OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.

DISCLAIMER

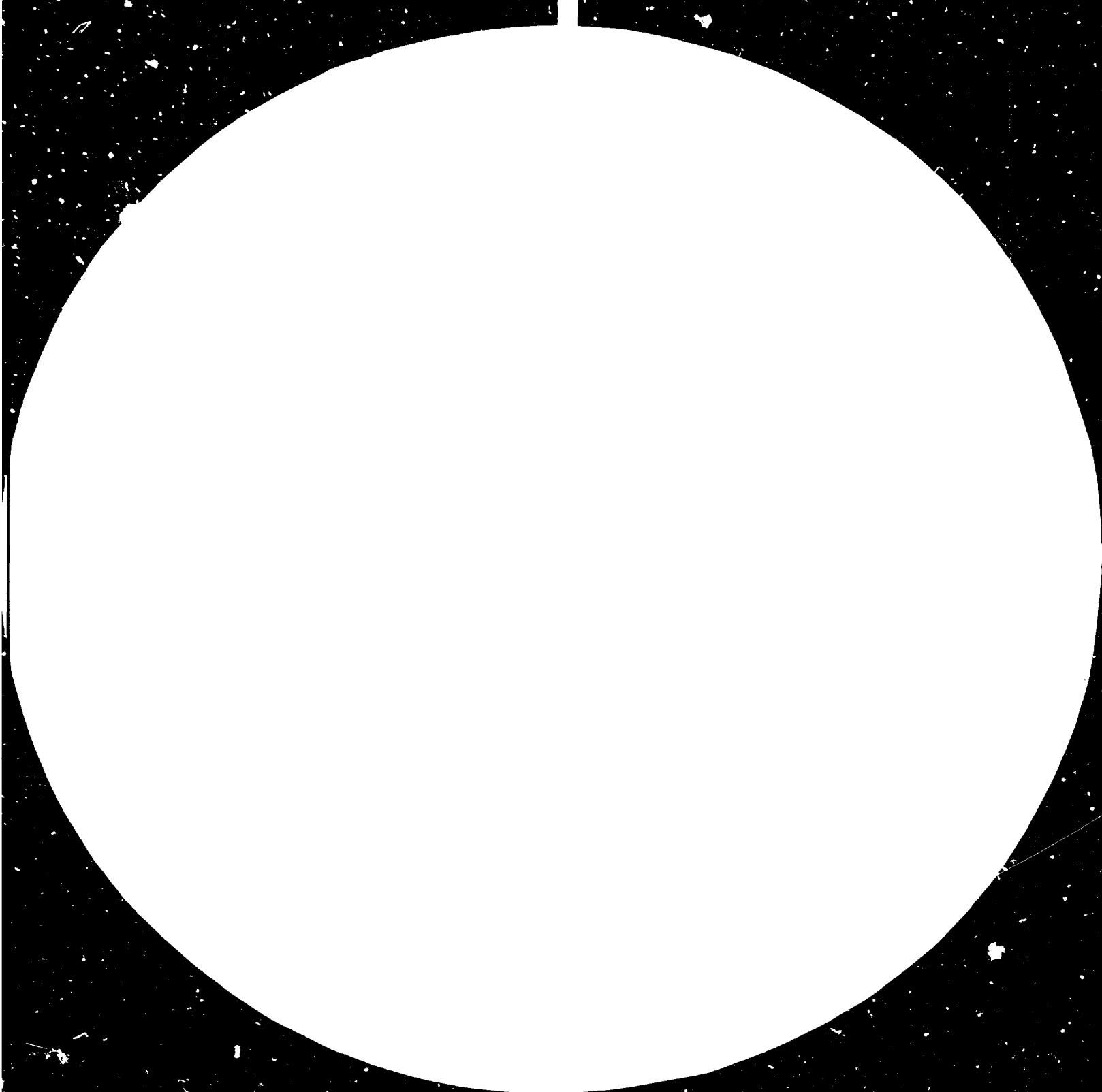
FAIR USE POLICY

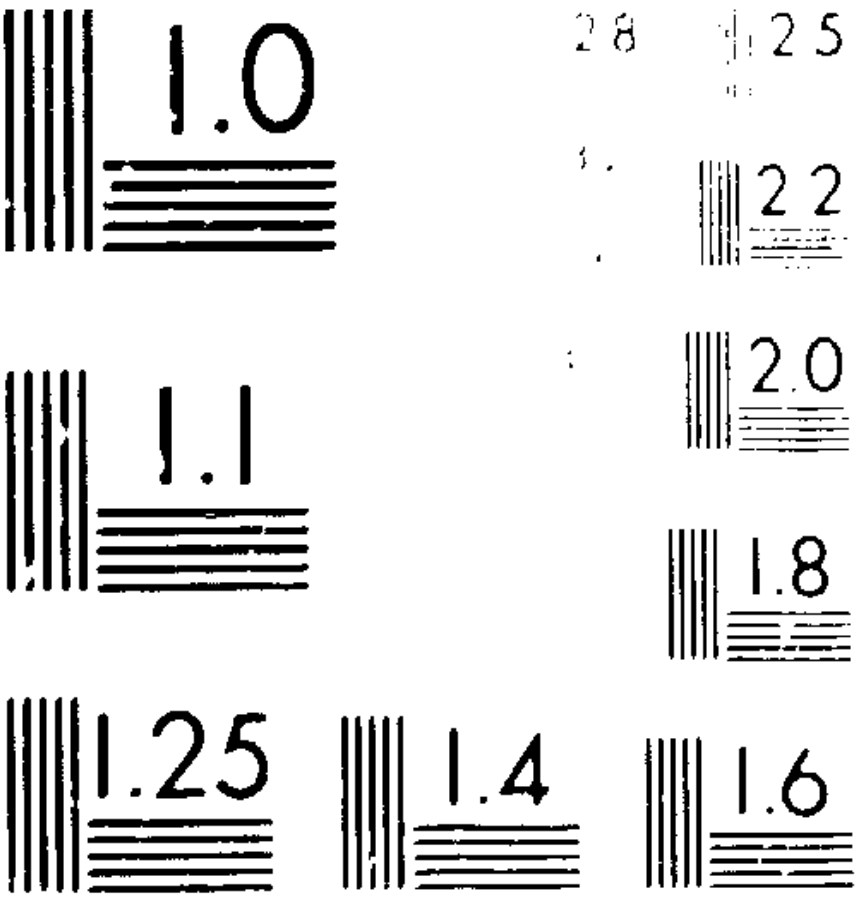
CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org




1.0
2.8
2.5
2.2
1.1
2.0
1.8
1.25
1.4
1.6

12459

Distr.
LIMITED

UNIDO/IS.381

27 April 1983

ENGLISH

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

THE PUBLIC SECTOR AND THE INDUSTRIALIZATION OF VENEZUELA*

Carlos Tomic

Prepared by

Regional and Country Studies Branch

Division for Industrial Studies

* This document has been reproduced without formal editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

V.83-54884

PREFACE

This study was undertaken within the framework of the research and studies programme on the role of the public sector in the industrialization of developing countries conducted by the Regional and Country Studies Branch of the Division for Industrial Studies, UNIDO. Through this research programme, an attempt has been made to analyze the role and function of the public industrial sector in developing countries and to examine the crucial issues surrounding their operations.

The country studies have primarily focussed upon the role of public industrial enterprises as instrument of industrial policy and strategy; their contribution to growth and development of the industrial sector and national economy; their operational performance as well as their organizational framework and institutional infrastructure. By examining the role of public industrial enterprises and identifying the major constraints facing these enterprises in various developing countries the uncertainties surrounding their operational performance may be reduced and a basis laid for improving their efficiency and enhancing their contribution to industrial growth and national development.

In this country study the role and function of the public industrial sector in Venezuela is analyzed. The study was carried out in co-operation with Carlos Tomic,[1/] Latin American Centre for Development Administration (CLAD), as UNIDO consultant on the basis of information and data collected through a questionnaire survey.

1/ The views expressed in this study are those of the consultant and do not necessarily reflect the views of the Secretariat of UNIDO or of the governments of any of the countries mentioned in the study.

CONTENTS

CHAPTER 1

RATIONALE AND ROLE OF PUBLIC INDUSTRIAL ENTERPRISE

1.1 Economic Policy Perspective

In the early stages, the general characteristics of Venezuela's industrial development were similar to those of other Latin American countries. The economy was based primarily on the export of agricultural products and was subject to the effects and influences of a variety of factors and circumstances, both domestic and international.

In broad terms, Venezuela's economic development passed through the following stages:

(1) The pre-industrial stage, prior to the beginning of the so-called "oil era", running approximately from the achievement of independence to the great economic crisis of 1929. During this period, handicrafts dominated the domestic manufacturing scene and the national economy, which was primarily of the rural agricultural type, depended on coffee and cocoa exports for foreign currency earnings.

(2) The second stage began with the 1929 crisis, which resulted in a decline in the prices of exported farm products. This situation was overcome thanks to the discovery of oil and the extremely rapid growth in its exploitation. Until the Second World War the main features were large-scale import of manufactured products, lack of manufacturing activity, gradual decline of agriculture and handicrafts and the growing dependence of the economy on the exploitation of oil.

(3) The third stage in the history of Venezuelan industrialisation began in 1937 with the establishment of the national Industrial Bank. This date is also considered a milestone because, thereafter, certain steps were taken with a view to solving the unemployment problem in agriculture due to the drop in farm prices. Some priority was given to the development of domestic industry and the Junta Nacional de Producción

(National Production Board) and the Corporación Venezolana de Fomento (Venezuelan Development Corporation) were set up in 1944 and 1946 respectively. Tax incentives were granted and protectionist measures for the benefit of newly-formed industries were introduced.

(4) The stage known as "first generation industrialisation" began with the Second World War. During this period the rapid growth of local industry received considerable stimulus. The War had given rise to a serious and widespread shortage of manufactured products. The State supported the introduction of simple industrial processes (traditional industries) through the allocation of substantial funds and the execution of basic infrastructural projects in order to stimulate growth.

(5) The fifth and present stage has been called "second generation industrialisation". In it, the country's efforts are directed towards the production of capital goods and durable intermediate goods and attaining the objective of a structural diversification of production and exports. The 1950s are regarded as a transitional stage between the first and second generation industrialisation eras. Today, the import substitution policy is considered to have been historically surpassed. Adjustments in industrialization policy are made in the form of five-year plans for defining the areas of activity reserved for the State, the treatment of foreign capital, the training of manpower for industry, participation in integration processes, etc. These plans have a basic role to play in the redistribution of wealth and in the attainment of greater social participation in the development of domestic industry through new structures created for the purpose.

1.2 Economic Rationale for the Establishment of Public Industrial Enterprises

Up to about 1957 domestic requirements of manufactured products were mainly met by imports. The few industries which were established during this period were insufficient to meet domestic demand and operated

on the basis of imported inputs. After 1957 the rapid growth of the population and its migration to urban centres in search of employment and better living conditions motivated and encouraged decisive State action to speed up the process of establishing basic key industries. The volume of capital required for the execution of these projects exceeded the capabilities of the Venezuelan private sector, which was concentrating on the development of the traditional industries. Other factors which led to the establishment of public enterprises were the inherent risk and the long lead time involved in State investments, while in some cases the rate of financial return proved relatively low and unattractive in comparison with other options open to the Venezuelan entrepreneur.

1.3 Government Objectives and Strategies

Government objectives and strategies for the long-term development of the public industrial sector have been stated in the Sixth National Plan which covers the period 1981-1986.

The public industrial enterprise sector is expected to attain

(1) Greater efficiency: the harnessing of existing resources will be consolidated and the use of industrial quality standards extended.

(2) The production of capital goods will be geared to demands originating in the oil, construction, electrical energy, communications and transport sectors, thus helping to strengthen the sectoral integration of the economy.

(3) There is a commitment to promoting greater technological independence: industrial development will be achieved through the more extensive embodiment of national technology, and this will call for:

(i) The training of highly skilled manpower;

(ii) The implementation of a policy designed to promote national research and development, and the administration, adaptation and disaggregation of technology packages.

(4) Priority will be given to those sectors of the mechanical engineering industry which has spare capacity and is an appropriate area for the development and incorporation of national technology and to the petrochemical sector.

(5) The State will take steps to eliminate the concentration of economic power and will channel public resources towards enterprises with relatively limited access to funds. It will establish corporations and enterprises with new forms of association between workers and professional staff.

(6) The plan aims to achieve a rate of growth in the industrial sector which is higher than the aggregate growth rate throughout and to improve the use of the factors of production and pass on to the consumer part of the benefit derived from increased productivity in the form of greater price stability and wider market competition.

(7) Efforts will similarly be made to strengthen the role of basic State industry in those sectors where there are clear international comparative advantages for the country, associated with the exploitation of natural resources requiring large-scale investment.

(8) Industry will help to reduce imbalances in external transactions in goods and services by a gradual process of import substitution, export promotion and greater use of private sources of domestic financing.

(9) The plan envisages that the private sector will play the major role in Venezuelan industrial development. To that end, the private industrial sector will work towards a greater degree of self-sufficiency and less dependence on the State for the funding of investment, thus releasing tax revenue for social expenditure.

(10) In order to facilitate an improvement in levels of production efficiency, a policy of eliminating tax reliefs will be gradually introduced and more effective machinery established for the control and collection of duties and taxes.

(11) With regard to prices, administrative controls will be relaxed and

reserved for application to products in oligopolistic or monopolistic markets.

(12) Industry's contribution to social development will be reflected in the creation of more jobs and in the channelling of an important part of industrial production into mass consumer goods serving to promote social development in such areas as health, clothing, nutrition and housing construction.

(13) Measures will be introduced to provide incentives and disincentives specifically related to the location of industry in accordance with the national policy for the regionalization of development.

It is thus obvious that the objectives are broad and varied and permit diverse interpretation. This has meant that the role of the public industrial sector has undergone significant changes over the years.

1.4 Major Changes in the Role of the Public Industrial Sector

Some of the major changes in the role of the public industrial enterprise sector in industrialisation and in the development strategy over the last two decades are discussed in the following paragraphs.

In 1950 the State introduced a vast system of medium- and long-term public investments and financial guarantees with a view to developing strategic basic industries which, for reasons such as the volume of capital required or the long lead period, were beyond the reach of the domestic private sector. From the standpoint of the country's development, high priority was given to the strengthening of the merchant fleet (C.A. Venezolana de Navegación), the establishment of an iron and steel industry (CVG Siderúrgica del Orinoco C.A. (SIDOR)), the establishment of the Caroní S.A. aluminium plant (ALCASA) and other major enterprises of national interest such as the Corporación Aeronáutica Venezolana C.A. (Venezuelan Aeronautical Corporation) (CORPAVENCA), the Empresa Diques y Astilleros Nacionales (National Docks and Shipyard Enterprise) (DIANCA) and the Ciá. General de Minería de Venezuela (Venezuelan General Mining

Company) (MINERVEN).

During the 1970s and particularly in the second half of the decade, the general policy for the public industrial sector gave precedence to consolidation of the action already taken. The sector largely retained its promotional role, but had to meet various new requirements:

(a) Increased emphasis was put on programmes designed to achieve greater efficiency and productivity on the basis of the available manpower and raw materials, the expansion of existing capacity being postponed to a later date.

(b) Greater selectivity was exercised regarding areas of production, priority being given to the manufacture of durable, intermediate and capital goods which both serve a basic need to meet domestic demand and exploit Argentina's international comparative advantages giving access to export markets.

The State has not renounced its promotional role, but is placing more emphasis on consolidating and completing what has already been achieved and on maximizing the expansionist and multiplier effect of the public industrial sector in order to stimulate the emergence of new small- and medium-scale industries in the private sector. It is, thus, also contributing to population settlement in focal points of industrial activity set up in the interior of the country.

1.5 The Public Industrial Sector and National Planning

The objectives and strategies for the promotion of the public industrial sector are an integral part of the Sixth National Development Plan (1981-1986). They are fully defined at the sectoral level and partially defined at the enterprise level.

Volume II, Chapter V (Sectoral Features) of the Sixth Plan defines policy objectives and plans for a few sectors in which the public industrial sector predominates regarded as being of priority importance. These include recommendations regarding:

(a) Change in the refining standard and the embodiment of national technology in the oil industry.

(b) Development of the aluminium industry with a view to making aluminium the country's second major export product. The Plan defines the industrial development policies and programmes to be followed by the existing public enterprises and those to be adopted by domestic mixed and private enterprises for the purpose of producing semi-finished and finished manufactures based on aluminium, preferably for export.

(c) Consolidation of investment and implementation of Plan IV of CVG Siderúrgica del Orinoco, SIDOR in the basic iron and steel industry, and execution of the first phase of the ACELCAR special steels project.

(d) Technical, administrative and financial targets are laid down for the State complexes of El Tablazo and Morón in the petrochemical sector. Provision is made for technical projects in the fertilizers and plastics sectors for the purpose of promoting complementarity with domestic private industry in the secondary processing of basic petrochemical products.

The development objectives and strategies for public industrial enterprises in the mechanical engineering, electronics and agro-industrial sectors are similarly embodied in the Sixth National Plan.

As far as the other Venezuelan State enterprises and autonomous institutions are concerned, a set of directives has been prepared by the Oficina Central de Presupuesto (Central Budget Office) (OCEPRE). These have a practical content in that they lay down annual strategic plans to be followed by each enterprise, as well as systems of budgetary control and management that must be used.

These directives are supplemented by a general model entitled "Programme planning and budgeting in Venezuelan public enterprises" (February 1981), which is mandatory and makes possible the integration of the activities of this sector in a uniform, consistent and complementary manner.

With regard to the articulation of objectives and strategies for the promotion of the public industrial sector with the private industrial sector, it should be noted that the national Economic Development Plan states in Chapter III (General strategy and objectives for industrial development), Chapter IV (Policies and instruments) and Chapter V (Sectoral guidelines) that the collaboration given by public industrial enterprises to private industries should be reflected in the emergence and strengthening of such industries, in conformity with the "vertebral" concept of State activities prevailing during the last two decades. In accordance with this concept, the State assumes a promotional role in national industrialization with a view to consolidating a self-sustaining and self-sufficient private manufacturing sector, thus enabling national industry to develop on the basis of its own resources and releasing revenue to cover the growing requirements of social expenditure. Necessary adjustments in industrial manufacturing policy are at present under discussion. It is considered that, in future, co-operation between public industrial enterprises and private manufacturing enterprises can no longer be based on the provision of raw materials, intermediate goods and capital on concessional terms, leading to an accelerated growth of private industries at the expense of heavy losses for public enterprises. Public enterprises have been established in order to utilise national economic resources, develop technology, develop backward areas, control natural monopolies and provide infra structural services. Private sector firms on the other hand are there to make profits, stimulate market competition, generate foreign exchange earnings etc. Thus the role of public and private enterprises is complementary. However the concern with the efficiency of the public enterprise sector has meant that they have had to increasingly concern themselves with profitability. Public and private enterprises have found themselves in competition in many markets. It is sometimes argued that this competition is unfair

because of the assistance given to the state sector by the support policies formulated by the government from time to time. These are detailed below.

1.6 Public Support Policy

(1) Protection and promotion policy: During the lead period, the setting up of public industrial enterprises producing intermediate and capital goods mainly intended for import substitution called for a significant degree of tariff protection, supplemented by a series of provisions on tax exemptions, reliefs and reductions, import quotas, reference prices, licences etc.

This policy of protection had favourable effects during the initial stage of the industry's consolidation but thereafter those effects were offset by the lack of incentives to maintain a level of efficiency enabling it to supply the domestic market with products capable of competing with foreign products in terms of quality and price.

Tariffs are at present being revised; reliefs, exemptions etc. are being progressively reduced and their structure is being brought into line with the ANDEAN regional agreements in the interests of greater efficiency and competitiveness.

The policy of export promotion and diversification has received strong support from the National Executive, in the form of both general and special incentives for industries with a high export priority: mechanical engineering, capital goods and petrochemicals are specially favoured sectors.

The objective of channelling direct investment firmly towards the resource-based processing industries in areas of international comparative advantage has proved successful and effective and has led to the development of iron and steel, aluminium, petrochemicals, mechanical engineering and other basic industries, though in some cases development has admittedly been uneven, involving surplus production capacity,

delays in the training of skilled manpower etc.

(2) Taxation policy: Under the current national development plan, profits ploughed back by public industrial enterprises into national research and development centres or into special manpower training programmes are to be exempt from income tax.

(3) Financial policy: The financial system for the promotion of public industrial enterprises involves new forms of specialisation for State organisations, namely: fixed assets investment (medium- and long-term) is undertaken by the Fondo de Crédito Industrial (Industrial Credit Fund) (FCI), Venezuelan Development Corporation (CVF) and the Corporación de Desarollo para la pequeña y mediana industria (Development Corporation for Small- and Medium-Scale Industry) (CORPOINDUSTRIA). Similarly specialised institutions have been established for the funding of State manufacturing and agro-industrial projects.

(4) Policies relating to manpower, technological development and increased productivity: These policies can to some extent be grouped and analysed together, although in practice each one of them merits detailed critical analysis.

The task of acquiring technology relevant to large-scale investment projects is being undertaken by various national agencies for scientific and technological development. These attempt to disseminate the progress made, thereby increasing their capacity for negotiations on technology, incorporation of national added value, disaggregation of technology packages and training of manpower in the sector.

A study of the situation as regards staff training executive responsiveness to the transfer of administrative technology, etc. carried out in 15 public industrial enterprises shows that, in spite of the established policy and the priority attached to this task, a restricted concept of training prevails which views it in the light of an outlay rather than as an investment - this is explained by the relatively

high staff turnover at different levels. The study also reveals shortcomings such as the lack of a sound programme for the identification of needs, enterprise by enterprise, a very rudimentary development of training policies, and budgetary defects.

(5) Quality control and productivity policies: The official promotional policy provides for action on industrial standardisation, the Comisión Venezolana de Normas Industriales (Venezuelan Commission on Industrial Standards) (COVENIN) having been set up for this purpose. Its activities are concentrated on standardisation programmes for the petroleum, iron and steel, automotive, metallurgical, textile, electrical and other industries. It also certifies quality and supervises the application of quality control techniques (Marcas NORVEN).

With regard to productivity, there is a specialised agency, the Instituto Venezolano de Productividad (Venezuelan Productivity Institute) (IN-PRO) which mainly works on promotional, research and technical assistance programmes in co-operation with the Regional Development Corporations and CORPOINDUSTRIA. It also runs a special programme for improving the productivity of public and private enterprises planning to export non-traditional products.

Since Venezuela acceded to the Cartagena Agreement, complementary and specialisation schemes have been established in both the public and the private industrial sectors, entailing joint and complementary programming in the iron and steel, automotive, petrochemical and electronic sectors, etc.

Attention should also be drawn to the work being done by the Venezuelan Development Corporation, which has carried out a number of feasibility programmes and studies since it was set up, in conformity with priorities established by Governments and national plans. Priority has been given to agro-industrial programmes and, to a lesser degree, to industrial programmes which have made it possible to process a

series of agricultural products and to exploit comparative regional advantages more fully. In collaboration with the Centro Industrial Experimental para la Exportación (Experimental Industrial Centre for Exports) (CIEPE), important research is being carried out into the possible integral use, and export, of products in the mechanical engineering, chemical, petrochemical, fishing and mining branches.

In July 1982, the Ministry for Development swore in the members of the Regional Productivity Committee of the eastern region, with the participation of IN-PRO, the Venezuelan Investment Fund (FIV), the President of CORPOINDUSTRIA and the President of Fedecámaras, representing private industry in Venezuela. It is expected that such committees will be set up in all regions and focal points for development in order to publicize the importance of productivity in regional development[1].

1.7 Sectoral Distribution of Industries

The list of 'priority industries' reserved for the public and private sectors has been identified by the government. The current priority list is given below.

(1) Public industrial enterpises:

- 1.1 Petroleum industry
- 1.2 Petrochemical industry
- 1.3 Metallurgy: iron, steel, aluminium
- 1.4 Production for military purposes (CAVIM), (VENEMAICA)
- 1.5 Venezuelan Naval Shipyards (ASTINAVE), (DIANCA), (ASTIZUCA), (COVINCA)

(2) Industrial co-operatives: There are no branches exlusively reserved for co-operatives, but their development is most extensive in:

- 2.1 Agro-industries
- 2.2 Foodstuffs
- 2.3 Craft industries (leather, wood and ceramics)

---

[1] El Nacional, Caracas, 19/7/82.

2.4 Forestry

(3) Private domestic enterprises: No industries are soley and exclusively reserved for the private sector in Venezuela. Private domestic manufacturing industries are active in all areas covered by the International Standard Industrial Classification, ISIC, except for those listed in paragraph (1) above.

(4) Foreign private enterprises: As for paragraph (3), except that their position is governed and circumscribed by the provisions of the ANDEAN subregional agreement.

(5) Mixed enterprises: As for paragraph (4), but their operations are concentrated in the technologically highly demanding branches of manufacturing, semi-finished industrial goods and in general those areas in which the opportunity cost, in terms of management resources, skilled personnel and the minimal structure required to achieve the planned objectives, make this desirable[1].

1.8 Major Successes and Failures

One of the major successes of the public industrial sector is the development of basic industry (iron and steel, aluminium, petrochemicals and capital goods). The strategic value of the sector's industrial production has made it possible to integrate the nation's product structure, provide a stable and reliable supply of raw materials to the private industrial sectors and to the economy as a whole and to substantially reduce the vulnerability associated with the use of foreign strategic raw materials.

It has also had a noticeable effect in fostering the development of local capacity for undertaking national investment and design projects incorporating basic engineering. The public industrial enterprises have contributed risk capital to the development of technologies of national

---

[1] A schedule giving the distribution of manufacturing activities by public and private sectors is given in Annex I.

origin and to the adaptation of imported technologies. This has stimulated the establishment of multi-institutional bodies formed by universities, research centres and industrial undertakings which are run on business lines and have specialised in the generation and dissemination of technological knowledge for the national production sector.

The growth of focal points for industrial development, which began with the establishment of public enterprises, led to the emergence of small- and medium-scale industry, to the formation of agricultural and agro-industrial production co-operatives and to a more satisfactory geographical location of industry and employment opportunities, thereby helping to mitigate the serious unemployment problem in the peripheral areas of the country and reduce internal migration.

Other significant strategic achievements have been the channelling of administrative capacity to the provinces to tackle problems of education, health, communications and, in general, to enable the provinces to manage and exploit their own resources.

Failures and problems include low productive efficiency, unnecessary participation in non-basic sectors of the economy and poor administrative and financial organisation, resulting in serious economic losses.

With regard to argicultural and agro-industrial development, the public industrial enterprises have not found satisfactory solutions in the areas of production, distribution, warehousing, storage and transport of products. Productivity has been limited by a combination of factors: ill-planned appreciation of the socio-cultural features of the rural community, dispersal of effort in the simultaneous pursuit of objectives not arranged in order of priority and exceeding the capability of the enterprises etc. Nevertheless, much work has undeniably been done in orienting development in such fields as tropical agriculture, the provision of infrastructure, the application of ecological and

conservationist concepts and nature protection, the improvement of farming technology, phytosanitary control, genetics, etc.

CHAPTER 2

PERFORMANCE OF THE PUBLIC INDUSTRIAL ENTERPRISE SECTOR

2.1 Macroeconomic Performance

The share of the public industrial sector in manufacturing investment grew from 21.8 per cent in 1970 to 59.6 per cent in 1976; the share of the private sector declined from 78.2 per cent to 40.4 per cent over the same period. By this year public enterprises accounted for more than 75 per cent of manufacturing value added. Their share in manufactured exports also exceeded 75 per cent. As against this the proportion of public manufactured imports to total manufactured was about 50 per cent. Imported manufactures and raw material accounted for less than 50 per cent of the production cost of the public industrial sector. Public enterprises process over 75 per cent of the domestic metallic and non-metallic mineral products. These products account for more than 75 per cent of the value of the total raw material imputs of the public industrial sector. As against this the use of domestic agricultural products is limited. The public industrial enterprise process less than a quarter of the total output of the agricultural sector.

The public industrial sector has relatively weak links with small scale industry. The proportion of material input provided to the public industrial sector by small scale industry is small, as is the proportion of public enterprise output purchased by small scale production units. However there are no economic activities in the undertaking of which public and small scale enterprises actually compete against each other - as is the case in some other Latin American countries. Public industries enterprises provide some important services for small scale industries.

Public industrial enterprises participate in training, advisory and technical assitance programmes organised by the Venezuelan

Productivity Institute (IN-PRO) and CORPOINDUSTRIA for the purpose of training manpower for small-scale industry and for industrial and agro-industrial co-operatives.

The initiative in setting up, organising and co-ordinating these programmes is, however, taken by the agencies mentioned above.

There is also co-operation with training programmes organised by institutes training national experts for subsequent employment in small-scale industry.

2.2 Rural Development and Basic Needs

During the last decade, the establishment of public agro-industrial enterprises has had a very favourable impact on rural development. This applies to branches such as coarse cotton fibre, fish and shellfish (frozen and canned), cane sugar, copra, edible oil, dried milk powder, industrial slaughterhouses and cold-storage plants, timber for carpentry, etc.

Another significant contribution has been the production of fertilizers and chemical products for agriculture at prices and on terms of payment which are subsidized by the State.

In addition to contributing to the production of processed foods, public industrial enterprises have played an important part in satisfying such basic needs as the manufacture of garments and pharmaceutical products, the construction of transport equipment and the manufacture of components for low-cost housing.

2.3 Technology Development

Except for Siderúrgical del Orinoco (SIDOR), the public industrial enterprises devote a very small proportion of human and economic resources to Research and Development. There are, however, some research centres and multi-institutional bodies which undertake these activities with the financial support of the State. It should, therefore,

be borne in mind that the skill acquired and the manpower being trained may lead to significant progress in the future.

Public industrial enterprises acquire technology through the following means:

(i) Licensing and know-how arrangements including patents

(ii) Joint ventures

(iii) Turn-key operations

(iv) Other forms (management contracts, technical assistance agreements, other (specify)).

1. The most widely utilised methods are: licensing, including patents, turn-key operations and mixed enterprises.

2. Management contract: foreign experts are assigned to industrial projects for periods ranging from one day to a number of years. They undertake the supervision and co-ordination of plant construction and start-up projects.

3. There are international consultancy services established in the country. They advise on the adaptation of imported data-processing systems and technology which certain industries acquire and then wish to utilise at full capacity.

4. Training of Venezuelan professionals and experts in industries and research centres outside the country, so that they can familiarise themselves with the state-of-the-art in a given industrial activity.

5. Inter-governmental and inter-institutional agreements for the implementation of joint research programmes by Venezuelan and foreign experts.

Attempts are also made to commercialize indigenously developed technology. These include:

1. Diamond bistouries: currently being purchased by leading research laboratories in Europe and the United States of America. This technology was developed by the Instituto Venezolana de Investigaciones Científicas

(Venezuelan Scientific Research Institute) (IVIC).

2. Light prefabrication system for the construction of VIPOSA housing. The system has recently been exported to Curaçao and a technical assistance agreement has been signed with Trinidad and Tobago and Jamaica. This technology has been developed by VIPOSA with State support.

3. A point-by-point numerical control system for machine tool "positioning". This is being marketed in the domestic engineering and electronics industries. This technology was developed by IVIC.

4. A system employed in the steel industry consisting of the rapid casting of small ingots which are subsequently laminated down to 6mm wire in a single heat operation. The system was sold to two companies in Brazil. This technology was developed by Siderúrgica del Orinoco (SIDOR).

5. Design and construction of a "scrubber" plant for washing gas emitted by a phthalic anhydride plant, a project in which both the domestic private enterprise OXIDOR and IVIC participated. It is being sold to the domestic chemical industry, and negotiations are in progress for the export of this technology to Ecuador.

6. The C.A. Venezolana de Pulpa y Papel (Venezuelan Pulp and Paper Company) (VENEPAL), has developed new mixing techniques in its research laboratories which enable bagasse pulp to be used in various types of paperboard without detriment to its quality. New methods have been developed for stripping, washing and boiling the bagasse fibre. The use of other chemical reagents which increase the fibre/pulp yield is being assessed on an industrial scale. This technology is being sold to paper and paperboard manufacturers in Central America and the Dominican Republic.

7. Adaptation of technology through improvements in the design of a cathodic protection system for plants of the PEQUIVEN petrochemical company. The efficiency of the anticorrosion protection system for

the submerged piping in Lake Maracaibo was increased and, as a result, the adaptation has been applied by national enterprises producing crude oil. The technology was developed jointly by experts from EXXON, Venezuelan research centres and PEQUIVEN.

8. A new system has been designed and constructed for the packaging of paper napkins, whereby the napkins are compressed and inserted into a paper or a polyethylene bag, thus achieving a substantial improvement in presentation and hygiene. This system has been sold to manufacturers of similar products on the domestic market. The technology was developed by the MANPA paper manufacturing company.

9. Design of an electronic circuit for the control of burners. This is being sold on the domestic market. The technology was developed by the firm of R. Penso Ingenieros Asociados.

2.4 Co-operation with Foreign Enterprises

As the public industrial sector has grown it has experimented with a series of policies to improve its performance. These include attempts at promoting links with foreign industrial enterprises. Below we review some cases of co-operation between the Venezuelan public industrial sector and foreign public and private industrial enterprises.

Case I:

In May 1977, a Technical Co-operation Agreement was signed between PETROCANADA and PDVSA (Petróleos de Venezuela), which came into effect in April 1979 in the following areas:

1. Joint evaluation of the CANMET and AURABON processes by both parties, with the participation of the Venezuelan Technological Petroleum Institute (INTEVEP).

2. Joint study of hydrocracking with hydrogen donor solvent.

3. Tripartite agreement between INTEVEP-PETROCANADA-AOSTRA on evaluating the "autogeneration of H^2S in thermal reforming schemes". AOSTRA (Alberta Oil Sands Technology and Research Authority) and

INTEVEP S.A. are sharing the costs of research and promoting scientific studies relating to the extraction, up-grading and commercialisation of heavy and extra-heavy crudes.

Case II:

In March 1980, the French Petroleum Institute (IFP) signed an agreement with Petróleos de Venezuela (PDVSA) and INTEVEP S.A. for the purpose of:

1. Joint evaluation of the design of a pilot plant for testing a catalytic process based on reactive de-asphalting.
2. Production assisted by CO^2 injection.
3. Tertiary recovery.
4. Commercialization of equipment and technology developed by INTEVEP S.A.

Case III:

The Ministry of Research and Technology of the Federal Republic of Germany and the Ministry of Energy and Mines of Venezuela signed a special technical co-operation agreement in the energy sector, expressing the interest of both parties in joint development of new technologies for the production and upgrading of heavy crudes and development programmes in the field of nuclear energy; for this purpose, a general study will be made of Venezuela's nuclear energy potential.

Participants include Petróleos de Venezuela S.A. (PDVSA) and the Consejo Nacional de Energía Nuclear (Council of Nuclear Energy) (CONAN), which forms part of the Venezuelan-German "joint group" responsible for co-ordinating and implementing the joint research and energy-development programmes, for concluding agreements on the acquisition or transfer of pertinent technology, and for co-operating and sharing information with other countries, etc.

Case IV:

CVG, the Siderúrgica del Orinoco C.A. (SIDOR) (a public corporation), Siderúrgica Venezolana S.A. (SIVENSA) (a private enterprise) and

US Steel (a transnational corporation) organised a joint programme to improve and adapt new technology for a process involving the simultaneous rolling of two different shapes, some of the steel being rolled directly into coils, the rest being moulded into straight bars and passed to the cooler.

Case V:

A team of experts made available by the Venezuelan petrochemical enterprise, PEQUIVEN S.A. (a public enterprise), EXXON (transnational) and national research and development centres collaborated on a project for increasing the efficiency of the anticorrosion protection system for submerged piping. Four different systems of anode plates were evaluated. Maps of areas exposed to interference and inter-influence barriers with anode plates were drawn, so that the best design for cathodic protection could be selected. This has resulted in a sharp reduction in the corrosion rate.

Case VI:

The Joint Mixed Rural Forestry Enterprise (TICOPORO C.A.), set up by the National Agrarian Institute (IAN) (51 per cent) and the Rural Forestry Association (ACOFTICOPORO) of the state of Barinas (49 per cent), jointly with the Venezuelan company COTIA (transnational, representing the Cotia Export and Import Company of São Paulo, Brazil) carried out an industrial viability study for the construction of a plant producing vegetable oil from the African palm (dendé). The study covered the following aspects:

1. Soil quality
2. Pluviometric index
3. Seed selection
4. Planting and cultivation techniques
5. Design of plant in modular form, equipment and installations
6. Schedule of operations

7. Market and profitability study

8. National input, imports, consultancy contract.

In general these agreements are of relatively recent origin and have not yet had a significant impact. It is to be expected that such co-operation can play an important part in increasing the efficiency and international competitiveness of Venezuelan public industrial enterprise.

2.5 Summing Up

Despite the expectation of the Sixth Five Year Plan that the private sector will play the leading role in Venezuela's industrial development, the major portion of industrial investment originates in the public sector which has been growing rapidly. It accounts for the major portion of manufacturing value added and exports and has played a key role in the establishment of the basic industries.

The public industrial sector does not operate very efficiently. Many enterprises make large losses. Thus in 1979 SIDOR made a loss of Mbs 966,000 and Alcasa made a loss worth Mbs 44,943. There are few indicators that efficiency is improving over time.

The spread effects of public industrial growth remain limited due to the weak linkages of this sector to small scale enterprises. Public enterprises have however made important industrial innovations and have developed useful links with foreign public and private enterprises. This may have a pronounced impact on their operational efficiency in the future.

CHAPTER 3

ORGANISATIONAL FORMS AND MANAGERIAL EFFICIENCY

3.1 Legal Structures and Organisational Forms

Every public industry currently operates as a (private) limited liability company; the status of the last public manufacturing enterprises operating as public corporations was modified towards the end of the 1970s.

The operations of public industries are governed by the Commercial Code, although they are subject to a special régime in certain matters: they are governed by the Organic Law on the Budgetary Régime with regard to credit operations. Under the Organic Law concerning the Office of Controller General of the Republic, that office is authorised to exercise management control.

The organisation of public industries in their relations with Central Government takes a variety of forms. The iron, steel and aluminium industries are organised in regional corporations: the petroleum and petrochemical industries operate through a State parent or holding company, while other industries have become branches of financial corporations. That is in accordance with an historical process reflecting a variety of approaches to enterprise formation.

The trend in recent years has been to organise industries on the basis of specialised sectoral corporations intended to form units of financial co-ordination, planning and efficient management, while having a direct link with the National Executive, thus avoiding a fragmentation of relations and a high degree of political involvement at the institutional level. The Venezuelan Investment Fund (FIV) is, however, assuming ever greater importance as a financial agency and source of capital for the principal public industries.

3.2 Effectiveness of Organisational Forms

The public industrial sector, organised in the form of private limited liability companies, has experienced grave problems in respect of managerial efficiency and effectiveness of operational management. One cause of this lies in the impact of the large salaries offered by the private sector, which lead to a high turnover of qualified and experienced manpower. In most cases this has resulted in a drastic fall in productivity levels and operational efficiency.

A noticeable exception is provided by the petroleum and petrochemical industry, which is organised as an integrated State corporation (holding company), possessing greater independence in fixing levels of remuneration. This has enabled it to retain its managerial and technical staff and thus avoid the distortions occurring elsewhere in public administration.

Petróleos de Venezuela S.A. (PDVSA) is an example of an organisational form and legal structure which has proved successful in achieving both socio-economic objectives and managerial efficiency. This holding or parent company was established by a Presidential Decree on 30 August 1975 and assumed the direction, management and control of the fourteen operating companies existing at that date, merging them into four subsidiaries, one being responsible for production, refining and export of crude and refined products, another for the petrochemical sector, another for research and technological development relating to the industry, and another responsible for co-ordinating the distribution of equipment and raw materials throughout the industry.

The Ministry of Energy and Mines maintains a system of relations through the PDVSA Board of Directors, retaining its powers as the regulating body for the sector but leaving management independent. This had made it possible to devise a wage and salary policy that meets the objective of retaining qualified manpower at all levels.

3.3 Institutional Support Mechanisms

It was initially the task of the Venezuelan Development Corporation to finance large-scale public industry. Later the Venezuelan Guyana Corporation began to develop the industrial potential of the region and large-scale projects for expanding existing capacity and for the basic industrialisation of the principal natural resources were then financed through Public Credit Acts. Recently, however, responsibility for the promotional financing of basic national industry has lain with the Venezuelan Investment Fund (FIV), which was set up to channel the funds generated by the rise in oil prices.

FIV exercises control over the enterprises in whose capital it participates and to which it grants loans, but that control mainly involves the appointment of boards of directors and financial control designed to ensure recovery of its funds and satisfactory management of its investments.

The Central Office of Co-ordination and Planning (CORDIPLAN) integrates public enterprises into the national planning system through sectoral planning committees, on which the ministries and public bodies concerned with each sector of activity are represented. It has also organised a system of management control for public enterprises, consisting of an information system designed to support decisions on management activities by the Office of Economic Management.

The Central Budget Office (OCEPRE), in accordance with its role as advisory body to the National Executive on budgetary matters, is devising an enterprise budget methodology as a basis for the approval of budgets by the President of the Republic in the Council of Ministers.

The Ministry of Finance is the body responsible for executing the provisions of the Organic Law on Public Credit in respect of all the credit operations of the public industries.

The Central Bank of Venezuela (BCV) is the country's supreme monetary body, which draws up the national accounts and acts as a permanent advisory

body to the National Executive with respect to such operations of the public industries as come within its sphere of competence; it maintains specialised offices which keep the management of the principal public industries under constant review.

The Office of the Controller General of the Republic has a permanent supervisory group in the principal public enterprises with a view to monitoring their management.

The specialised commissions of the National Congress exercise standing control over the management of public industries with a view to safeguarding the interests of the community. For that purpose, they regularly convene meetings of sectoral ministers and enterprise representatives for consultations on substantive aspects of managerial activities.

The Venezuelan Guyana Corporation (CVG), a regional corporation embracing the mining of iron ore, aluminium and alumina and the iron and steel industry has organised and planned the industrial development of the region and the provision of the industrial and urban infrastructure. It is the public agency for co-ordinating industry and mining in the region and is represented on the boards of directors.

In general the two major forms of public enterprises - holding corporations and other enterprises operating under company law - have a close relationship with the Government. The Government is responsible for such corporate planning as takes place in Venezuela. It attempts to closely monitor enterprise performance. Supervision, operational co-ordination and overall control of the holding corporations is also relatively strict. Governmental control of other companies is less pronounced. They have a greater autonomy and are permitted greater leeway in determining operational priorities. Both these types of enterprises enjoy some autonomy in raising share capital, making appointments of top and middle level management and purchasing capital

equipment and raw material. On the other hand price policy is entirely a governmental prerogative. Venezuelan economists believe that an increase in enterprise autonomy can make an impact on organisational efficiency and performance.

Measuring organisational performance, however, is a complex and difficult task. In Venezuela the system of controlling public enterprise management organised by CORDIPLAN and currently in its initial stages of implementation has been set up at the highest level of the National Executive and is based on a system of collecting information on their management. Its aim is to ensure:

1. that the management objectives, goals and programmes of decentralised bodies are fully in accordance with the development strategy, the National Plan and the Annual Plan of Operations (efficiency control);
2. that the public enterprises operate at the highest level of internal efficiency (efficiency control);
3. that lines of responsibility are laid down at the respective levels of decision-making with regard to public production management.

Once the system is fully operational, a more realistic picture of the performance of the public industrial sector will emerge and it will be possible to develop a coherent policy for increasing its efficiency.

CHAPTER 4

SUMMARY REVIEW

The first part of this study describes the establishment of public industrial enterprises, a process initiated in response to varied stimuli including:

- Social pressure for greater employment opportunities, a consequence of the large-scale migration from rural to urban areas, the steep rise in the birth rate, the sharp drop in the prices of farm products and the decline in craft industries which set in with the crisis of 1929;
- The interruption in the supply of manufactured products, large-scale consumer goods (foodstuffs, housing, transport, clothing etc.) and products of strategic importance (fertilizers, pharmaceuticals, etc.) during the Second World War;
- The need to achieve a more balanced regional development; in this connection, the public manufacturing enterprise sector played a pioneer role in creating focal points of industrial development, stimulating the emergence of small- and medium-scale industry and the establishment of mixed and foreign-capital enterprises in sectors offering clear-cut comparative advantages associated with the utilization of abundant natural resources in various areas of the national territory;
- The expansion of the domestic market attributable to earnings from oil.

A critical analysis of the part played by the public industrial sector supports the conclusion that its initial successes were as follows:

- It created suitable conditions for the emergence and development of the private manufacturing sector, which was provided with a basic infrastructure, an assured supply of locally produced raw

materials, a workforce and appropriate geographical locations;

- It contributed to the expansion and diversification of production in the manufacturing sector by effectively promoting import substitution, by reducing the vulnerability of the domestic economy on the external front and by laying the foundation for a diversifcation of exports, which had hitherto been dependent solely on the exploitation of oil;
- By generating new sources of employment, it reduced social tensions, thereby raising the level of basic social consensus. This in turn led to a reasonable degree of continuity in the implementation of development strategies, the consolidation of democratic institutions, the strengthening of trade union organisation, the development of professional organisations, greater social participation, support for the provision of basic needs through the production of essential consumer goods such as components for housing construction, foodstuffs, drugs, etc.

Mention must be made of some of the significant problems and failures experienced during the development process of the public industrial sector:

- The abrupt and disorganised growth of the public manufacturing sector and a proliferation of enterprises, many of which were characterised by chronic deficits, structural deficiencies and responsibility for too great a variety of areas of economic and social activity were factors contributing to a loss of management efficiency, dispersal of effort and a lack of intersectoral and intrasectoral co-ordination in the formulation of operational plans and the implementation of the necessary measures to achieve the targets set for the various organisations in the sector;
- Despite the socialcontribution represented by the generation of new sources of employment, there are still problems which are

unacceptable from the standpoint of healthy democratic co-existence; these are due to sharp inequalities in income distribution. Large sectors of the population continue to live in critical poverty. One of the reasons for this is considered to be the erroneous belief that rapid economic progress necessarily leads to an improvement in social development;

- Accelerated urbanization and the formation of focal points of economic development has created serious problems. The problems of public transport, housing, drinking water, basic services (including personal safety) have become acute. There are also deficiencies in the provision of services for large sectors of the population at a cost compatible with family income.
- The labour force is not adapted to the requirements of an economy whose industrial sector is undergoing an accelerated process of growth and expansion. Despite the fact that national development plans and government policies specify that manpower training and specialization are key factors in industrial development, education and training are still characterized by many shortcomings.
- In recent years financial imbalances have made their appearance and should these become more pronounced, the very foundations of economic and social development would be threatened. Many public industrial enterprises are operating with chronic deficits of sizeable proportions. The absence of a system of incentives to promote efficient management must be rectified; it is also necessary to implement the newly-developed budgetary control scheme mentioned in this study and to grant enterprises the necessary freedom to offer levels of remuneration compatible with those of the private sector so that trained and experienced staff capable of ensuring rational and efficient plant operation can be retained and attracted. These shortcomings have an adverse economic and moral

effect: economic because they drain off resources urgently needed to meet the requirements of rising social expenditure; moral because if the State squanders its resources, it weakens its right to demand more from the population in the taxation or any other field;

- In spite of the investments made in basic industries and in export diversification, the economy continues to be dependent on oil exports. Steps must be taken to ensure that public and private industry can compete on foreign markets in terms of both price and quality.

Another problem which is not attributable to public industrial enterprises but which must be tackled with their co-operation is that of economic concentration. It is due in part to the greater efficiency of large private enterprises, which are integrated both vertically and horizontally and can take advantage of economies of scale. However, this has encouraged the formation of large economic groups in which the ownership of financial institutions and industrial enterprises is concentrated. This excessive concentration is restricting the market's function as a regulating factor in resource allocation and price determination.

With regard to research and development, negotiation for and adaptation of imported technologies and disaggregation of technology packages, the interviews and research carried out in connection with this study revealed that public industrial enterprises are indirectly performing a constructive role. Although they devote a small share of their resources to these tasks, they have clearly stimulated the development of State centres devoted exclusively to these activities and with which they maintain permanent links. In contrast, the private manufacturing sector limits itself to importing technology, doing minor work on the application of methods and systems to improve

productivity but introducing no major innovations. Nearly all Venezuela's efforts to acquire technology may therefore be said to originate in the State sector, though there is still a long road to be travelled.

The information gathered on the interrelationship between the public industrial sector and the private and foreign manufacturing sectors shows that there are some areas of complementarity and co-operation. Reference was made to the supply of basic industrial raw materials from which the two latter sectors benefit, while the former sector undertakes the production of intermediate and capital goods contributing to the provision of basic needs. However, this complementarity is insufficient, as is demonstrated by the limited contribution of these sectors to subregional integration programmes and, generally speaking, to export diversification. It may be concluded that there is little intersectoral integration. This is partly due to the previously mentioned obstacles to efficiency in the case of the public sector and to the private manufacturing sector being accustomed to expect and to receive tariff protection and state coverage of investment risks and ample financing - factors which have led it to concentrate on meeting the demands of a relatively safe and captive domestic market rather than on making itself more competitive in order to co-operate with the Government's policy of producing export goods that are internationally competitive in terms of quality and price.

It may be concluded from this summary that, where the development of domestic manufacturing industry is concerned, the national development plans formulate coherent strategies, lay down consistent guidelines and policies, and set out clearly defined objectives ranging from the overall sectoral level to the public enterprise level, but that they lack adequate machinery for ensuring that these declared objectives are given operational effect and coincide with the aims actually being pursued in manufacturing as a whole, whether State, domestic, private, mixed or foreign.

ANNEX

Table A1: Distribution of Priority Manufacturing Industries by Public and Private Sector (latest year available)

Branch	ISIC	Share of Total Manufacturing and Proportion of Public and Private Sector of Various Manufacturing Categories			
		1 Manufacturing Output		2 Manufacturing Value Added	
		Year 1979		Year 1979	
		Share of Total Manufacturing Output (Public and Private)	Proportion of Public Sector in each Manufacturing Category	Share of Total Manufacturing Value Added (Public and Private)	Proportion of Public Sector in each Manufacturing Category
		- percentage -			
Mainly consumer durables:					
Food products	311 + 12	20.07%	0-24	12.68%	0-24
Beverages	313	5.30	0-24	8.74	0-24
Tobacco	314	1.62	0-24	2.64	0-24
Textiles	321	3.20	0-24	3.63	0-24
Wearing apparel	322	2.50	0-24	2.02	0-24
Leather and fur products	323	0.37	0-24	0.26	0-24
Footwear	324	1.19	0-24	1.02	0-24
Wood and cork products	331	0.86	0-24	6.80	0-24
Furniture and fixtures	332	1.38	0-24	1.31	0-24
Printing and publishing	342	1.54	0-24	1.82	0-24
Professional and scientific equipment, photographic and optical goods	385	0.10	0-24	0.10	0-24
Other manufactures	390	0.66	0-24	0.59	0-24
Mainly intermediate goods:					
Paper	341	3.14	0-24	3.23	0-24
Industrial chemicals	351	1.48	50-74	1.14	50-74
Other chemicals	352	3.99	50-74	4.08	50-74
Petroleum refineries	353	23.77	100	30.48	100
Miscellaneous products of petroleum and coal	354	0.04	0-24	0.04	0-24
Rubber products	355	1.25	0-24	1.32	0-24
Plastic products	356	0.93	25-49	1.08	25-49
Pottery, china and earthenware	361	0.42	0-24	0.62	0-24
Glass	362	0.87	0-24	1.10	0-24
Other non-metallic mineral products	369	2.90		3.49	
Mainly capital goods: (Incl. consumer durables)					
Iron and steel	371	5.11	75-100	4.69	75-100
Non-ferrous metals	372	1.67	75-100	2.09	75-100
Metal products, including machinery	381	4.70	25-49	4.47	25-49
Non-electrical machinery	382	0.74	25-49	0.65	25-49
Electrical machinery	383	2.72	0-24	2.42	0-24
Transport equipment	384	7.51	0-24	3.61	0-24
Total		100%		100%	

Source: Central Bank of Venezuela, ECONOMIC REPORT 1979, table A-IV-61, p. A 270, Caracas, November 1980.

Table A1 (continued) Distribution of Priority Manufacturing Industries by Public and Private Sector (latest year available)

Branch	ISIC	Share of Total Manufacturing and Proportion of Public and Private Sector of Various Manufacturing Categories			
		3		4	
		Manufacturing Investment a/		Manufacturing Employment	
		Year 1977		Year 1977	
		Share of Total Manufacturing Investment (Public and Private)	Proportion of Public Sector in each Manufacturing Category	Share of Total Manufacturing Employment (Public and Private)	Proportion of Public Sector in each Manufacturing Category
		- percentage -			
Mainly consumer durables:					
Food products	311 + 12	5.44	0-24	15.55	0-24
Beverages	313	4.02	0-24	3.15	0-24
Tobacco	314	0.23	0-24	0.85	0-24
Textiles	321	2.72	0.24	7.62	0-24
Wearing apparel	322	5.74	0-24	7.42	0-24
Leather and fur products	323	0.10	0-24	0.88	0-24
Footwear	324	0.31	0-24	3.19	0-24
Wood and cork products	331	0.51	0-24	2.20	0-24
Furniture and fixtures	332	0.35	0-24	3.92	0-24
Printing and publishing	342	1.23	0-24	3.51	0-24
Professional and scientific equipment, photographic and optical goods	385	0.05	0-24	0.28	0-24
Other manufactures	390	0.32	0-24	1.35	0-24
Mainly intermediate goods:					
Paper	341	4.55	0-24	3.21	0-24
Industrial chemicals	351	0.42	50-74	1.79	50-74
Other chemicals	352	1.83	50-74	5.51	50-74
Petroleum refineries	353	1.65	100	1.15	100
Miscellaneous products of petroleum and coal	354	0.02	0-24	0.14	0-24
Rubber products	355	1.10	0-24	1.64	0-24
Plastic products	356	1.74	25-49	3.21	25-49
Pottery, china and earthenware	361	0.11	0-24	0.52	0-24
Glass	362	0.55	0-24	1.25	0-24
Other non-metallic mineral products	369	5.81		5.62	
Mainly capital goods: (Incl. consumer durables)					
Iron and steel	371	55.54	75-100	5.29	75-100
Non-ferrous metals	372	3.15	75-100	0.89	75-100
Metal products, including machinery	381	2.55	25-49	7.58	25-49
Non-electrical machinery	382	0.97	25-49	2.83	25-49
Electrical machinery	383	2.15	0-24	3.67	0-24
Transport equipment	384	2.00	0-24	5.79	0-24
Total		100%		100%	

a/ Gross Fixed Capital Formation.

Source: Central Office of Statistics and Information (OCEI), VII INDUSTRIAL SURVEY - National output, 1977. Table No. 21, p. 93, table No. 4, p. 32, Caracas, June 1980.

Table A1 (continued) Distribution of Priority Manufacturing Industries by Public and Private Sector (latest year available)

Branch [a]	ISIC [b]	Number of Public Manufacturing Enterprises [b] Year .... Large	Medium	Small
		- Number of Enterprises -		
Mainly consumer durables:				
Food products	311 + 12	26	4	
Beverages	313			
Tobacco	314			
Textiles	321	2	2	
Wearing apparel	322	1		
Leather and fur products	323			
Footwear	324			
Wood and cork products	331	1		
Furniture and fixtures	332			
Printing and publishing	342	1		
Professional and scientific equipment, photographic and optical goods	385		1	
Other manufactures	390			
Mainly intermediate goods:				
Paper	341	1		
Industrial chemicals	351	9		
Other chemicals	352	2		
Petroleum refineries	353			
Miscellaneous products of petroleum and coal	354			
Rubber products	355			
Plastic products	356			
Pottery, china and earthenware	361			
Glass	362	2		
Other non-metallic mineral products	369	4	1	
Mainly capital goods: (Incl. consumer durables)				
Iron and steel	371	6		
Non-ferrous metals	372	4		
Metal products, including machinery	381	1		
Non-electrical machinery	382	1		
Electrical machinery	383	1	1	
Transport equipment	384	4		
Total		66	9	

b/ Large = above 50 employees; medium = less than 50 but more than 10 employees; small = less than 10 employees.

Source: Central Office of Co-ordination and Planning (CORDIPLAN). Classification of Enterprises by Sector of Activity, mimeographed document, November 1980.