development bank for industry is Banco Industrial del Peru. Its functions include extending credit to industrial firms, promoting export programmes, selling bonds to the public and contracting foreign loans to finance its loan portfolio.

The principal non-bank development finance institution of Peru is the Corporacion Financiera de Desarrollo (COFIDE). It acts as a financial agent of the State and raises funds both domestically and internationally for State-owned and private enterprises. It also acts as an equity investor and has an important portfolio in shares of a number of companies, and supervises investment projects in which it has an equity share. It is the main holding institution of Government-owned enterprises and can also assist foreign investors by identifying projects, conducting feasibility studies and seeking joint venture partners. COFIDE has recently been organized and divided into three separate institutions: The Corporacion Nacional de Desarrollo (CONADE), Inversiones Cofide S.A. (ICSA) and COFIDE S.A. CONADE, parent organization of the group, establishes general guidelines for non-financial state enterprises and is responsible for supervising their management. ICSA is the holding company of the State and promotes the participation of national, sub-regional and foreign capital in enterprises. COFIDE acts as the financial agent of the State enterprises and obtains internal as well as external funds for them.

Private foreign investment has to be authorized and registered by the National Committee of Foreign Investment and Technology (CONITE) in line with Decision 24 of the Andean Pact. CONITE provides assistance in identifying the applicable sectoral regulations and incentives. Its policy is to authorize investments in all cases which are not explicitly prohibited by law.

The Institute of Technological Industrial Research and Technical Norms (ITINTEC) plays an important role in the promotion of industrial and technological development. It undertakes industrial research, provides information on international technological progress to industry and establishes technical norms for products to be sold in the national market.

4. RESOURCES FOR INDUSTRIAL DEVELOPMENT

4.1 Human resources

The labour force totalled approximately 5.4 million as of 31 December 1981. Of this total, around 35 per cent were employed in agriculture, 14 per cent in industry and mining, and the balance in the service sector. Growth of manufacturing employment declined from 5.2 per cent in the first half of the 1970s to 1.0 per cent in the second half. A faster growth rate in the working-age portion of the population has resulted in a continued high level of unemployment and underemployment. Urban unemployment has increased by 10.9 per cent in 1984. Around 32 per cent of the labour force is employed in the private sector, 8 per cent in the public sector; the remaining 60 per cent is classified as self- employed. Self-employment has grown at a fast rate, but is concentrated in lower-paying activities.

Peru has a highly skilled labour force. The main institution for industrial training is the National Apprenticeship and Industrial Training Service (Servicio Nacional de Aprendizaje y Entrenamiento Industrial, "SENATI"), which trains between 15,000 and 20,000 workers per year (6-8 per cent of the formal sector work force). The training provided by SENATI is generally considered to be of a high standard.

Advanced technological training is provided by the Instituto Tecnologico Superior (TECSUP), which opened in July 1984. Its main orientation is the training of technicians in maintenance technology. TECSUP is a private institution receiving support from the Federal Republic of Germany and the Technological Institute of Delaware (USA).

An important role in management training at the post-graduate level is played by the Escuela de Administracion de Negocios para Graduados (ESAN). Established in 1963 as a private institution it was the first centre in Latin America for management training at the post-graduate level.

Approximately 10 per cent of the labour force is unionised. The principal trade unions are the Confederacion de Trabajadores del Peru (CTP), the Central Nacional de Trabajadores (CNT) and the Confederacion General de Trabajadores del Peru (CGTP).

4.2 Raw material resources

A. Crop resources

The agricultural sector still weighs heavily in the Peruvian economy in terms of provision of employment, although its contribution to GDP has declined. In 1980 its share in GDP and exports was 12 per cent and 8 per cent respectively, but it employed 41 per cent of the labour force. Like manufacturing it is characterized by a dual structure, with a modern sector for the production of export crops (sugar, coffee and cotton) and a traditional sector producing for domestic consumption.

Because of Peru's mountainous terrain, only 6 per cent of its total area is cultivable (about 7.6 mn hectares), of which only slightly more than one third is being used at present. Crucial for Peru's agricultural development is the provision of sufficient irrigation to the arid coastal areas, using water flowing from the Andes. A large irrigation scheme is at the planning stage, the Olmos project, which is to be completed within an eight-year period. The Government introduced a new Agricultural Development Law in 1980 aiming at developing infrastructure to increase the cultivated area, extending agricultural credit and improving marketing. However, from 1981 to 1982 the total cultivated area rose by only slightly more than 2 per cent.

This figure hides important structural changes in the allocation of the cultivated area to different crops. Substantial increases of cultivated land occured in the production of sugar (25 per cent), maize (13 per cent), rice (12 per cent) and potatoes (8 per cent); whereas the cultivated area decreased for soya (-43 per cent), wheat (-18 per cent), cotton (-14 per cent) and sorghum (-13 per cent). These changes are reflected in the corresponding changes of agricultural output shown in Table 18.

Table 18. Agricultural production, 1978-1984
(millions of tons)

	1978	1979	1980	1981	1982	1983	1984
Indices of total agricultural production (1979 = 100)	95.2	100	91.5	102.6	104.8	89	107
Production of main crops							
Potatoes	468	558	420	766	766	1,200	1,363
Rice	446	531	426	722	777	798	1,134
Cotton	187	243	256	286	257	105	200
Coffee	83	104	95	95	97	91	92
Maize	623	646	453	597	625	412	576
Sugarcane	7,970	7,034	5,598	5,129	6,725	6,381	7,206

Source: Ministry of Agriculture and BCR.

Agricultural production suffered a serious setback by a severe drought in 1980, but regained previous output levels in the following year. In 1982 the growth rate declined to 2.1 per cent, and in 1983 agricultural production fell dramatically due to adverse weather conditions. In 1984, agriculture recovered again, achieving a growth rate of 20 per cent and output levels comparable to 1982, a year with normal climate. The vulnerability of Peru's agriculture to unfavourable weather conditions underlines the urgency of the efforts of the Government to improve agricultural infrastructure.

The most noteworthy change in agricultural output with respect to industrial processing is shown by the significant decline in cotton production after 1981. It reflects the fall in international prices for this product as well as the growing competition from imported textiles in

the domestic market which led to reduced demand for cotton from domestic textile producers. In 1983, however, the domestic textile industry experienced supply constraints when bad weather conditions reduced the available inputs from agriculture from the already reduced area for cotton production. This supply constraint could not be alleviated through increased imports due to trade restrictions. The Government is presently examining the possibilities for increasing the production of cotton in the jungle area.

B. Livestock resources

Livestock production suffered a 6 per cent set-back in 1984 after having grown continuously since 1978. The most important sub-branch in quantitative terms is the production of poultry, which was also the fastest growing activity in the last three years. The main explanation for this is a shift in domestic demand. However, the growth of supply outstripped demand and in 1983 measures were initiated to restrict supply and to increase the profitability of the farms. In addition, in 1984 sharp rises of prices for feedstock, which could not fully be translated into price increases for the final product, decreased the profitability of poultry meat production. Beef production fell below the 1983 level, which, however, had been abnormally high due to the effect of emergency slaughtering because of the drought in the southern sierra in that year.

Table 19. Livestock production, 1978-1984

	1978	1979	1980	1981	1982	1983	1984
Indices of total livestock production (1979 = 100)	100.9	100	101.1	111.5	116.8	126	118
Production of main livestock			Millions of metric tons				
Beef	89	87	84	90	91	111	104
Pork	53	53	55	59	59	58	55
Mutton	23	23	21	19	20	21	19
Poultry meat	119	118	144	183	205	206	182
Fresh milk	822	824	780	785	805	752	780
Eggs	58	55	60	64	65	68	65

Source: CEPALC and BCR.

C. Fisheries resources

The fishing industry contributes about 1.2 per cent of GDP, but it is an important source of foreign exchange earnings for the Peruvian economy. In the early 1970s it accounted for up to one third of the country's foreign exchange earnings. The industry confronted its first serious crisis in 1973, when the appearance of the El Nino current suddenly and drastically reduced the anchovy catch. In 1981 and 1982 the catch of anchovies rose by 70 per cent and 41 per cent respectively after re-opening of fishing zones which had been closed in the previous six years for ecological reasons. However, the catch of anchovies in 1982 accounted for 50 per cent of the total quantity and for 25 per cent of the value of the catch in this year, but was only one seventh of the corresponding catch in 1970. In 1983, fish production fell to 49 per cent of the 1979 output due to the adverse weather conditions but recovered strongly to 92 per cent in 1984.

The continuing supply problems, combined with unfavourable market developments like the closure of the South African market for Peruvian sardines exports and the strong competition in the European markets, had left the fishing industry in the early 1980s in a deep crisis with heavy overcapacities. The average rate of capacity utilization in the industry was as low as 17 per cent in 1982. The Government is actively involved in revitalizing the sector and preserving its ecological base, and the very favourable development of production and exports in 1984 (exports amounting to $167 million compared to $80 million in 1983) are encouraging.

D. Mining

Peru is richly endowed with mineral resources, and it is estimated that at present only 5 per cent of total reserves are being exploited. In 1984, mining and petroleum contributed 9.9 per cent of GDP and mining alone accounted for 43.5 per cent of total exports. The leading mineral export is copper, followed by silver, zinc, lead and iron ore (Table 20). Among world producers, Peru ranks second in bismuth production, third in silver, fifth in zinc and lead, and seventh in copper.

Table 20. Mineral production, 1978-1984
('000 tons metal content)

	1978	1979	1980	1981	1982	1983	1984
Copper, mine output	376	397	367	328	356	336	375
Copper, smelter output	319	371	349	315	327	...	...
Copper, refined	185	230	231	209	225	...	...
Lead, mine output	183	184	189	187	176	213	205
Lead, refined a/	79	91	87	84	81	...	...
Zinc, mine output	458	491	488	497	507	576	558
Zinc, refined	63	68	64	128	158	...	...
Silver, mine output (tons)	1,152	1,332	1,340	1,387	1,655	1,738	1,758
Iron ore b/	4,844	3,647	3,780	4,033	...	2,873	2,723
Molybdenum (tons)	734	1,183	2,732	2,550	2,886	...	...

Source: 1978-1982: The Economist Intelligence Unit, Quarterly Economic Review of Peru, Annual Supplement 1983.

1983-1984: BCR, Reseña Economica, March 1985

a/ Including lead content of primary and secondary antimonial lead.
b/ Iron content.

The most important foreign exchange earner for Peru is copper, which accounted for 44 per cent of the volume of mining production in 1984. In 1984, Peru produced 375,000 tons, implying a 12 per cent production increase compared to 1983, which could be realized mainly because of a reduction of strikes. Whereas in 1983 a total of 7.8 million man/hours was lost in Peru's mining sector, the corresponding figure in 1984 was only 4.2 million man/hours. Capacity is estimated to be around 430,000 tons which would allow a rapid increase of output if world demand rose. Peru smelts almost all of its copper, but refines only around 60 per cent of it, indicating considerable scope for "export substitution". The State-owned enterprise Mineroperu has the monopoly of metal refining, one

official justification being to guarantee supplies for the domestic metallurgical industries.

Ownership in the copper industry is heavily concentrated. The four largest companies, Mineroperu, Centromin, Hierroperu (all State-owned) and the Southern Peru Copper Corporation (the single largest foreign investor in Peru) account for two thirds of total output and 40 per cent of mining employment. The State companies have been reorganized into corporate form to improve their efficiency and are interested in associations with domestic and foreign private investors to participate in the development of new projects.

The Government is aiming at expanding mining output. The largest projects presently undertaken include Cerro Verde II (67,000 tons copper output per year estimated to be completed in 1984), Tintaya (45,000 tons copper output per year estimated to be started in 1984) and Antamina (71,000 tons copper and 52,000 tons of zinc estimated). However, the low prices in the international markets for many of Peru's mining products are seriously endangering the plans for an expansion of mining output (Table 21). Diminishing revenues led the principal mining companies to increase external borrowing which now places a heavy burden on them. Several investment projects had to be postponed or cancelled.

Table 21. Selected export commodities, 1976-1984 (value, volume and prices)[a/]

	1976	1977	1978	1979	1980	1981	1982	1983	1984
Copper									
Value	234	398	412	674	752	529	459	443	442
Volume	182	331	343	373	350	322	331	292	337
Price	58.4	54.5	54.3	81.9	97.4	74.7	62.9	68.8	59.4
Refined silver									
Value	90	116	118	234	312	312	206	391	227
Volume [b/]	20.8	25.1	22.5	24.8	15.9	28.0	26.0	32.7	26.8
Price [c/]	4.3	4.6	5.3	9.4	19.6	11.1	7.0	11.9	8.5
Lead									
Value	112	132	175	294	383	219	190	293	233
Volume	180	172	77	164	154	146	171	191	180
Price	28.1	34.8	44.8	81.0	112.8	68.0	50.4	69.6	58.7
Zinc									
Value	192	164	133	171	210	272	247	307	341
Volume	432	434	437	418	438	499	467	522	512
Price	20.1	17.1	13.8	18.6	21.8	24.7	24.0	26.7	30.2

Source: BCR.

a/ Value in millions of dollar, volume in thousands of metric tons and prices in cents per pound, unless otherwise stated .

b/ Millions of ounces Troy.

c/ Dollars per ounce Troy.

The small- and medium-sized mining companies to whom external financing was not so readily available are even in a more critical situation. The Government has declared that the stability and protection of small- and medium-scale mining is a matter of national interest and has established the Mining Consolidation Fund (Fondo de Consolidacion Minera) in 1981. It provides credit at subsidized interest rates at an amount of up to 50 per cent of the value of export shipments. Additional tax reductions or temporary tax exemptions are being used in order to support small and medium mining enterprises.

4.3 Energy resources

Until the discovery of great reserves in the Selva east of the Andes, oil production in Peru was concentrated in the northwest region, both on- and offshore. Production remained relatively constant in the first half of the 1970s, but increased sharply after the Trans-Andean pipeline became operational in 1977. The increasing production of the Selva fields turned Peru from a net-importer of petroleum to a net-exporter in 1978. However, from 1979 to 1982, production could not be increased and fluctuated around 70.5 millions of barrels. In 1983 and 1984 production dropped significantly below this level. Production in 1984 amounted to 67.2 millions of barrels, compared to 71.4 millions of barrels in 1980. Recoverable reserves have fallen by more than 15 per cent since 1982 to 696 mn barrels in early 1985.

Table 22. Petroleum production, 1978-1984

	1978	1979	1980	1981	1982	1983	1984
Production index (1977=100)	165.5	210.2	214.4	211.6	213.9	187.5	201.9
Millions of barrels	55.1	70.0	71.4	70.4	71.2	62.4	67.2

Source: 1978-1982: CEPALC;
1983-1984: BRC.

The stagnation of petroleum output in the 1980s is partly the result of declining drilling activities due to reduced expectations of finding new oil. The new Administration therefore took steps to stimulate new production, the principal instrument being the new Petroleum Law (law 23231) which includes income tax credits for reinvestment and a gradual elimination of export taxes.

The ownership and development of Peru's petroleum resources is under the direction of Petroperu, a State-owned company. Recently Petroperu was reorganized into a corporate State-owned firm to improve its efficiency. The reduction of export taxes through the new petroleum law and increased domestic sales prices for its products should strengthen Petroperu's financial base and its capabilities for new explorations. The Peruvian oil industry was given a boost in November 1984, when an exploration contract was signed by Royal Dutch Shell with Petroperu.

The natural gas reserves of Peru are estimated at 1.2 trillion cubic feet (31 December 1981). Around 26 million cubic feet are extracted annually.

In addition to its endowment of petroleum resources, Peru has a vast potential of hydroelectric power through the use of its rivers. In 1980, the installed electric power generating capacity was around 3,100 megawatts, of which 1,900 megawatts were accounted for by hydroelectric capacity and 1,200 megawatts by thermal capacity (Table 23). Due to its higher utilization factor, however, hydroelectric energy accounted for almost 78 per cent of the total energy output. Peru's hydroelectric potential is estimated in excess of 50,000 megawatts, and the Government is planning the construction of eight new hydroelectric plants, the largest one being the Sheque project with a projected capacity of 600 megawatts.

Table 23. Installed electric power generating capacity, 1971-1980

Year	Hydroelectric (megawatts)	Thermal (megawatts)	Total (megawatts)
1971	989.2	807.5	1,796.7
1972	1,056.8	873.2	1,930.0
1973	1,278.3	875.6	2,153.9
1974	1,388.0	876.8	2,264.8
1975	1,397.0	961.5	2,358.8
1976	1,405.8	1,110.0	2,515.8
1977	1,414.8	1,134.6	2,549.4
1978	1,414.8	1,161.4	2,576.2
1979	1,641.3	1,184.2	2,825.5
1980 */	1,869.3	1,218.8	3,088.1

Source: Electroperu.

*/ Preliminary figures.

4.4 Financial resources

In addition to the banking system and the development finance institutions reviewed in section 3.3 several specialized Funds serve the promotion of industrial development. The Fondo de Bienes de Capital (FONCAP), created by COFIDE S.A. with funds from the Central Reserve Bank, finances the adquisition of locally produced capital goods. Within a similar setting, the Fondo de Inversiones Regionales (FIRE) finances investments in "strategic" investments outside the Lima/Callao area. The Multisectoral Credit Programme BID-BCR, executed by COFIDE through financial intermediaries, uses funds provided by the Inter-American Development Bank (BID) and the Central Reserve Bank (BCR). It aims at the efficient utilization of nationally produced capital goods, regional decentralization and export promotion. Projects need to have a share of more than 25 per cent of locally produced capital goods in the total value of investment in machinery and equipment in order to be eligible.

Special promotion of small-scale industries is provided by the Small-Scale Enterprise Development Fund at the Industrial Bank, which provides credit at preferential conditions to small-scale enterprises.

In addition to the CERTEX scheme special promotional measures for manufactured exports are provided by the Fondo de Exportaciones No Tradicionales (FENT), a special credit line at the Central Reserve Bank for the promotion of non-traditional exports. The Export Promotion Law of 1979 created the Fondo de Promocion de Exportaciones (FOPEX). This export promotion fund organizes the participation in international trade fairs and trade missions and has built up an information system for exporters. The Fondo de Exportaciones, created by COFIDE S.A. with funds provided by the Central Reserve Bank finances the export of locally produced capital goods, consumer durables and connected services.

4.5 Foreign aid and technical assistance to industry

The Government of Peru has received considerable foreign aid and technical assistance in recent years. Commitments from international agencies in 1983 amounted to $452.5 million, most of which was provided by the International Bank for Reconstruction and Development and the Inter-American Development Bank. Bilateral official development assistance from D.A.C. countries only represents yearly disbursements of $150 to 200 million per year. Total technical co-operation in 1983 amounted to $65 million, of which over $12 million were directly administered by the office of the UNDP Resident Representative.

A list of UNIDO operational projects is attached in Annex D. Given the country's precarious foreign exchange situation, future technical assistance[1/] activities would need to be focussed on industrial projects aiming at:

- a selective substitution of imports in fields where the domestic manufacturing sector has already gained experience;

1/ The technical assistance requirements and the current problems of the main sectors emphasized in this chapter are analyzed in detail in the UNIDO study "Industrial Restructuring in Peru - Policies for Growth and Development", forthcoming, 1985 (IS/REG).

- a selective promotion of exports of products where the country enjoys a comparative advantage; and

- a maximum use of Peru's domestic resources.

Particularly promising potential for import substitution is in the production of selected capital goods, notably of machinery for the mining sector and of equiment for the generation and transmission of electricity. Mining machinery and equipment producers in Peru have long standing experience in the production of such items, given the importance of the mining sector in Peru. At the same time, the production of such equipment appears to have a significant export potential, particularly as the production of mining equipment is one of the key industrial branches assigned to Peru under Decision 146 of the Andean Pact.

A similarly promising growth potential lies in the branch producing capital goods for the generation and transmission of electricity. This branch belongs to the special priority areas within the framework of the new Strategy for the Re-orientation of the ANDEAN Integration, adopted by the ANDEAN countries in 1983.

Both industrial branches, however, whose sales depend heavily on public purchasers (electricity and mining companies), have presently only a minor share in the domestic market. It is advisable to set up an appropriate institutional and legal framework in order to facilitate an increasing participation of local entrepreneurs in the domestic market. This would need to be combined with technical assistance at the enterprise level aiming at broadening the product range, upgrading the technological base and ensuring adequate quality standards.

In the field of manufactured exports, Peru has proven in the past that she can very well supply a wide range of products to the world market at competitive prices and quality: textile and related products, woven cotton, clothing. This set of products is of utmost importance in Peru today because it has especially good chances to become efficient on the world market within a short time period. Due to their quantitative importance, these products present an exceptionally promising target for

sectoral policy. The promotion of textiles and clothing exports has been particularly successful. However, these exports have recently been encountering increasing difficulties in the US market, due to allegedly "unfair" export subsidies. It is recommendable to facilitate, through appropriate technical assistance, a shift of emphasis in the export promotion system away from direct export incentives towards more indirect support to selected export industries aiming at improving their competitiveness through technological development and product upgrading.

The size of the sector engaged in the production of copper products and the present situation on the copper market make any economic policy package for this branch a highly sensitive task. There surely is some scope for the expansion of copper production in the medium and long run. Yet the dramatic development on the world copper market (and its possible substitutes) since 1979 cautions against putting too much emphasis on a resource-based industrialization scheme of this kind.

Footwear is one of the classical labour-intensive sectors. Today the production of footwear still contains a relatively high share of labour even in developed countries. Therefore, the prospects for successfully promoting this industry are relatively promising even today. The success of Peruvian exporters in the 1970s was not so much due to sales on the markets of high-wage countries, but rather to exports to other Latin American countries (especially Argentina). This seems to indicate that there are still a number of improvements to be made before local producers will be able to face world market competition without government assistance.

Finally, technical assistance will increasingly be required for agro-based industries. The crucial link between agricultural and industrial development is being explicitly recognized by Peruvian policy-makers. Efforts to enhance agro-industry linkages are considered to have a most promising potential for further industrial development.

ANNEX A: STATISTICAL TABLES

Table A-1: International comparisons of economic performance, 1963-81
(at 1975 prices)

Measure	Year of Period	Peru	Latin America	Developing countries Total
GDP per capita (US $)	1963	792	802	324
	1970	911	1005	409
	1975	1004	1178	478
	1981	959	1341	533
MVA per capita (US $)	1963	170	172	48
	1970	218	241	68
	1975	250	297	85
	1981	234	332	101
Total exports/GDP (percent)	1963	21.34	19.26	23.52
	1970	18.74	18.07	26.59
	1975	10.64	12.99	23.44
	1981	12.19	13.89	23.30
Total imports/GDP (percent)	1963	16.95	13.43	16.61
	1970	18.01	14.59	17.80
	1975	19.49	15.80	22.40
	1981	19.77	16.47	26.68
Gross capital formation per capita (US $)	1963	124	144	53
	1970	115	214	78
	1975	197	292	116
	1981	160	326	137

Source: Statistics and Survey Unit, UNIDO. Based on data supplied by the UN Statistical Office, with estimates by the UNIDO Secretariat.

Table A-2: International comparison of growth rates by economic sector, 1963-81 (at 1975 prices)

Sectors	Period	Peru	Latin America	Developing countries total
Agriculture	1963-1970	3.74	3.01	2.37
	1970-1981	0.30	3.74	2.74
	1975-1981	0.99	3.71	2.63
Mining & quarrying	1963-1970	3.42	3.53	9.61
	1970-1981	4.66	-0.84	0.88
	1975-1981	7.76	3.18	-1.54
Manufacturing	1963-1970	6.15	7.45	7.37
	1970-1981	2.90	5.81	6.52
	1975-1981	0.99	4.81	5.75
Utilities	1963-1970	7.24	9.72	9.34
	1970-1981	9.09	9.10	9.41
	1975-1981	7.85	9.00	9.25
Construction	1963-1970	0.77	6.51	5.99
	1970-1981	3.46	6.26	7.96
	1975-1981	0.31	5.42	5.68
Services	1963-1970	4.28	6.17	5.93
	1970-1981	3.69	5.95	6.63
	1975-1981	1.80	5.29	5.87
Growth of GDP per capita (%)	1963-1970	1.58	3.03	3.13
	1970-1981	0.33	2.75	2.67
	1970-1975	1.88	3.48	3.34
	1975-1981	-0.92	2.39	1.94
Growth of MVA per capita (%)	1963-1970	3.22	4.58	4.71
	1970-1981	0.16	3.17	3.96
	1970-1975	2.78	4.69	4.81
	1975-1981	-1.72	2.23	3.23

Source: Statistics and Survey Unit, UNIDO.
Based on data supplied by the UN Statistical Office, with estimates by the UNIDO Secretariat.

Table A-3: Distribution of GDP by sector of origin, 1970-1982

(Million of soles at constant 1973 prices)

Economic Activity	1970	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Agriculture	59,374	54,285	57,173	56,750	58,126	57,580	57,619	60,215	56,855	62,952	64,290
Mining	24,930	26,924	27,927	25,243	26,762	32,909	36,033	39,324	39,477	38,245	40,750
Manufacturing	87,238	99,524	110,401	114,959	119,566	114,469	110,026	114,697	121,275	121,031	118,010
Food processing	31,394	25,604	31,427	31,231	33,062	29,747	28,536	29,935	29,779	29,922	30,994
Textiles	12,518	14,286	14,687	14,936	15,903	13,586	13,981	14,516	14,312	13,239	12,557
Wood & Wood products	1,721	2,265	2,340	2,542	2,723	2,413	2,276	2,176	2,122	1,973	1,997
Paper & Paper products	3,806	4,881	5,304	5,075	5,242	4,858	4,369	3,947	4,737	4,854	4,228
Chemical products	10,788	15,470	17,021	18,979	20,367	19,425	19,534	20,005	22,184	22,517	22,967
Non-minerals products	2,922	4,080	4,416	4,616	4,867	4,460	4,133	4,269	4,645	4,766	4,518
Basic metals	7,632	8,347	8,424	7,714	8,302	13,210	13,213	15,123	14,836	13,931	13,762
Metal products	7,906	13,802	15,463	17,778	17,656	16,223	13,533	13,909	17,270	17,823	15,257
Other manufacturing	888	1,180	1,204	1,367	1,306	1,133	1,047	982	1,070	999	972
Handicraft industry	7,663	9,609	10,115	10,721	10,138	9,414	9,404	9,785	10,320	10,537	10,758
Utilities	2,234	3,007	3,287	3,54µ	4,025	4,537	4,728	5,071	5,347	5,859	6,187
Construction	10,455	13,854	16,655	17,009	17,021	15,107	13,551	14,170	16,833	18,693	19,123
Commerce	44,630	54,805	60,524	66,256	64,151	61,605	60,152	63,269	67024	70,818	68,485
Transport	17,635	21,748	24,232	26,453	28,064	28,347	28,773	30,152	32,443	34,216	34,123
Services and other activities 1/	106,100	118,439	121,734	130,862	132,272	137,184	136,588	139,041	144,572	150,849	153,483
GDP	352,596	392,559	421,933	441,073	449,987	449,738	447,470	465,939	483,826	502,663	504,451

Source: World Bank (1983).

1/ Including financial services, education, health, public administration and defense.

Table A-4: Volume indices of manufacturing production, 1981, 1982 and 1983 (Base: 1973 = 100.0)

Industrial sectors and branches	Volume Index of production accumulated (January - October)			Relative variation (%)		INDICES accumulated annual figures (January - December)			Relative variation (%)	
	1981	1982 1/	1983 2/	1982/81	1983/82	1981	1982 2/	1983 3/	1982/81	1983/82
Manufacturing total	122.0	120.7	99.8	-1.1	-17.3	124.0	120.3	99.6	-3.0	-17.2
Manufacturing MITI	114.4	111.9	93.7	-2.2	-16.3	116.3	111.5	93.0	-4.1	-16.6
31X Fish meal	113.5	158.3	50.7	39.5	-68.0	113.2	152.5	62.4	34.7	-59.1
31 Food, beverages and tobacco	115.3	112.8	102.0	-2.2	-9.6	119.6	114.4	106.1	-4.3	-7.3
311-12 Food products	97.7	94.1	78.5	-3.7	-16.6	101.1	96.5	82.5	-4.5	-14.5
313 Beverages	138.2	134.5	134.0	-2.7	-0.4	143.5	135.1	136.5	-5.9	2.5
314 Tobacco	131.5	138.8	118.8	5.6	-14.4	137.5	139.7	122.7	1.6	-12.2
32 Textiles, clothing and shoes	96.3	92.2	79.8	-4.3	-13.4	96.2	93.1	81.4	-3.2	-12.6
321 Textiles	108.7	104.6	91.1	-3.8	-12.9	107.8	105.6	92.9	-2.0	-12.0
324 Footwear, except rubber or plastic	70.8	56.7	41.9	-19.9	-26.1	73.6	58.5	47.1	-20.5	-19.5
34 Paper, printing and publishing	90.2	79.7	70.5	-11.8	-11.5	90.6	77.2	66.6	-14.8	-13.7
341 Paper and products	110.2	83.2	71.9	-24.5	-13.6	112.4	83.4	70.5	-25.8	-15.5
342 Printing and publishing	77.0	77.5	69.6	0.6	-10.2	76.6	73.2	64.1	-4.4	-12.4
35 Chemicals	146.7	150.2	127.1	2.4	-15.4	147.1	148.7	123.2	1.1	-17.1
351 Industrial chemicals	180.7	199.2	177.0	10.2	-11.1	184.5	197.6	173.3	7.1	-12.3
352 Other chemicals	140.2	140.0	109.0	-0.1	-22.1	138.7	139.5	107.8	0.6	-22.7
353 Petroleum refineries	138.6	138.6	134.4	0.0	-3.0	138.8	137.9	129.1	-0.6	-6.4
355 Rubber products	128.6	120.8	101.2	-6.1	-16.2	129.8	116.8	91.3	-10.0	-21.8
356 Plastic products	136.3	140.3	104.9	2.9	-25.2	136.5	136.2	99.4	-0.2	-27.0
36 Non-metallic minerals	127.5	123.4	103.9	-3.2	-15.8	127.9	123.3	95.4	-3.6	-22.6
361 Pottery, china, earthenware	138.1	120.2	116.9	-13.0	-2.7	137.4	133.1	129.2	-3.1	-2.9
362 Glass and products	113.6	136.5	108.0	20.2	-20.9	117.8	135.0	106.0	14.6	-21.5
369 Other non-metallic mineral products	130.3	119.6	100.3	-8.2	-16.1	129.7	117.7	94.7	-9.3	-19.5
37 Basic metals	173.1	176.5	159.1	2.0	-9.9	177.2	175.1	158.7	-1.2	-9.4
371 Iron and steel	143.6	127.8	110.9	-11.0	-13.2	141.0	116.6	100.5	-17.3	-13.8
372 Non-ferrous metals	183.8	193.9	176.3	5.5	-9.1	190.1	195.9	179.4	3.1	-8.4
38 Metal products and machinery	116.0	103.6	67.8	-10.7	-34.6	118.4	102.4	63.6	-13.5	-37.0
381 Fabricated metal products	101.1	101.0	71.4	-0.1	-29.3	100.5	98.8	69.6	-1.7	-30.6
382 Machinery, except electrical	172.0	128.8	113.4	-25.1	-12.0	175.7	129.6	103.9	-26.2	-19.8
383 Machinery electric	148.7	125.0	74.7	-15.9	-40.2	153.1	122.7	70.6	-19.9	-12.5
384 Transport equipment	60.7	68.2	29.4	12.4	56.9	63.4	67.8	27.2	6.9	-69.6

Source: Ministry of Industry, Tourism and Integration.

1/ Preliminary figures.

2/ Estimates of the manufacturing index on the basis of a sub-sample of selected industries.

3/ Estimates based on production indices until October.

Table A-5: Product mix of traded manufactured goods, 1970, 1980 and 1982[#/]

SITC	DESCRIPTION OF TRADE GOODS	EXPORTS 1970 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1980 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1982 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1982 (1000 US $)	IMPORTS 1970 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1980 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1982 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1982 (1000 US $)
01	Meat and meat preparations	0.055	0.130	0.096	1631	2.428	0.553	1.994	52151
02	Dairy products and eggs	0.000	0.076	0.003	50	2.239	1.876	2.395	62632
032	Fish n.e.s. and fish preparations	0.352	3.831	2.670	45244	0.014	0.015	0.022	565
0422	Rice,glazed or polished not otherwise worked	...	...	...	...	...	3.149	0.843	22048
046	Meal and flour of wheat or of meslin	0.004	0.100	...	...	0.006	0.008	0.186	4865
047	Meal and flour of cereals,except above	0.000	0.000	0.000	1	0.008	0.007	0.380	9927
048	Cereals preparat. & starch of fruits & vegetab.	0.003	0.058	0.044	744	0.698	0.851	0.492	12866
052	Dried fruit	...	0.000	0.000	2	0.265	0.132	0.109	2844
053	Fruit,preserved and fruit preparations	0.006	0.580	0.286	4852	0.449	0.179	0.196	5119
055	Vegetables,roots & tubers,preserved or prepared	0.075	0.233	0.510	8648	0.024	0.031	0.035	902
06	Sugar,sugar preparations and honey	8.519	0.820	1.067	18081	0.107	1.555	0.092	2418
0713	Coffee extracts,essences,concentrates & similar	...	...	0.007	118	...	0.000	0.001	16
0722	Cocoa powder,unsweetened	...	0.018	0.014	240	0.081	0.016	0.008	200
0723	Cocoa butter and cocoa paste	...	0.762	0.989	16763	0.001	0.058	0.046	1216
073	Chocolate and related food preparations	...	0.030	0.013	215	0.001	0.042	0.086	2241
074	Tea and mate	0.011	0.218	0.008	133	0.003	0.001	0.002	53
081	Feeding-stuff for animals	37.795	9.364	4.998	84687	0.318	0.695	0.396	10349
09	Miscellaneous food preparations	0.006	0.141	0.062	1052	0.417	0.119	0.183	4786
11	Beverages	0.012	0.045	0.043	731	0.364	0.248	0.387	10108
122	Tobacco manufactures	...	0.002	0.000	1	0.075	0.002	0.005	132
2219	Flour and meal of oil seeds,nuts,kernels	...	...	...	...	0.011	0.001	0.000	8
231	Crude rubber,synth. & reclaimed(excl.SITC 2311)	0.000	0.000	...	...	0.366	0.437	0.274	7160
243	Wood,shaped or simply worked	0.031	0.215	0.096	1626	0.359	0.188	0.141	3694
251	Pulp and waste paper	0.060	...	0.000	8	1.085	1.268	0.504	13180
2626	Wool shoddy	...	0.000	0.000	1	...	...	...	...
2627	Wool or other animal hair,carded or combed	0.040	1.547	0.110	1865	0.000	...	0.000	2
2628	Wool tops	...	0.087	0.895	15171	...	...	0.002	52
2629	Waste of wool and other animal hair n.e.s.	0.009	0.023	0.019	319	0.002	...	...	...
263	Cotton	6.754	3.327	4.408	74691	0.001	...	0.000	5
266	Synthetic and regenerated(artificial) fibres	...	0.877	1.483	25133	1.322	0.435	0.229	5993
267	Waste materials from textile fabrics(incl.rags)	...	...	0.000	0	0.008	0.011	0.008	208
332	Petroleum products	0.102	6.404	15.723	266412	2.302	1.742	1.361	35584
4	Animal and vegetable oils and fats	4.969	0.320	0.866	14678	1.825	1.507	1.496	39130
411	Animal oils and fats	4.841	0.051	0.765	12963	0.139	0.282	0.043	1127
421	Fixed vegetable oils,soft(incl.SITC 422)	...	...	0.000	0	1.644	1.190	1.352	35349
431	Animal and vegetable oils and fats processed	0.128	0.269	0.101	1715	0.042	0.035	0.101	2654

Table A-5: Product mix of traded manufactured goods, 1970, 1980 and 1982*/ (continued)

SITC	DESCRIPTION OF TRADE GOODS	EXPORTS 1970 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1980 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1982 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1982 (1000 US $)	IMPORTS 1970 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1980 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1982 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1982 (1000 US $)
5	Chemicals	0.385	4.489	2.586	43809	16.317	18.883	13.523	353661
51	Chemicals elements and compounds	0.168	1.152	0.926	15688	4.397	6.658	4.469	116887
52	Tar and chemicals from coal,petroleum,nat. gas	...	...	...	...	0.036	0.011	0.007	195
53	Dyeing,tanning and colouring materials	0.001	0.102	0.170	2888	1.460	1.254	1.000	26149
54	Medicinal and pharmaceutical products	0.110	0.376	0.252	4270	2.951	1.900	1.607	42040
55	Essential oils and perfume materials	0.045	0.686	0.419	7094	0.621	0.559	0.593	15512
56	Fertilizers,manufactured	0.002	0.145	0.000	6	1.015	1.187	0.425	11108
57	Explosives and pyrotechnic products	0.026	0.734	0.196	3316	0.200	0.060	0.091	2392
58	Plastic materials,regenerated cellul. & resins	0.012	0.147	0.146	2472	2.987	4.745	3.209	83911
59	Chemical materials and products n.e.s.	0.020	1.148	0.477	8075	2.651	2.508	2.121	55474
6	Manufactured goods classified by material	40.498	54.719	52.216	884729	21.735	15.252	17.763	464546
61	Leather manufactured n.e.s. & dressed fur skins	0.123	0.390	0.226	3835	0.025	0.042	0.061	1591
62	Rubber manufactures n.e.s.	0.098	0.040	0.020	344	2.048	1.446	1.319	34505
63	Wood and cork manufactures(excl.furniture)	0.152	0.452	0.200	3395	0.142	0.174	0.164	4281
64	Paper,paper board and manufactures thereof	0.286	0.177	0.031	528	2.689	1.073	1.640	42892
65	Textile yarn,fabrics,made-up articles	0.126	8.142	5.959	100961	2.297	0.918	1.168	30558
66	Non-metallic mineral manufactures,n.e.s.	0.190	2.287	0.902	15277	1.393	1.169	1.213	31719
67	Iron and steel	0.214	1.049	0.358	6067	7.825	6.233	6.351	166082
68	Non-ferrous metals	39.288	41.537	42.755	727820	1.271	1.630	0.717	18742
69	Manufactures of metal,n.e.s.	0.021	0.644	1.564	26502	4.045	2.568	5.131	134176
7	Machinery and transport equipment	0.150	3.106	2.023	34270	40.112	46.446	49.635	1298071
71	Machinery,other than electric	0.050	0.777	0.798	13521	23.392	26.404	24.381	637620
72	Electrical machinery,apparatus and appliances	0.097	1.052	0.709	12014	6.442	8.858	9.895	258787
73	Transport equipment	0.003	1.278	0.516	8735	10.278	11.185	15.358	401664
8	Miscellaneous manufactured articles	0.164	8.477	8.762	148455	7.057	4.292	7.209	188525
81	Sanitary,plumbing,heating & lighting fixtures	0.010	0.048	0.099	1681	0.176	0.135	0.215	5635
82	Furniture	0.002	0.095	0.071	1198	0.014	0.018	0.272	7104
83	Travel goods,handbags and similar articles	0.000	0.046	0.026	446	...	0.005	0.057	1501
84	Clothing	0.073	2.274	6.548	110949	0.067	0.082	0.258	6750
85	Footwear	0.006	0.420	0.176	2974	0.000	0.006	0.076	1994
86	Professional,scient. & controll. instruments	...	0.027	0.017	295	2.690	1.728	2.630	68781
89	Miscellaneous manufactured articles,n.e.s.	0.074	5.567	1.824	30912	4.109	2.317	3.700	96759
		1970		1980	1982	1970		1980	1982
	TOTAL MANUFACTURES	777617		1880717	1694358	535394		2243855	2615256
	TOTAL: SITC 5-8 LESS 68 a/	14846		550188	383443	449461		1867841	2286061
	TOTAL TRADED GOODS: SITC 0-9	1044397		3265502	2755753	621743		2573348	2940247

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.

Table A-6: Origin of manufactured imports, 1982*/

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	52151	93.54	6.04	2.34	2.25	0.03	0.41
02	Dairy products and eggs	62632	2.51	97.48	3.31	21.85	0.01	0.01
032	Fish n.e.s. and fish preparations	565	4.48	94.03	3.07	3.70	1.59	0.00
0422	Rice,glazed or polished not otherwise worked	22048	1.60	98.40	98.40	0.00	0.00	0.00
046	Meal and flour of wheat or of meslin	4865	0.00	100.00	100.00	0.00	0.00	0.00
047	Meal and flour of cereals,except above	9927	18.54	81.41	64.16	7.11	0.12	0.00
048	Cereals preparat. & starch of fruits & vegetab.	12866	22.42	77.38	25.30	6.88	0.39	0.00
052	Dried fruit	2844	97.07	2.73	2.68	0.01	0.00	0.00
053	Fruit,preserved and fruit preparations	5119	81.10	17.66	9.65	3.49	0.02	0.00
055	Vegetables,roots & tubers,preserved or prepared	902	29.21	64.18	33.80	16.96	6.01	0.01
06	Sugar,sugar preparations and honey	2418	60.04	38.95	9.27	12.40	1.38	0.00
0713	Coffee extracts,essences,concentrates & similar	16	31.53	68.47	67.64	0.83	0.00	0.00
0722	Cocoa powder,unsweetened	200	26.06	73.94	25.15	48.23	0.00	0.00
0723	Cocoa butter and cocoa paste	1216	99.74	0.26	0.16	0.00	0.00	0.00
073	Chocolate and related food preparations	2241	73.45	26.52	10.12	7.96	0.57	0.00
074	Tea and mate	53	39.94	26.04	7.05	14.59	4.40	0.00
081	Feeding-stuff for animals	10349	21.20	78.68	69.21	4.95	0.43	0.12
09	Miscellaneous food preparations	4786	32.28	67.21	40.17	13.18	0.99	0.09
11	Beverages	10108	24.14	74.94	11.36	58.46	0.65	0.89
122	Tobacco manufactures	132	16.35	83.10	47.42	34.79	0.33	0.55
2219	Flour and meal of oil seeds,nuts,kernels	8	0.00	100.00	100.00	0.00	0.00	0.00
231	Crude rubber,synth. & reclaimed(excl.SITC 2311)	7160	43.47	56.52	26.81	12.64	1.28	0.00
243	Wood,shaped or simply worked	3694	15.60	84.40	62.72	0.03	0.00	0.00
251	Pulp and waste paper	13180	35.91	64.09	39.87	0.74	0.00	0.00
2627	Wool or other animal hair,carded or combed	2	0.00	100.00	0.00	43.88	0.00	0.00
2628	Wool tops	52	0.00	100.00	0.00	100.00	0.00	0.00
263	Cotton	5	0.00	100.00	100.00	0.00	0.00	0.00
266	Synthetic and regenerated(artificial) fibres	5993	0.28	99.72	53.33	11.25	4.43	0.00
267	Waste materials from textile fabrics(incl.rags)	208	0.00	100.00	71.11	12.98	0.10	0.00
332	Petroleum products	35584	57.01	42.55	35.96	5.24	0.97	0.00
4	Animal and vegetable oils and fats	39130	34.18	65.81	58.62	6.26	0.07	0.00
411	Animal oils and fats	1127	0.48	99.52	93.62	4.13	0.00	0.00
421	Fixed vegetable oils,soft(incl.SITC 422)	35349	36.86	63.12	61.50	0.73	0.08	0.00
431	Animal and vegetable oils and fats processed	2654	12.74	87.26	5.39	80.82	0.00	0.00

Table A-6: Origin of manufactured imports (cont'd)

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)
5	Chemicals	353661	12.09	87.21	40.07	33.41	3.91	0.52
51	Chemicals elements and compounds	116887	9.56	89.95	43.54	36.84	2.96	0.36
52	Tar and chemicals from coal,petroleum,nat. gas	195	11.74	88.26	49.51	37.66	0.00	0.00
53	Dyeing,tanning and colouring materials	26149	21.67	77.89	15.17	45.83	1.28	0.05
54	Medicinal and pharmaceutical products	42040	10.00	89.55	33.13	33.30	1.76	0.17
55	Essential oils and perfume materials	15512	8.91	91.04	37.16	43.40	2.18	0.00
56	Fertilizers,manufactured	11103	0.06	89.60	38.26	43.61	0.00	10.34
57	Explosives and pyrotechnic products	2392	28.95	68.87	18.74	17.88	0.47	0.00
58	Plastic materials,regenerated cellul. & resins	80311	15.13	84.59	36.48	29.61	8.99	0.14
59	Chemical materials and products n.e.s.	55474	12.47	87.30	57.21	21.99	2.52	0.15
6	Manufactured goods classified by material	464546	24.37	73.72	27.31	15.80	12.33	0.21
61	Leather manufactured n.e.s. & dressed fur skins	1591	44.16	43.34	9.28	19.69	9.14	0.17
62	Rubber manufactures n.e.s.	34505	18.29	78.91	39.97	11.17	19.01	0.23
63	Wood and cork manufactures(excl.furniture)	4281	13.75	83.51	16.71	2.40	2.61	0.71
64	Paper,paper board and manufactures thereof	42892	20.44	79.16	25.43	11.76	0.84	0.18
65	Textile yarn,fabrics,made-up articles	30558	16.59	79.14	37.83	11.66	23.45	0.73
66	Non-metallic mineral manufactures,n.e.s.	31719	25.85	71.20	32.39	23.44	6.19	0.41
67	Iron and steel	166082	16.96	82.47	26.80	13.62	20.77	0.01
68	Non-ferrous metals	18742	35.86	64.11	15.83	29.62	2.04	0.00
69	Manufactures of metal,n.e.s.	134176	36.27	60.57	23.85	18.57	4.55	0.31
7	Machinery and transport equipment	1298071	17.20	80.55	32.61	18.20	20.14	0.96
71	Machinery,other than electric	637820	12.79	85.51	42.61	24.20	5.91	0.72
72	Electrical machinery,apparatus and appliances	258787	14.08	81.27	29.18	21.20	25.31	1.11
73	Transport equipment	401664	26.23	72.21	18.95	6.74	39.42	1.25
8	Miscellaneous manufactured articles	188525	19.11	75.05	27.35	11.19	12.08	0.51
81	Sanitary,plumbing,heating & lightning fixtures	5635	25.29	56.27	25.56	12.75	5.65	0.05
82	Furniture	7104	2.30	96.15	13.66	2.53	4.22	0.06
83	Travel goods,handbags and similar articles	1501	15.22	38.81	23.97	1.40	11.42	0.01
84	Clothing	6750	26.00	61.34	45.93	9.58	2.60	0.17
85	Footwear	1994	35.50	37.39	14.70	7.59	3.17	0.04
86	Professional,scient. & controll. instruments	68781	13.22	83.77	40.18	13.98	12.41	0.98
89	Miscellaneous manufactured articles,n.e.s.	96759	23.41	70.69	18.36	10.08	13.66	0.27
	TOTAL manufactures	2615256	20.29	77.71	32.24	18.33	13.63	0.63
	TOTAL: SITC 5-8 LESS 68 a/	2286061	17.87	79.88	32.39	19.39	15.53	0.71
	TOTAL traded goods: SITC 0-9	2940247	19.63	78.54	36.78	16.50	12.52	0.57

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.

Table A-7: Destination of manufactured exports, 1982*/

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	1631	1.47	98.53	0.00	0.07	98.46	0.00
02	Dairy products and eggs	50	89.61	10.39	0.00	0.00	0.00	0.00
032	Fish n.e.s. and fish preparations	45244	42.91	56.25	27.69	23.61	0.05	0.64
047	Meal and flour of cereals,except above	1	0.00	100.00	100.00	0.00	0.00	0.00
048	Cereals preparat. & starch of fruits & vegetab.	744	97.52	2.48	2.48	0.00	0.00	0.00
052	Dried fruit	2	4.03	95.97	0.00	95.97	0.00	0.00
053	Fruit,preserved and fruit preparations	4852	32.04	67.96	1.03	63.97	0.23	0.00
055	Vegetables,roots & tubers,preserved or prepared	8648	11.19	88.81	14.50	53.58	19.71	0.00
06	Sugar,sugar preparations and honey	18081	3.36	96.64	96.53	0.11	0.00	0.00
0713	Coffee extracts,essences,concentrates & similar	118	100.00	0.00	0.00	0.00	0.00	0.00
0722	Cocoa powder,unsweetened	240	32.10	67.90	18.95	0.00	0.00	0.00
0723	Cocoa butter and cocoa paste	16763	16.35	83.65	68.58	12.54	0.00	0.00
073	Chocolate and related food preparations	215	85.52	14.48	14.48	0.00	0.00	0.00
074	Tea and mate	133	100.00	0.00	0.00	0.00	0.00	0.00
081	Feeding-stuff for animals	84687	27.18	34.89	4.33	14.12	2.94	26.10
09	Miscellaneous food preparations	1052	82.28	17.72	8.25	9.47	0.00	0.00
11	Beverages	731	73.51	26.49	25.86	0.54	0.09	0.00
122	Tobacco manufactures	1	0.00	100.00	100.00	0.00	0.00	0.00
243	Wood,shaped or simply worked	1626	35.90	64.10	30.33	16.63	4.72	0.00
251	Pulp and waste paper	8	100.00	0.00	0.00	0.00	0.00	0.00
2626	Wool shoddy	1	0.00	100.00	0.00	100.00	0.00	0.00
2627	Wool or other animal hair,carded or combed	1865	8.86	91.14	0.54	75.07	15.54	0.00
2628	Wool tops	15171	10.35	89.11	0.26	53.22	33.32	0.53
2629	Waste of wool and other animal hair n.e.s.	319	3.03	96.97	0.71	71.86	24.40	0.00
263	Cotton	74691	20.79	41.37	1.58	22.17	4.70	0.00
266	Synthetic and regenerated(artificial) fibres	25133	100.00	0.00	0.00	0.00	0.00	0.00
267	Waste materials from textile fabrics(incl.rags)	0	0.00	100.00	0.00	100.00	0.00	0.00
332	Petroleum products	266412	28.14	53.86	51.19	0.00	0.00	0.00
4	Animal and vegetable oils and fats	14678	34.14	65.86	0.00	65.10	0.76	0.00
411	Animal oils and fats	12963	30.18	69.82	0.00	68.96	0.86	0.00
421	Fixed vegetable oils,soft(incl.SITC 422)	0	100.00	0.00	0.00	0.00	0.00	0.00
431	Animal and vegetable oils and fats processed	1715	64.06	35.94	0.00	35.94	0.00	0.00

Table A-7: Destination of manufactured exports, 1982*/ (continued)

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)
5	Chemicals	43809	65.59	26.43	10.34	7.80	0.73	7.95
51	Chemicals elements and compounds	15688	76.40	23.60	15.17	4.69	1.00	0.00
53	Dyeing,tanning and colouring materials	2888	24.72	65.71	30.14	16.57	0.06	9.15
54	Medicinal and pharmaceutical products	4270	93.47	6.53	0.06	4.52	1.21	0.00
55	Essential oils and perfume materials	7094	61.59	38.41	17.10	21.27	0.00	0.00
56	Fertilizers,manufactured	6	100.00	0.00	0.00	0.00	0.00	0.00
57	Explosives and pyrotechnic products	3316	98.98	1.02	0.20	0.82	0.00	0.00
58	Plastic materials,regenerated cellul. & resins	2472	99.96	0.04	0.00	0.03	0.01	0.00
59	Chemical materials and products n.e.s.	8075	23.75	36.38	0.72	5.85	1.35	39.87
6	Manufactured goods classified by material	884729	21.40	75.88	27.81	33.50	11.27	0.78
61	Leather manufactured n.e.s. & dressed fur skins	3835	34.96	65.03	35.85	22.94	3.02	0.01
62	Rubber manufactures n.e.s.	344	48.12	51.88	42.33	0.00	0.00	0.00
63	Wood and cork manufactures(excl.furniture)	3395	43.46	56.49	48.32	5.62	0.27	0.04
64	Paper,paper board and manufactures thereof	528	99.65	0.35	0.33	0.01	0.02	0.00
65	Textile yarn,fabrics,made-up articles	100961	17.00	82.54	42.54	27.32	1.78	0.24
66	Non-metallic mineral manufactures,n.e.s.	15277	42.31	57.65	50.10	2.95	0.17	0.04
67	Iron and steel	6067	76.25	23.75	1.09	22.67	0.00	0.00
68	Non-ferrous metals	727820	18.34	78.42	26.10	36.52	13.43	0.91
69	Manufactures of metal,n.e.s.	26502	90.63	9.35	8.74	0.32	0.06	0.00
7	Machinery and transport equipment	34270	69.57	30.43	17.92	5.43	0.28	0.00
71	Machinery,other than electric	13521	67.83	32.17	7.57	10.56	0.72	0.00
72	Electrical machinery,apparatus and appliances	12014	55.94	44.06	39.72	3.29	0.00	0.00
73	Transport equipment	8735	91.02	8.98	3.98	0.46	0.00	0.00
8	Miscellaneous manufactured articles	148455	41.98	57.96	53.06	3.15	0.36	0.03
81	Sanitary,plumbing,heating & lightning fixtures	1681	47.18	52.82	52.81	0.02	0.00	0.00
82	Furniture	1198	77.55	22.34	13.46	4.03	0.14	0.11
83	Travel goods,handbags and similar articles	446	41.23	58.77	13.18	24.46	1.68	0.00
84	Clothing	110949	44.50	55.42	50.48	3.11	0.45	0.04
85	Footwear	2974	84.82	15.03	14.77	0.23	0.00	0.15
86	Professional,scient. & controll. instruments	295	61.42	38.58	32.11	4.45	0.00	0.00
89	Miscellaneous manufactured articles,n.e.s.	30912	26.97	73.01	68.34	3.41	0.11	0.02
	TOTAL manufactures	1694358	28.22	63.73	30.72	22.13	6.82	1.94
	TOTAL: SITC 5-8 LESS 68 a/	383443	44.51	54.43	37.97	10.57	0.76	0.99
	TOTAL traded goods: SITC 0-9	2755753	20.33	74.19	35.81	19.10	15.12	1.59

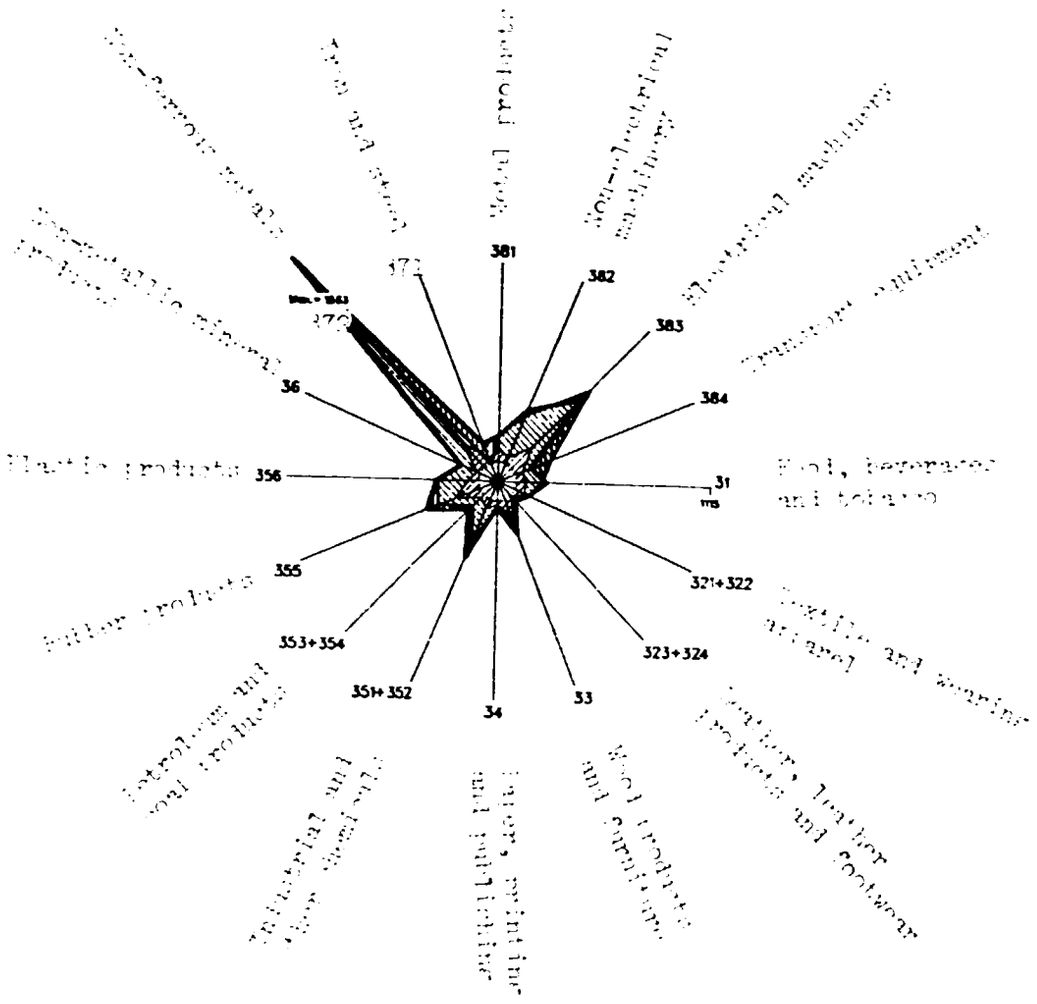
Note:Data and SITC descriptions refer to SITC revision 1

*/ 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.

ANNEX 8. INDUSTRIAL STRUCTURAL CHANGE, 1965-1980
(Index of value added: 1965=100)



The measure for structural change is defined as:

$$\cos \theta = \frac{\sum_i s_i(t).s_i(t-1)}{\sqrt{\left(\sum_i s_i(t)^2\right).\left(\sum_i s_i(t-1)^2\right)}}$$

where $s_i(t)$ i the share of the i-th branch of value added in total value added in the year t.

The value θ can be interpreted as the angle between the two vectors $s_i(t-1)$ and $s_i(t)$ measured in degrees.

The theoretical maximum value of θ is 90 degrees.

Source: UNIDO, Industry and Development, Global Report, 1985.

ANNEX C

Sectoral Plan 1983-1984: Major industrial projects

Major planned industrial projects listed in the Sectoral Plan 1983-1984 of the Ministry of Industry, Tourism and Integration include:

Sinter Plant (SIDERPERU):
Construction of a plant for processing sub-products and waste of Siderperu to obtain sinter.

Amplification SIDERPERU, phase I:
Installation of direct reduction capacity, electric furnaces etc, to produce 400 million tons of liquid steel.

Industrial Parks
Programming studies and investment to establish regional industrial parks.

Coal Sediments of Oyon (SIDERPERU):
Study of coal sediments of Oyon and subsequent exploitation for final use in siderurgical industry.

Salt Plant (EMSAL):
Implementation of new plant for salt production.

Terminal for unloading and storing of ammoniak (Fertilizantes Sinteticos S.A.):
Terminal required for increasing the production of Amonium Nitrate to a total of 90,000 t/year.

Nitric Acid 53 per cent Plant (Fertilizantes Sinteticos S.A.):
Required for producing quantity of acid needed as input for production of Amonium Nitrate.

Amplification of Factory of Amonium Nitrate (INCA):
Duplication of installed capacity, using electricity produced by amplification of Central Hidroelectrica of Macchu Picchu.

Industrial Park of Sullana (Direccion Ejecutiva de Parques. Industriales):
Promotion and revitalization of existing medium- and small-scale industries and promotion of new resource-based industries.

Amplification of productive and extrative capacity of sodium chlorate, subprojects Canamac, Otuma and Pilluana (EMSAL)):
Improvement of operations of plants.

Regional Center for Integrated Development of Handicrafts (MITI):
Creation of Regional Latin American Centre for Training of Handicraft-Artists.

Modernization of Plant SIDERPERU (Rehabilitation):
Investment to improve efficiency of SIDERPERU.

Storage capacity of sales centers (EMSAL):
Improvement of sales operations.

Ammonium Nitrate Plant (FERTISA)
Replacement of existing plant to diversify products.

Industrial Park of Rio Seco (Special Project Industrial Parks).
Provide terrain for 100 industrial plants, of which 40 per cent will be new plants.

ANNEX I

LIST OF TECHNICAL ASSISTANCE PROJECTS FOR INDUSTRIAL DEVELOPMENT

The approved and/or Operational Technical Co-operation Projects of UNIDO (as at April 1985)

PERU

Backstopping Responsibility (Spec.Act.Code)	Project Number	Project Title
IO/COOP (31.1.B)	UC/PER/82/124	Investment promotion meeting for Peru
IO/INFR (31 3.K)	DP/PER/76/014*	Development of metrology
IO/INFR (31.3.L)	DP/PER/81/020	Assistance to small-scale industry in development and execution of projects and training
IO/INFR (31.3.M)	SI/PER/85/801	Assistance in the establishment of domestic/international sub-contracting exchanges in Peru
IO/TRNG (31.5.B)	RP/PER/84/001	Quality control in industry
IO/AGRO (31.7.A)	SI/PER/84/801	Development of prefabricated modular wooden bridges
IO/AGRO (31.7.C)	FD/PER/84/465*	Assistance to the Naranjillo Cocoa Processing Plant in Tingo Maria (related to FD/PER/84/467)
IO/AGRO (31.7.C)	FD/PER/84/467*	Financial assistance to the cocoa processing plant in Tingo Maria, Peru (related to FD/PER/84/465)
IO/MET (31.8.B)	SI/PER/83/801	Electro-refining of copper by the method of periodic reversible current
IO/MET (31.8.F)	DP/PER/81/021*	Centro de tecnología metalúrgica industrial
IO/CHEM (32.1.D)	UC/PER/83/169	Creation of a centre for bio-technology applied to pharmaceuticals (antibiotics)
IS/REG (62.2.Z)	UC/PER/84/066	Assistance to the Ministry of Industry, Tourism and Integration

* Large-scale project (= total allotment $150,000 or above).
** Total allotment $1 million or above.

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