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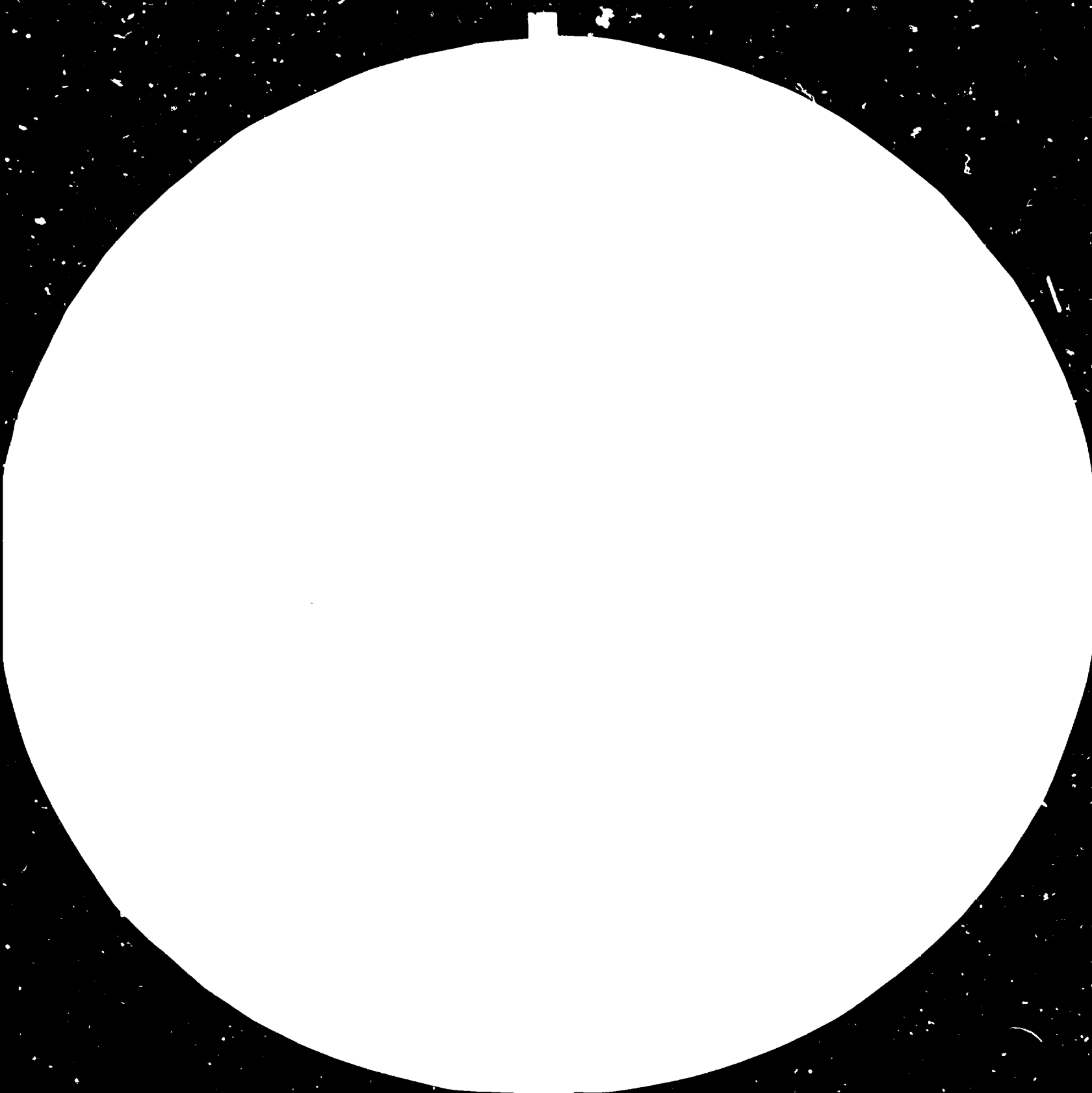
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UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Distr.
LIMITED
UNIDO/IS.428
22 December 1983
English

ROLE OF THE PUBLIC INDUSTRIAL
ENTERPRISE SECTOR IN MEXICO *

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

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V.83-65594

PREFACE

This study was undertaken by the Regional and Country Studies Branch of the Division for Industrial Studies, UNIDO within its research programme concerning the role of the public sector in the industrialization of developing countries. Through this research programme, an attempt has been made to analyze the role and functions 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 an instrument for implementing industrial policies and strategies, their contribution to growth and development of the industrial sector and national economy, their operational performance, as well as their relationship with the private sector, and their contribution to technological development and participation in international co-operation. 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.

This particular country study analyses the role of the public industrial enterprise sector in Mexico. The study examines the growth and diversification of the Government's enterprisal activity in the industrial sector, the impact of these enterprises on the economy as well as the Government's effectiveness in using such enterprises as instruments of economic policy.

This report is an abbreviated version of a larger study carried out in 1980/81 in co-operation with Mr. Antonio Ruiz Zubiaurre*, consultant, and the International Center for Public Enterprises in Developing Countries (ICPE). Since then, the Mexican economy has undergone significant changes particularly regarding its foreign debt situation, which are not reflected in the study.

* 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.

INTRODUCTION

Since the middle of 1982, Mexico has been the centre of international economic attention. By the end of the year, Mexico had reached an accommodation with the International Monetary Fund and the private (mainly United States) banks that were its chief creditors on the re-scheduling of its debt. Mexico's subsequent economic performance is being studied with interest because of a number of Latin American countries - particularly Brazil and Argentina - are in a similar situation. An inability on their part to meet their international financial obligations may precipitate a serious international crisis.

The seriousness of Mexico's debt problem can be seen from the fact that interest on external public debt increased from \$216 million in 1970 to \$4,700 million in 1981. During this period export revenue increased significantly. Despite this, the debt service payments, as a ratio of exports, increased from 23.6 per cent in 1970 to 28.2 per cent in 1981.

Moreover, since the early 1970s the public industrial sector has been a large external debtor. The public industrial sector accounted for a larger proportion of total foreign debt than the private sector. In 1978, the external debt of the public industrial enterprise sector was 87% larger than the external debt of the Mexican private sector. The large public enterprises - such as "Comission Federal de Electricidad" and the "Petroleos Mexicans" (PEMEX) - were particularly large foreign borrowers. More than 70 per cent of the total financing of public industrial enterprises has been obtained in the form of credit from foreign institutions. Much of this credit has been extended by groups that sell plant and machinery to the Mexican parastatals.

The high level of foreign borrowings by Mexican public industrial enterprises can be explained by two factors. First, the larger of these enterprises - in particular PEMEX - found that borrowing abroad was comparatively easy during the 1970s. Secondly, they were restricted by Government from charging an economic price for their output. The Government adopted a deliberate policy of underpricing in the energy sector. It has been estimated that if energy prices had been in accordance with cost of production, this could have realized additional revenue equivalent to approximately 30 per cent of the foreign debt incurred by this sector during 1978.

Foreign indebtedness has thus been a growing problem for the parastatal sector in Mexico. Given the importance of these firms within the Mexican economy, the restructuring of the finances of the parastatal sector is likely to be an essential component of a strategy to reduce foreign indebtedness and increase the capacity of Mexico to meet its international obligations.

In late 1983 the Mexican Government announced^{1/} intention of reprivatizing national companies. Several hundred companies, in which the former privately owned banks had equity stakes or owned them completely will be returned to the private sector. When the private banking system was nationalized in September 1982 the State also took over the banks portfolios, which include equity stakes in the majority of the country's 100 most actively traded companies on the Mexican stock exchange. The Government has spoken of keeping the bank's participation in "strategic" industries like mining and secondary petrochemicals.

This study examines in depth the objectives, structure and performance of the parastatal industrial sector in Mexico. While it does not reflect recent economic and financial changes, it is nevertheless hoped that it will contribute to an appreciation of the issues involved in increasing the effectiveness of the public industrial enterprise sector as an agent of economic development.

^{1/} Financial Times, 18 November 1983.

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PART ONE: DEFINITION, EVOLUTION AND STRUCTURAL ASPECTS OF THE PARASTATAL
INDUSTRIAL SECTOR

CHAPTER 1. BASIC DEFINITION AND CONCEPTS OF THE PARASTATAL INDUSTRIAL SECTOR

In this chapter some basic definitions will be furnished, in order to facilitate understanding of some terms used in the present study. Such definitions are contained in Mexican legislative texts.

1. Basic Definitions of the Parastatal Industrial Sector

- (i) Public sector: This refers to the entity in charge of carrying out the political and administrative activities for the achievement of the economic goals of the state.
- (ii) Federal public administration: comprises institutions that carry out the activities pertaining to the Government, related to the functions of the public sector. According to the kind of political organisation, this structure can be of federal (national) concern or local concern. It is integrated by two sectors:
 - Central Government: organisations grouped in such a way that they create among themselves a subordination link for the implementation of decisions taken by the President of the Republic.
 - Parastatal sector: group of public enterprises established by creation and/or participation of the Government for the achievement of a specific goal. Companies within this sector have separate juridic and economic means, are autonomous and linked to the Central Administration through a co-ordination and control relationship in the field of programming, budgeting and evaluation. This sector includes many industrial enterprises.

2. Concept of Public Industrial Enterprises

(i) Public Enterprise: In Mexico the concept of public enterprise is defined in article one of the Organic Law of the Federal Public Administration. It includes decentralized organisations, enterprises with state participation, national credit institutions, national credit auxiliary institutions and the trusts. Parastatal enterprises are of the following:

- Decentralized organisations: They are the institutions created by the congress or by the Federal Executive. They are ruled by their Organic Law approved by the Legislative Power and have their own juridical individuality. As their resources comprise of contributions from the Federal Public Administration, there does not exist a shareholders assembly and their capital is not represented by shares.
- Direct parastatal enterprises: They comprise enterprises in which the Federal Government has the following prerogatives:
 - Owns 50% or more of the shares and preferential shares
 - The Federal Government appoints the majority of the members of the Board
 - The Federal Government appoints the President, Director or Manager
 - The Federal Government has the right of veto with regard to the agreements of the general assembly of shareholders, the administrative board and the board of directors.

- Direct parastatal enterprises are constituted according to Private Law, ruled under the Mercantile Code stipulations, and structured as share companies.
- Indirect parastatal enterprises are entities in which 50% or more of the share capital comes from other state enterprises. These enterprises are also governed by Private Law. Many important state enterprises such as "Nacional Financiera, S.A." and "Sociedad Mexicana de Credito Industrial" are included in this group.
- Minority parastatal enterprises are Mercantile Companies in which the parastatal entities own, jointly or separately, less than 50% but more than 25% of the share capital. Usually these enterprises have a special relationship with the majority parastatal organisations.

CHAPTER 2

THE ROLE OF MEXICAN PUBLIC INDUSTRIAL ENTERPRISES

The expansion of the parastatal industrial sector is a consequence of several factors. In some cases, public industrial enterprises have been created in response to economic, political and social problems. In other instances, the creation of state enterprises arose from specific projects which are based on feasibility studies carried out by the entities which act as state holdings and which carry out their own development and enlargement programmes.

Generally it could be said that there has not existed a sufficiently defined policy due to the differences about the role of the parastatal industrial sector in the national economy. The parastatal industrial sector's significance as an instrument of economic policy has been changing over the years; however in general there is a tendency towards increasing importance. It is for this reason that the objectives of the public enterprises have been gradually enlarged.

Nine general and specific objectives explain the reasons for the creation of public industrial enterprises.

(a) To protect national sovereignty and propitiate the rational exploitation of natural resources

This objective was reflected in the decision to nationalise the petroleum industry in 1938, which was until then, completely in the hands of transnational enterprises. Since then exploitation of all hydrocarbon products is carried out by the state enterprise "Petróleos Mexicanos" (Mexican Petroleum Company).

In 1961 the electricity industry was also nationalised.

This had also been dominated by foreign enterprises. The acquisition

of this industry was not carried out through a unilateral and forceful decision, similar to the petroleum expropriation, but through negotiations between the Federal Government and the electrical enterprises. At present 90% of the electric energy consumed by the country is generated by the state enterprise "Comision Federal de Electricidad" (Federal Electricity Commission).

In 1979, the Mexican Government created "URAMEX" the decentralised organisation responsible for the exploitation, extraction, transformation and commercialization of all radioactive minerals.

Today the state is the owner of all the country's energy sources. Its exploitation is carried out through the state enterprises.

Mining has been a traditional activity in Mexico, the penetration of foreign capital in this area dates from the nineteenth century. However, the post revolutionary governments have always shown interest in the mexicanization of this activity. In order to achieve this objective, the granting of fiscal incentives to foreign mining industries has been made conditional to the operation of a program which encourages the sale of shares to Mexican nationals. This programme has been complemented and there is an increasing participation of state enterprises in this sector of the economy.

In 1971 the last mining enterprise with foreign capital was nationalised and the Federal Government, through the decentralized organisation "Comision de Fomento Minero" (Commission for Mining Promotion), encouraged important expansion plans for the exploitation of large deposits of copper, iron and phosphorous, discovered in the sixties.

The exploitation of sulphur deposits by state enterprises is a consequence of negotiations initiated in 1970 between the Federal Government and foreign enterprises.

As sulphur is the basic raw material required to produce fertilizers and these are required by national agriculture, the Federal Government acquired a large part of the shares of foreign fertilizer companies, transforming them into enterprises of majority state participation. In this way, the state has obtained the right to distribute production according to national needs giving priority to national markets and exporting the surpluses.

The discovering of important deposits of phosphoric rock which is also a raw material used for the production of fertilizers, led to the intervention of the Federal Government, through state enterprises in the control and orientation of its production. The Federal Government thus has control over the exploitation of the main raw materials for the production of the nutrients that the national agriculture requires. As the production of fertilizers is completely in the hands of state enterprises, it is possible to sell this product at a subsidised price.

(b) To provide basic inputs for industrial development at subsidised prices

Energy products constitute basic inputs for all sectors of the economy. The oil industry expropriation and the nationalization of the electric industry, allowed the Federal Government to charge low prices for energy products thus stimulating industrial growth in Mexico. Relative price stability characterises the markets of the most important oil products: gasoline, diesel, fuel oil, lubricant oils and natural gas.

The price of gasoline remained unchanged during 13 years (1959-1972) and the present price has remained the same since 1975.

The price of diesel remained constant for 13 years, it was increased in 1974 and since 1975 up to today, has continued to be the same.

Natural gas prices remained unchanged during 1961-1971, in 1974 a new price increase was authorized, which slightly went up in 1977 and since then it has not been modified. Most other oilproducts have had constant prices during the 1960s. Prices were increased in 1973/1974 and have remained unchanged since 1976.

In electricity prices remained constant during the 1962-1972 period, since 1973 there was a price increase on domestic use and on the energy used by small industries. The tariffs for agricultural use were kept the same. Subsequently, some price increases were authorised and since June 1978 a policy was adopted to increase the price by 1.5% per month up to June 1979.

Siderurgical products have also enjoyed price stability. They were kept the same from 1957 to 1963 and in 1964 an increase of 3.8% was authorised keeping them constant until 1969. In 1970 an increase of 8.5% was allowed; prices were again raised in 1974. Since that date annual price increases have been authorised but these have always been lower than the growth of the national price index.

The same situation can be observed regarding fertilizer prices. They have changed through moderate increments, lower than the price increases of agricultural products. Comparing the fertilizer's price index with the national index, a permanent deterioration in fertilizer's "terms of trade" can be observed.

With reference to the chemical industry's inputs, it must be pointed out that their production is totally in the hands of "PEMEX". Prices of transformed goods (basic petrochemical products), have also stagnated. Even when "PEMEX" is not able to satisfy the private sector's requirements, it imports petrochemical products and sells them at subsidised prices.

- (c) To promote the development of capital goods' industries and to carry on with the process of imports substitution

The industrialisation strategy which the country followed at the beginning of the Second World War was based on an indiscriminate import substitution of durable consumer goods. This gave way to the formation of a lopsided industrial structure and created problems of dualism. Industries producing luxury consumer goods grew disproportionately and the industry for intermediate and capital goods was left behind.

This led to increasing imports of intermediate and capital goods inputs causing an unfavourable effect on the country's commercial balance. The Mexican Government has tried to change this situation and has promoted the creation of enterprises producing intermediate and capital goods. At the end of 1979 there were 30 state enterprises carrying out these activities.

The state shipyards, "Constructora Nacional de Carros de Ferrocarril" (National Manufacturer of Railway Cars), "Diesel Nacional" (National Diesel Company) and "Siderurgica Nacional" (National Siderurgical Company) are the pioneer enterprises in the manufacture of transport equipment. The product variety manufactured by the state enterprises in this sector has been diversified as a result of the internal complementation of the industries already installed and of the starting of new production lines.

The state enterprise "Diesel Nacional" which manufactures cars, buses, trucks and engines, promoted the creation of other industries. The most important ones are:

- "Motores Perkins, S.A.": manufacturing diesel engines
- "Dina Rockwell Nacional, S.A.": producing axles, brakes and other spare parts for cars.

- "Dina Komatsu Nacional, S.A.": manufacturing caterpillars tractors, spare parts and accessories.
- "Maquiladora Automotriz Nacional, S.A.": assembles the brand "Dina" vehicles.
- "Barrenas de Acero y Aguses, S.A.": manufactures steel drills.

The enterprise "Siderurgica Nacional, S.A." has promoted as branch enterprises:

- "Tracto Sidená, S.A." which manufactures tractors, agricultural machinery and implements, and
- "Nacional de Instrumental Médico, S.A." which manufactures steel instruments and accessories for medical use.

The state enterprise "Constructora Nacional de Carros de Ferrocarril, S.A." is the only firm in the country manufacturing freight cars for the railway system. This enterprise has attained high efficiency in the products it manufactures and exports a considerable proportion of its production to the United States of America, Canada and South America. At the present time it is manufacturing subway cars which were originally imported from France.

The state enterprise "Cabezas de Acero Kikapoo, S.A." (Kikapoo Steel Heads Co.) complements the activities of the above mentioned enterprise, manufacturing railroad cylindrical tanks.

Regarding the production of automotor vehicles, the state enterprises "Diesel Nacional" and "Mexicana de Autobuses, S.A.", are the leading enterprises in the bus and truck national market.

Other state enterprises active in this field are:

- "Manufactura Mexicana de Partes de Automobiles, S.A." which manufactures dashpots, piston rings, ball molds and radiators.
- "Borg and Beck de Mexico, S.A." which manufactures car clutches.
- "Rassini Rheem, S.A." which manufactures springs and suspension parts.

- "Mecanica Falk, S.A." which manufactures crankshafts and springs.
- "Fundidora de Hierro y Acero, S.A." which manufactures monoblocks and engine parts.

The use of machinery and tools is necessary for the manufacture of intermediate and capital goods. It is for this reason that several entities of the public sector have promoted the creation of factories manufacturing winches and drillings of diverse sizes and specialities. At the end of 1979 there were three state enterprises manufacturing this kind of machinery: "AHMSA" - "Fabrica Nacional de Maquinas y Herramientas, S.A.", "Mecamex, S.A." and "Oerlinkon Italiana de Mexico, S.A. de C.V.".

At the same time the state enterprise "SWECCMEX, S.A." has been created to satisfy part of the machinery requirements for the electric and petrochemical industries.

The country's mining sector imports a high proportion of the machinery it uses. However the state mining enterprise "Compania Real del Monte y Pachuca", has started the production of mining equipment, drilling machines and cars for mining railroads.

(d) To promote regional development and industrial decentralization

The country's industrial development was characterized by an excessive concentration of the manufacturing industries in three cities: Mexico City's metropolitan area, Monterrey and Guadalajara. In 1975 these three cities contributed 66.8% of the country's production. Mexico City's metropolitan area on its own accounted for 49.8% of industrial production, 37.1% of the assets and 50.3% of the manufacturing sector's added value.

Excessive urban concentration has also been experienced in Guadalajara, Monterrey and the cities located on the border with the United States of America. This generates an excessive demand

for urban infrastructure, public services and jobs which are very difficult to provide by local authorities.

The Federal Government has established diverse mechanisms intended to promote industrial development in areas of the country with less relative development and so the public sector's industrial plants have mainly been located outside the great urban centres.

The expansion projects of the parastatal sector face the need to create new development poles and to minimize rural-urban migration. Among the most important actions that have been taken is the creation of the state enterprise "Siderurgica Lazaro Cardenas - Las Truchas" which has been located in a development pole for the west coast of the country.

To face the country's growing demand for steel, two alternatives were considered to enlarge steel production capacity where the siderurgical plants were already located or to build a new plant with substantial capacity. The Federal Government chose the second alternative.

The building of "Siderurgica Lazaro Cardenas - Las Truchas" was started in 1971 in a coastal region on the Pacific Ocean with only 13,000 inhabitants who used to grow coconuts and corn and undertake fishing for self consumption. The region did not have any infrastructure such as roads, ports or railways.

The project consists of establishing a siderurgical plant compared to the largest ones in the world. The first stage has already been finished and has a production capacity of 1.3 million tons of steel per year. The second stage will enlarge the installed capacity to 5 million tons and it is estimated to be finished by 1983.

Building of the first stage transformed the region into an authentic development pole. The population grew from 13,000

inhabitants in 1970 to more than 100,000 in 1976. This involved the building of a new city, a large capacity port, a railway extension line which connects the city with the national network and a highway.

The plant's existence has led to the creation of new industries which offer inputs and services to the siderurgical plant or which transform its products. Small agricultural and industrial enterprises have also been developed to meet rapidly growing local demand.

Another important project involves the building of the state enterprise "Benito Juarez Pena Colorada" in 1971 intended to exploit the iron deposits estimated in 106 million tons. In 1978 this enterprise produced 3 million tons of peletts, a basic input for the country's siderurgical industry.

The creation of this project led to the growth of a small town and to the provision of electricity, telephones and telegraphs to the municipality.

It can be said that the decision to establish state industries in the country's provinces has been a permanent feature of different government administration. In 1975 85% of parastatal industrial plants were located outside the main urban area.

(e) To improve the standard of living of the rural sector through the rational exploitation of natural resources and job creation

The Federal Government through its financing institutions has encouraged the establishment of agro-industrial state enterprises. The parastatal sector has established 31 enterprises dedicated to the exploitation of the country's forest resources. Among them, the country's most important are: "Productos Forestales de la Tarahumara, S.A.", "Forestal Vicente Guerrero" and "Productos Forestales Mexicanos".

The parastatal sector has high technology enterprises in the cellulose and paper industry which satisfy a considerable proportion of the national demand. Among them, the following ones can be mentioned: "Compania Industrial Antequique", "Fabrica de Papel Tuxtepec" and "Celulosa del Pacifico".

In some rural areas the state enterprises are the only ones acquiring the locality's agricultural products and so constitute the principal income source for the farming sector.

At the beginning of the present century great importance was given to henequen in the Yucatan peninsula which exported almost its whole production. Later, the appearance of synthetic fibres gave way to a ruinous competition and henequen's international demand collapsed. As the farming of other products is impossible in this region there was an economic decay in the area. In order to deal with this situation the state enterprise "Cordemex" was established to acquire henequen fibre and industrialise it for the elaboration of new products with national and international demand.

In the south eastern side of the country the cultivation of the "Barbasco" plant is encouraged by the state enterprise "Proquivemex". This enterprise has succeeded in maintaining and increasing the price of "barbasco" flour in spite of strong pressures by transnational pharmaceutical enterprises. At the present time Mexico is one of the main exporters of synthetic hormones, mainly due to the activities developed by "Proquivemex".

(f) To protect the population's acquisitive power, offering basic foods at subsidised prices

Since 1939 the public sector has involved itself in the price maintenance of basic products by fixing maximum sales prices and by the creation of the decentralised organisation "CONASUPO",

regulating the demand and supply of basic foodstuffs.

The existence of a fixed sugar price for prolonged periods led to a decline in private investment in the sugar manufacturing branch. Many bankrupt sugar mills were acquired by the Federal Government.

At the end of 1979 there were 43 state enterprises producing sugar and its derivatives. It is estimated that the public sector's sugar mills contributed 67% of sugar production.

During the last decade it was observed that milk production was growing at a slower pace than demand, due in part to the existence of stagnant prices for relatively prolonged periods. To alleviate this problem "CONASUPO" established a branch called "Leche Industrializada CONASUPO, S.A." (CONASUPO Industrialized Milk Company) which produces hydrated milk out of powdered milk. This enterprise sells the product at low prices and imports powdered milk to cover the insufficient national supply.

"Trigo Industrializado CONASUPO, S.A." (CONASUPO Industrialized Wheat Company) and "Maiz Industrializado CONASUPO, S.A." (CONASUPO Industrialized Corn Company) were established to produce wheat and corn flour which are the most important in the Mexican diet.

To regulate the meat market, Mexico City's slaughterhouse enlarged its activities and established an enterprise specialising in the production and marketing of canned meat.

The state enterprise "Productos Pesqueros Mexicanos, S.A." was established in 1965 to carry out the following activities: fishing, processing, commercialisation and export of marine species for human consumption and for industrial use.

"Productos Pesqueros Mexicanos, S.A." constitutes a holding with 15 enterprises specialising in diverse activities such as freezing, industrial processing, sales to wholesale merchants and to the public and export. The holding has its own fishing fleet.

(g) To rehabilitate private enterprises which are poorly managed and in bankruptcy

The Federal Government through national credit institutions tries to rehabilitate bankrupt and loss-making private enterprises by means of social capital contributions, debt absorption and credit cancellations.

The state's financing institutions have participated in the social capital of enterprises such as the manufacturing of bicycles, the producing of porcelain products, cashmere and clothes.

In general it can be said that the great part of the state enterprises located in the textile industry, the production of canned food and metallic products for household use, were acquired by the public sector due to the lack of solvency in private enterprises located in these sectors.

As an example, the case of "Ayotla Textil", one of the most important textile state enterprises, can be mentioned. This factory was originally constituted in 1956 as a private entity but it faced difficult situations that led it to suspend activities in 1968. Later, in 1971, the Government ordered its rehabilitation. At the present time the state is the owner of all its shares.

Another case within the textile industry is that relating to the "Cadena" group, constituted by "Hilos Guadalajara, S.A.", "Hilos Cadena, S.A.", "Compania Industrial Jacaranda, S.A.", "Fabrica de Hilos la Aurora, S.A." and "Compania Textil Mexicana, S.A.". This group's administration and capital belonged to foreign investors who abandoned the enterprises and decapitalised them, leaving them without means to subsist. The state acquired all the shares in order to rehabilitate this group.

Regarding the sugar mills, 15 of them were originally constituted as private enterprises and were later incorporated within the parastatal sector when they could not pay back the credits extended

to them by the state financial institutions. The official banking system took the sugar mills as payment for the debts acquired by the private sector's shareholders.

The incorporation of "Compania Fundidora de Monterrey, S.A." within the state sector is of particular importance. This enterprise was created in 1902 by the private sector. As time went on it became the country's most important steel company. In 1977 it had an installed capacity for the production of 1.60 million tons of steel per annum. Since 1973 its financial situation started deteriorating and the Federal Government started helping by acquiring a minority stake in its share capital.

(h) To improve the country's commercial balance

In 1979 the main Mexican export was crude oil and its derivatives, an activity carried out by "PEMEX". It contributed 44.3% of total exports. Generally it can be said that the dynamism of foreign trade during the last years is mainly due to the sale of crude oil.

"PEMEX" development plans regarding basic petrochemical products face the need of installing new industrial units with the world's most modern technology. This will permit the generation of exportable surplus.

During 1979-1982 investments worth 12 thousand million pesos are earmarked for increasing production of basic petrochemical products to 7.8 million tons, specially in ethylene and amonia which are raw materials for the manufacture of plastics and fertilizers.

(i) Promotion of scientific and technological development

One of the objectives and main reasons for the enlargement of the parastatal industrial sector and the creation of new public industrial enterprises has been to reduce technological dependence,

import appropriate technologies and to stimulate scientific research.

The country has faced serious problems with the transfer of technology and at the present time it tries to amend this situation by creating a negotiating capacity and purchasing appropriate technology with respect to the new investments the country carries out in the parastatal sector; these investments still have a high component of imported machinery and equipment which stimulates the state's intervention in this field.

The Federal Government has considered it necessary to implement measures to promote the development of national technology. It has established the "Consejo Nacional de Ciencia y Tecnologia" (National Council for Science and Technology), the "Instituto de Investigaciones Electricas" (Institute for Electricity Research) and the "Instituto de Investigaciones Siderurgicas" (Institute for Siderurgical Research). The activities developed by these entities are analysed in another chapter of this paper.

Public enterprises in Mexico play an important role within the economy. The government uses them as instruments for the pursuit of a wide range of diverse social and economic objectives. The next section outlines the historical process by which the public enterprises have acquired their importance within the Mexican economy.

CHAPTER 3

HISTORICAL EVOLUTION AND STRATEGIC ASPECTS OF
PUBLIC INDUSTRIAL ENTERPRISES

1 A Short Historical Review

The first entities of the parastatal sector were created in the twenties, these included "Banco de Mexico" (Central Bank) and some mining enterprises. During the 1930s the State established control of priority activities within the country. In 1938 it expropriated the foreign petroleum companies and created the state owned enterprise "Petroleos Mexicanos" (Mexican Petroleum Company) as the only entity with the right to exploit oil resources. The "Comision Federal de Electricidad" (Federal Electricity Commission) was also created during this period.

The "Nacional Financiera, S.A." which became one of the principal development banks in Latin America and established a great number of subsidiaries that expanded the parastatal sector in strategic economic areas, was also founded in the 1930s.

In the fourties, "Nacional Financiera, S.A." created a number of very important enterprises, among them "Guanos y Fertilizantes de Mexico, S.A." which produces the largest amount of nutrients required by Mexican agriculture. In the same manner "Nacional Financiera, S.A." participated in the creation of "Altos Hornos de Mexico, S.A." that is currently the largest steel company in the country, and also in the creation of paper industries.

In the fifties, the state enlarged its participation in the metal-mechanical industry through the acquisition of private enterprises with foreign investment. Among these enterprises are "Diesel Nacional", "Siderurgica Nacional" and "Constructora Nacional de Carros de Ferrocarril".

The appearance of a petrochemical industry is of great importance to the economic development of the country. The state reserves its exclusive rights in this industry concerning basic products which are produced by the public enterprise "Petroleos Mexicanos".

Among the most significant aspects of the sixties is the acquisition of all foreign electricity companies by the Federal Government. This was the first step towards the integration of the national electricity system. The public enterprise "Comision Federal de Electricidad" acquired the ownership of foreign and other small national enterprises.

In this period the Mexican Government carried out important attempts to Mexicanize the exploitation of the mineral resources of the country. It is important to mention the acquisition of the sulphur industry where the state obtained majority capital and transformed many enterprises into state participation entities.

Through reforms to mining law and licence procedures for fiscal concessions, the Federal Government achieved Mexicanization of the mining industries. With this the participation of the state in this sector was substantially enlarged.

In the sixties the parastatal sector experienced strong expansion. It enlarged its field of action to diverse sectors of the economy and started large projects in the iron and steel, petrochemical, electric, capital goods and fertilizer branches of activity.

The 1970 to 1976 administration created a larger number of public enterprises than any previous government. At the end of 1979 there were 284 public industrial enterprises, more than half of them were created by the 1970-76 government. The administration which took office on December 1st 1976 had by the end of 1979 created only seven industrial state enterprises.

The 1979-82 Industrial Development Plan, besides determining strategic objectives also contains general macroeconomic guidelines focusing attention on the resolution of unemployment and underemployment problems, and of problems such as unbalanced developments and tardiness in some branches of industry. The plan suggests a combination of the development of skill intensive branches with those intensive in the use of capital, this is a general guideline that tries to suit the national will of getting the best use of the country's natural resources.

It could also be pointed out that the general and political guidelines given within the framework of the "Alianza para la Produccion" (Alliance for Production Programme) are concerned with the achievement of a better organisation of small and medium sized industrial enterprises so they can enlarge their activities and have access to all technological advances in order to improve their productivity. To achieve this the public sector is expected to help and give credits to small and medium sized industries.

Finally there are general guidelines dealing with the improvement of efficiency in the Parastatal Industrial Sector which are given within the framework of the administrative economic and political reform. These measures try to achieve efficiency in public industrial enterprises and in the whole administrative and bureaucratic apparatus of the state within the framework of the strategic objectives and goals of the National Plan for Industrial Development.

The industrial enterprises of the parastatal sector play a very important role in the achievement of objectives and goals of the National Plan for Industrial Development. Moreover, there are some industries having greater strategic importance because of their contribution to the generation of foreign currency earnings. Such is the case with "Petroleos Mexicanos (PEMEX)" which is

a group in charge of exploration, extraction, refinement and commercialisation of all hydrocarbon products and their by-products. Financing both for the industrial plan as for other plans of deficient sectors of the economy depends on good administration and efficient use of the operative capacity of "PEMEX".

In these conditions it is very important that "PEMEX" fulfills its export programme in order to obtain the financial surplus which would allow Mexico for the first time since the war to have a current account surplus. This is why it could be said that hydrocarbon products exports would represent the catalytic agent for economic growth and public enterprises would be its best support.

Besides "PEMEX" there are other public industrial enterprises of strategic importance. They are: "Comision Federal de Electricidad" (Federal Electricity Commission); "Fertilizantes Mexicanos" (Mexican Fertilizers) and "Siderurgica Mexicana" (Mexican Steel Corporation)¹.

These public industries play an important role in the achievement of short, medium and long term objectives proposed in the National Plan for Industrial Development. Such industries can help with the transfer of technology, compete with transnational corporations both in the internal and foreign markets and, constitute a factor that limits foreign dependency.

The plan considers public industrial enterprises as instruments of direct action, due to the basic benefits and services they supply and to the role they play as consumers of machinery and equipment.

Considering the magnitude of the expenditure made by public industrial enterprises, the plan regards it as necessary that the multiplier effect of this investment be enlarged. The purchase of machinery and

¹Siderurgica Mexicana (SIDERMEX), S.A., de C.V. is the holding which administers: Altos Hornos de Mexico, S.A., Fundidora Monterrey and Siderurgica Lazaro Cardenas - Las Truchas, S.A.

equipment by public enterprises constitutes a significant proportion of the demand for capital goods. It is estimated that the acquisition of machinery and equipment by the state industries: "Petroleos Mexicanos" (Mexican Petroleum Company), "Comision Federal de Electricidad" (Federal Electricity Commission), "Fertilizantes Mexicanos" (Mexican Fertilizers) and "Siderurgica Mexicana" (Mexican Steel Corporation), will absorb 40% of total national requirements of capital goods in the 1979-1986 period.

The plan tries to avoid foreign leakage of investment by public enterprises. For this purpose certain mechanisms have been established intended to reduce imports of foreign machinery and equipment, and for improving the acquisition of appropriate technologies.

The plan considers the expansion of the parastatal industrial sector as the main instrument to promote the development of the capital goods industry.

According to the plan's established goals, in the 1979-82 period 32% of the country's gross accumulation of fixed capital would be achieved by public enterprises. This would amount to 835,000 million pesos. An estimated 85% of this total would correspond to the parastatal industrial sector with an amount of 709,750 million pesos at 1978 prices. For the period between 1983 and 1986 the investment of public industrial enterprises is estimated to be 1,279 billion pesos. The oil, basic petrochemicals and electricity industries would participate with 70.6% of gross formation of fixed capital of the state's industrial sector between 1979 and 1982. For the following period their participation would decrease to 52.5% of the parastatal industrial investment.

The private sector's historic share in gross in gross fixed capital formation has been larger than that of the public enterprises.

The plan's projection foresees in the long run a greater dynamism in private enterprises. However the larger rates of growth in the coming years will correspond to the parastatal sector due to the strong investment programme in the energy sector. Once it is achieved the growth of capital expenditure in this sector will tend to decrease.

In the period between 1979 and 1985 gross accumulation of fixed capital of the whole parastatal sector (including industrial, commercial and service enterprises) will grow at an annual average rate of 6.5%. For the same period private sectors' investments (including all sectors of the economy) will show a growing dynamism reaching an annual average rate of 12.0%.

If the sectors of the economy behaved as the plan anticipated, investment in 1980 by the whole parastatal sector (including industrial, commercial and service enterprises) would have increased to 80,801 million pesos at 1975 prices, this being equivalent to 47.1% of the private sector's expenditure. For 1985 investment is estimated at 102,210 million pesos at constant prices, corresponding to 33% of the investment of the private sector, and will decrease again by 1990 to only 27.2%.

Regarding the parastatal industrial sector, gross capital accumulation in the next six years will keep its present structure. This means that the greater part of investment will continue to come from sectors such as oil, basic petrochemical, electricity, steel and fertilizers, which together would account for 90% of the public industrial enterprises' investment.

It is thus clear that the public industrial sector is expected to play a key role within the strategy outlined by the Industrial Development Plan. It is necessary to look at the past performance of the parastatal sector in order to estimate its future potential. The next section assesses the impact of public industrial growth on the Mexican economy.

PART TWO: ECONOMIC IMPACT OF PARASTATAL INDUSTRIAL SECTOR

CHAPTER 4. THE IMPACT OF THE PARASTATAL INDUSTRIAL SECTOR

ON THE ECONOMY

(1) Contribution of parastatal industrial sector to production, value added, investment and employment.

Public industrial enterprises have been one of the instruments of economic policy the Government has used to directly intervene and influence the country's economic and social development.

During the past decades the parastatal industrial sector has played an important role in the process of capital formation and accumulation which has been an important cause of the high rates of economic growth the Mexican economy has enjoyed since the fourties.

The participation of the parastatal industrial sector in the productive process has been growing. It has concentrated in strategic branches of the industrial sector: extractive, petrochemical, fertilizers, electric and agricultural and cattle industries in particular.

The growth of the public industrial sector during the seventies has been quite important because of the control it has over the strategic branches of industry and because of the effect it has had on the process of national economic development.

The participation of public industrial enterprises in industrial production is important in some branches of industry, in oil and its derivatives, and in electricity it is 100%. Table 1 gives the following participation rates of public and private sectors in Mexican industry.

TABLE 1: PUBLIC INDUSTRIAL ENTERPRISES'
PARTICIPATION IN INDUSTRIAL PRODUCTION

Years	Public Industrial Enterprises (%)	Private Enterprises (%)
1965	19.3	80.7
1970	23.5	76.5
1975	23.9	76.1

Source: Secretaria de Programacion y Presupuesto, Censo Industrial 1965, 1970 and 1975.

Table 1 shows that the public industrial enterprises's participation in industrial production slightly increased from 1970 to 1975. Since 1975 participation has been larger due to the large increase in oil production, especially during 1979 and 1980.

The participation of the parastatal industrial sector has increased over time in industrial value added. On the other hand the private sector has shown a tendency to decrease its participation as is pointed out in the following table.

TABLE 2: PUBLIC INDUSTRIAL ENTERPRISES' SHARE IN
INDUSTRIAL VALUE ADDED

Years	Enterprises	
	Private (%)	Public (%)
1965	80.6	19.4
1970	77.1	22.9
1975	70.2	29.8

Source: Secretaria de Programacion y Presupuesto, Censo Industrial 1965, 1970 and 1975.

The industrial branches where the parastatal industrial sector has a stronger participation are the following: basic metals, electricity, oil and its derivatives.

Oil and electricity represent more than 75% of the total added value generated by the parastatal industrial sector while state manufacturing industries in 1975 contributed 22.6%. The public sector's share in industrial value added grew at a rapid pace. During the 1965-1970 period it grew at an average annual rate of 17.3%, while during the 1970-1975 period it attained a growth rate of 25.4%.

Table 3 shows the sectoral distribution of gross fixed investment within the Mexican industrial sector.

TABLE 3: PUBLIC INDUSTRIAL ENTERPRISES

SHARE OF GROSS FIXED INDUSTRIAL INVESTMENT

Years	Private Sector (%)	Public Sector (%)
1970	50.0	50.0
1975	53.4	46.6

Source: Secretaria de Programacion y Presupuesto, Censo Industrial 1970, 1975.

The share of the public sector has declined over the period 1970-75. Public sector investment is heavily concentrated in the oil, steel and electricity branches of the industrial sector.

In terms of total industrial investment, however, the share of the public sector has risen from 36 per cent of the total in 1969 to 45 per cent in 1978. It is expected however that the growth of public sector capital formation will slow down appreciably during the 1980s.

Differences in sectoral growth rates envisaged in the Industrial Development Plan are presented in Table 4.

TABLE 4: GROWTH RATES OF GROSS CAPITAL FORMATION OF THE PUBLIC AND PRIVATE SECTORS IN INDUSTRY 1979-1990

Years	Enterprises	
	Private (%)	Public (%)
79/78	16.9	10.6
80/79	18.3	17.8
81/80	18.4	0.2
82/81	27.9	3.1
85/80	21.7	4.3
90/85	11.2	3.6

Source: Secretaria de Patrimonio y Fomento Industrial, Plan Nacional de Desarrollo Industrial 1979-82.

The Plan expects the private sector to play an increasingly important role in the industrial development of Mexico.

The share of the public industrial sector has also risen in terms of employment. The distribution of the economically active population by economic sectors in Mexico has changed as a result of the country's industrialization and urbanization process. In 1950 the economically active population was basically concentrated in the economy's primary sector (58.3%), the manufacturing industry employed 11.7% and the Government and services sector 10.7%. This situation has changed significantly. In 1976 the primary sector contained 39.4% of the economically active population, manufacturing industry 16.8% and the Government and services sector employed 19.8%.

Unemployment and underemployment are one of the worst problems affecting the national economy, an average of 300 000 jobs per annum were generated between 1970 and 1976 while the working age population

(between 15 and 64 years old) increased by approximately one million per year.

In 1965 there were 1,520,365 workers employed by the industrial sector, 9.8% of them by the public industrial enterprises and 90.2% by the private ones. In 1970 the total number of people employed by the industrial sector was 1,797,918, 12.1% by the public industrial enterprises and 87.9% by the private ones. In 1975 the public sector employed 14.4% of the 1,954,872 workers.

The industrial sector's employment rate of growth during the 1965-1970 period was of 3.4% (the same as the population rate). For the same period the private sector's growth rate was 2.9% and the parastatal industrial sector's growth rate was of 7.8%.

During the 1970-1975 period there was a decrease in the industrial sector's employment rate of growth. This was only 1.7% per annum. For the same period the private sector's growth rate was 1.2% and the parastatal industrial sector's was 5.3%. The high rate of public industrial employment is accounted for by large state industrial investment rates.

The parastatal industrial sector pays higher salaries than the private sector. The total amount of salaries paid by the industrial sector in 1965 was of 23,299 million pesos distributed in the following way: 20.5% by public industrial enterprises and 79.5% by the private ones. In 1970 the total sum of the salaries paid by the industrial sector reached 42,223 million pesos from which 22.0% correspond to the public industrial enterprises and 78.0% to the private ones. In 1975 the total sum was of 102,691 million pesos, 25.9% was payed in public industrial enterprises and 74.1% by private ones.

Public industrial enterprises have been constantly increasing their participation in the value and physical volume of production, gross fixed

capital formation and in the industrial sector's employment. In 1975 they participated with 23.9% of total industrial production. In the same year parastatal industrial sector's participation in GDP was of the order of 18.6%. All these factors reflect the valuable contribution of the public industrial enterprises in the process of Mexican industrial development.

The public industrial enterprises which contribute in a greater way to the industrial sector's development, are those that: employ a great number of people, contribute in a large way to the added value, pay a larger sum in remunerations and enjoy a strong purchasing capacity such as "Comision Federal de Electricidad", "PEMEX", "Altos Hornos de Mexico, S.A.", "Fertilizantes Mexicanos, S.A.", "Siderurgica Lazaro Cardenas - Las Truchas, S.A." etc. The parastatal industrial sector with its initiative and investment programme is enlarging the productive capacity of branches of activity defined as priority and strategic for the industrial sector's accelerated development.

- (2) The impact of public industrial enterprises on the development of the industrial sector's branches:

The presence and effective contribution of public industrial enterprises in the strategic branches of the industrial sector has been a key determinant of their growth and of the magnitude of technological progress they have experienced.

To appreciate the importance of state participation in the industrial branches the following ones will be analysed¹:

- (i) Extractive industry: In 1975 public industrial enterprises had control over 28.4% of the branch's total production and in the total added value they participated with 2.82%; for the same year they generated a gross investment of 669 million pesos - equal to 2.82% of the paraestatal industrial sector's total investment.

¹/ Information is based upon the 1975 Census and the National Industrial Development Plan 1979-82.

(ii) Oil and basic petrochemicals: "PEMEX" has control over the exploitation, internal distribution and export of crude oil and its derivatives. From 1938 to 1979 it has drilled 3,300 exploring wells, discovering more than 400 fields that include 1,100 deposits. The exploratory drilling success of productive wells against the non-productive ones have been remarkable, in the 1938-1975 period it was of the order of 29.5% and in the 1977-1978 period it went up to 45.5% thanks to the experience and technological development reached by this public industrial enterprise. A production rate of about 2.25 million barrels of crude per day will be reached by 1982.

The proved total reserves of hydrocarbon products reached a volume of 45,800 million barrels in 1979. Investments assigned to oil and petrochemicals are the largest ones the parastatal industrial sector will carry out between 1979 and 1990. An investment programme of 3,299 billion pesos is postulated for the 1979-82 period; this will rise to 3,658 billion pesos for the 1983-86 period and 3,969 billion pesos for the 1987-90 period.

(iii) Electricity: Since the forties the Federal Government has been gradually taking control of the central electricity generating plants. The industry's nationalization took place in the sixties and subsequently through the building of new generating plants and the gradual integration of closing enterprises the state has almost obtained complete control of this strategic activity.

"Comision Federal de Electricidad" (Federal Electricity Commission) through the building of the first nuclear plant hopes

to achieve one of the objectives of its programme for the diversification of electric energy generation. The programme includes feasibility studies and the building of new hydroelectrical centres which are essential for meeting the demand expected for 1979-80. The plan postulates an investment of 1,719 billion pesos for 1979-1982 which corresponds to 20.6% of the parastatal industrial sector's total investment; for the 1983-1986 period investment will be of the order of 3,061 billion pesos and for the 1987-1990 period it could rise to 4,702 billion pesos and would correspond to 18.6% of the parastatal industrial sector's total investment.

(iv) Fertilizers: This is another of the strategic industrial activities over which the state has total control through the state complex "Fertilizantes Mexicanos, S.A." (FERTIMEX). This public enterprise is essential for the country's agricultural development. In 1979 "FERTIMEX" produced 2.6 million tons and for 1980 a production of 3.4 million tons is expected which means that only 100 thousand tons of potassic fertilizers will be imported. This enterprise's goal for 1982 is to reach a production of 6,547,000 tons thus achieving self-sufficiency.

(v) Siderurgy: This activity has been widely backed by the state and is third in importance in the parastatal industrial sector in terms of the magnitude of its fixed capital and assets. The state controls 60% of the country's production of basic metals. This siderurgical complex has been selling its products at reduced prices over the past twenty years.

At the present time there is a plan for the enlargement of the siderurgical complex through the production of flat steel which is an essential input for the basic capital goods and heavy equipment industries. The investment programme for the 1979-1982 period amounts to 30 billion pesos which corresponds to 3.6% of the total

investment of the parastatal industrial sector for the same period. for the 1983-1986 period an investment of 1,145 billion pesos is postulated and for the 1987-1990 period an investment of 1,943 billion pesos is expected which is equal to 7.7% of the parastatal industrial sector's total investment for the same period.

(vi) Manufacture of non-metallic minerals: Public industrial enterprises have control over 18.8% of fixed assets and already have some enlargement projects according to the following investment programme: for the 1979-1982 period an investment of 21,400 million pesos is postulated, for the 1983-1986 period investment is expected to be of the order of 21,200 million pesos and for the 1987-1990 period 32,500 million pesos will be invested. This represents 1.3% of the parastatal industrial sector's total investment programmed for the same period.

(vii) Textile industry: Public industrial enterprises own 10.7% of total fixed assets and contribute 8.4% of total production. Productivity in public enterprises in this branch is lower than that of private enterprises. To improve this situation the parastatal industrial sector has made the following investment programme: for the 1979-1982 period an investment of 16,400 million pesos has been programmed, for the 1983-1986 period it will be of the order of 31,300 million pesos and for the 1987-1990 period it will amount to 47,000 million pesos.

(viii) Food Production: Public industrial enterprises have control over 23.9% of total fixed assets and there is a tendency to increase this share in order to satisfy the population's basic needs. The parastatal industrial sector has the following investment programme

for this activity; for the 1979-1982 period an investment of 15,200 million pesos is programmed, for the 1983-1986 period it will be of the order of 45,400 millions and for the 1986-1990 period it will amount to 71,900 million pesos which represents 2.9% of the parastatal industrial sector's total investment programmed for the same period.

- (ix) Manufacture of machinery, equipment, accessories and electric appliances: Some of the public industrial enterprises in this activity have been rescued by the State from closure and bankruptcy in order to protect a number of jobs. In order to improve productivity and enlarge production in this activity the parastatal industrial sector has formulated the following investment plan: for the 1979-1982 period an investment of 12,900 million pesos has been programmed, for the 1983-1986 period it will be of the order of 34,600 million pesos and for the 1987-1990 period it will amount to 51,100 million pesos, equivalent to 2% of the parastatal industrial sector's total investment programmed for the same period.

(3) Foreign investment in the parastatal industrial sector:

Since 1970 foreign investment have been concentrating in manufacturing industry. In 1911 only 4% of the total private foreign investment was in the industrial sector; in 1940 this ratio went up to 7%; in 1950 to 26% and subsequently in 1978 it reached 76.7%

A small amount of foreign investment took place during the 1970s in the parastatal sector. The largest amount of foreign capital has come from the United States of America and Canada. In 1978 more than 85% of total foreign capital in the parastatal industrial sector came from these two countries.

The participation of foreign capital has only been accepted in non-strategic branches of parastatal industrial activity and in those areas where very specialized and modern technology is required. Joint venture contracts have been arranged within this framework. Joint ventures have also been established to secure access to world markets.

Table 5 describes the level of foreign capital invested in the different branches of industry.

TABLE 5: SHARE OF FOREIGN CAPITAL IN THE
PARASTATAL INDUSTRIAL SECTOR

Industrial Branches	Foreign Capital Participation (%)
Extractive industry	37.7
Food industry	33.3
Tobacco manufacture	17.5
Paper and cellulose industry	49.0
Chemical and petrochemical ind.	24.4
Basic metals industry	4.4
Machinery manufacture, joining and repairing	24.6
Metallic products	49.0
Car industry	38.0

Source: Secretaria del Patrimonio y Fomento Industrial, Direccion de Inversion Extranjera y Tecnologia.

This table shown that the greatest level of foreign participation is in the paper and cellulose industry, in metallic products and in the car industry. Joint ventures between public enterprises and foreign companies have been established in these branches. In 1978 the total capital of public industrial enterprises which have foreign capital participation was 399.5 million US\$, 21.8% was in the form of foreign capital.

In summary it may be asserted that public enterprises have had a significant impact on industrial growth and on the expansion of strategically important branches. It has collaborated with foreign investors in the pursuit of these objectives. In the next chapter the contribution of this sector to public finances will be spelt out.

CHAPTER 5

MEXICO'S PUBLIC FINANCES AND THE

PARASTATAL SECTOR

1 Contribution of Governmental transfers to the Parastatal Industrial Sector:

In 1969 the expenditure of the parastatal sector represented 14.6% of GDP. In 1978 this expenditure went up to 26.1%. The magnitude of gross expenditure of the parastatal sector as a proportion of total public expenditure, has been more than 50%. This expenditure has been largely carried out by the public industrial enterprises for their operation and investment programmes.

It is important to remember that public industrial enterprises are instruments of economic policy and elements for the promotion of development. Some of them supply basic inputs for industrial development at reduced prices. These enterprises have had to maintain their prices unchanged for long periods of time. Table 6 compares changes in the gross production price index with changes in the price index of some key products of the parastatal industrial sector.

TABLE 6: GROSS PRODUCTION PRICE INDEX: MEXICO

Basis: 1960 = 100

Concept	1970	1978
Gross production	134.1	436.0
<u>Public industrial enterprises'</u> <u>production:</u>		
Oil derivatives	105.2	292.0
Electricity	115.8	261.9
Fertilizers	109.6	216.0
Siderurgical products	120.3	376.7

Source: Banco de Mexico, serie Informacion Economica PIB y Gasto, cuaderno 1970-78.

Parastatal entities producing energy, steel and fertilizers, as it has already been pointed out, have had price increases considerably lower than the increase in the gross production price index.

The Government has been supporting some public industrial enterprises through considerable transfers of financial resources to enable them to carry out their development plans and at the same time to maintain the reduced prices policy. In 1971 they received 1,710 million pesos and in 1978, 16,002 million pesos in the form of government transfers.

During the 1971-78 period governmental transfers to public industrial enterprises have registered an average annual rate of growth of 37.6%. In the last year the main beneficiaries were "Comision Federal de Electricidad", "Fertilizantes Mexicanos, S.A.", "Siderurgica Lazaro Cardenas - Las Truchas, S.A." and "Productos Pesqueros Mexicanos, S.A. de C.V.". These firms together absorbed more than 90% of the total transfers granted to the parastatal industrial sector.

With respect to "PEMEX" it must be pointed out that it has been decreasing its demands for governmental support as the growing sales of crude oil and its derivatives to foreign markets provide it with larger financial resources to carry on with its expansion programmes.

"Comision Federal de Electricidad" is the paraestatal entity that receives the highest amount of transfers. In 1971 it received 15,800 million pesos equivalent to 56.6% of its income from the sale of electricity. The existence of governmental support is largely explained by the subsidies this entity gives to the private industrial sector selling cheap electricity.

"Fertilizantes Mexicanos, S.A." had an income of 10,205 million pesos in 1979 of which the Federal Government's contribution represented 19%. The reason why the Federal Government has granted transferences to this enterprise is the desire to maintain subsidised prices for fertilizers. The subsidy is equivalent to 30% of output price.

In like manner it is worth mentioning that if the enterprise sold its products at the prices prevailing in the international market, it would register important profits as the internal price is 40% lower than the international price.

The siderurgican enterprise "Lazaro Cardenas - Las Truchas" had in 1979 an income of 3,992 million pesos of which the Federal Government's contributions constituted 91.3%. This steel company has recently started operations and its installed capacity has been only partially used. It is for this reason that the expansion programmes have been essentially based on the resources transferred by the Federal Government.

"Productos Pesqueros Mexicanos, S.A." had in 1979 an income of 5,870 million pesos of which the Federal Government's contributions represented 30.8%. This entity became a holding when in 1971 it acquired all the state enterprises working in this sector. Some of these enterprises were in bankruptcy when they were acquired by "Productos Pesqueros Mexicanos".

2. Taxes Paid by Public Industrial Enterprises

The growing importance of the parastatal sector's participation in the national economy is also reflected in their larger contributions to public income, through taxes.

During the 1970-72 period public industrial enterprises enlarged their participation within the Federal Government's total gross tax incomes from 7% in 1970 to 9.9% in 1972. During the same period parastatal entities showed a higher dynamism than the private sector; they had an annual average rate of growth of 33.9% while the private enterprises' growth rate was 27.2%.

In general terms it can be said that public sector's enterprises are obliged to fulfill the legal laws for taxes, receiving the same fiscal treatment as the private sector. There does not exist any

discrimination in favour of the parastatal sector as far as the rate or form of payment of taxes is concerned.

However, the state entities supplying a non-profit making public service or carrying out activities considered as the government's own are exempted from paying income tax.

The "Comision Federal de Electricidad" is considered an enterprise exempt from income tax as electricity generation and distribution is considered a public service. However this enterprise has the duty to pay other taxes such as import taxes. There are other parastatal entities which supply public services but do not carry out industrial activities. Among them, the railway system, social security institutions and entities supplying educational services may be mentioned.

Income tax has constituted the main source of revenue for the national treasury providing more than 40% of total tax incomes. The annual income tax rate on profits leveled on enterprises is a maximum of 42%. When the enterprises register losses they are not subject to income tax. A great number of state enterprises are loss makers especially those carrying out promotion and support activities as well as those selling their products at subsidized prices.

It is worth mentioning that even when public enterprises register losses and do not pay income tax there are other taxes they have to pay according to the activity they carry out. Among these taxes are: Value Added Tax, tax upon import and export, taxes related to the exploitation of natural resources, taxes upon production and trade, upon the possession or use of industrial goods and the taxes established by local government authorities.

Public industrial enterprises pay the bulk of the taxes due to the parastatal sector. In 1970 their participation represented more than 70% of the total taxes paid by this sector and 21.3% of the total

amount paid by the national industrial sector. For 1975 these ratios had increased to 83% and 28.4% respectively.

The oil industry supplied the Federal Government with the greatest amount of tax resources. In 1970 with a payment of 1,523 million pesos the oil sector provided 67.2% of the total parastatal industrial sector's contribution and for 1975 this increased to 77.3% with an amount of 7,933 million pesos.

PEMEX's tax liabilities are determined annually in the form of "daily payments". For 1980 the daily payment was settled at 65 million pesos representing an increment of 333.3% in relation to 1975 (15 million pesos).

Added to the daily payment "PEMEX" has to pay a tax upon its export sales at a rate of 58.6%. It is estimated that for 1980 the amount of money obtained from this tax will be 142,000 million pesos and will represent 77.2% of the total income received by the Federal Government resulting from taxes upon foreign trade.

Thus "PEMEX" contributed 165,800 million pesos in taxes to the national treasury. This represents 29.5% of the total tax incomes of the Federal Government in 1980.

"PEMEX" has become the main tax payer, both of the paraestatal sector and of the economy as a whole.

In general subsidies paid to the public industrial enterprises have been in excess of taxes paid by this sector. For the period 1971-75 public industrial enterprises obtained government contributions amounting to 38,779 million pesos; their tax payments were 24,703 million pesos. They thus made a negative contribution to public finances during this period.

3. The Parastatal Industrial Sector's Foreign Debt

In the Mexican case, up to the present time, internally generated

investment resources are not enough to meet the expenses required to expand the public and private supply of goods and services.

The permanent existence of a negative trade balance with a growing tendency has absorbed large financial resources. In 1970 the country's foreign debt balance represented 16.3% of the gross domestic product while in 1978 it is estimated that this ratio reached 34.3%.

The growing indebtedness has been larger in the public sector than in the private one due to the different economic objectives both sectors pursue. In the case of the public sector financial needs are due to the scarcity of resources, to create the essential social and economic infrastructure and to carry out important projects in the industrial sector. This situation implies expenses which take a long time to recover due to the long maturity period of these projects. On the other hand, the private sector applies for foreign finance to carry out projects oriented to achieve the highest profit in the least possible time. Recently a strong tendency has been observed to strengthen speculative capital and non traditional financing methods in order to increase the credit to the private sector.

(a) The public and private sectors' share in the foreign debt

During the 1970-78 period the public sector's foreign debt balance grew 6.2 times, while the private sector's grew 4.5 times. In 1970 the public sector participated with 78% of the balance of the country's foreign debt, equivalent to 4,262 million US\$. By 1978 its participation had grown to 82.8% equivalent to 26,264.3 million US\$.

During the 1970-1980 period approximately 80% of the public sector's foreign debt balance was owed by the parastatal sector. In 1970 the public industrial enterprises' debt balance was 34.5% larger than the whole private sector; for 1978 it was 87.5% higher. This may be explained by the higher growth of public industrial investment.

The long term foreign debt balance of the parastatal industrial sector is concentrated in 8 entities. The most important ones are "Comision Federal de Electricidad" and "Petroleos Mexicanos (PEMEX)".

In 1978 the long term foreign debt balance of both enterprises went up to US\$ 9,135.2 million, equivalent to 89.9% of the whole parastatal industrial sector's debt.

(b) Public industrial enterprises' foreign debt

In 1978 the parastatal sector's foreign debt balance went up to 20,836.7 million US\$, 49.2% of this amount was owed by public industrial enterprises, 38.3% by state's financial institutions and the remaining 12.5% by other parastatal entities.

Public industrial enterprises have the highest obligations within the public sector to foreign countries due to the fact that more than 70% of their financing has been contracted with foreign institutions. Frequently credit resources come from those countries which are at the same time the main purveyors of machinery and equipment acquired by these enterprises.

The public industrial enterprises with the largest foreign debt are "Comision Federal de Electricidad" and "Petroleos Mexicanos (PEMEX)". In 1978 62% of the parastatal sector investment programme was carried out by these enterprises.

The obligations of the rest of the public industrial enterprises to foreign countries turn out to be small in comparison to the amount of debt contracted by the two largest enterprises of the parastatal industrial sector. It is important to mention nevertheless that "Altos Hornos de Mexico" and "Siderurgica Lazaro Cardenas - Las Truchas, S.A." also stand out. In 1978 they registered a debt balance of US\$ 747.3 million. This amount represented 7.4% of the parastatal industrial sector's debt.

Financing granted to the parastatal industrial sector has experienced a permanent increase in the above mentioned period. In 1978 its sum went up to 3,568.9 million US\$, an amount that is 9 times larger than in 1970.

The ratio of foreign credits granted to public industrial enterprises to the total foreign credit of the parastatal sector has increased from 60.9% in 1970 to 87.0% in 1978.

The foreign credit granted to "Petroleos Mexicanos (PEMEX)" and "Comision Federal de Electricidad" has been increasing in importance. In 1970 they constituted 87.8% and in 1978 they constituted 95.6% of the foreign credit obtained by the state industrial sector. "Comision Federal de Electricidad" has the highest obligations to foreign financing institutions. In 1970 it signed contracts for 60.6% of the foreign credits granted to enterprises of the paraestatal industrial sector, in 1978 it absorbed 48.2%. This smaller amount is not due to a decrease in the debt volume but to the increased growth of the financing granted to "PEMEX". In 1970 it received 27.2% of the credits granted to the paraestatal industrial sector and in 1978 its participation went up to 47.4% of the total.

Foreign credit granted to "Comision Federal de Electricidad" acquires every year an increased importance in the firm's financial structure. In 1970 the sum of the foreign credits acquired represented 62% of the income received for the sale of energy, in 1978 foreign financing surpassed current incomes by 80%. During the last few years the main income source for "Comision Federal de Electricidad" has been foreign finance.

The high level of foreign debt is largely explained by the deliberate policy of under-pricing energy output in Mexico. If the enterprise sold energy to the industrial sector at cost it would have obtained additional resources equivalent to 30% of its foreign debt in 1978.

Foreign credits granted to "Petroleos Mexicanos (PEMEX)" have also increased in importance, though in a much lesser proportion than for "Comision Federal de Electricidad". In 1970 PEMEX's foreign finance represented 9.5% of the enterprise's current income, in 1978 it represented 35.9% of the receipts from the sale of crude oil and its derivatives.

Foreign indebtedness thus represents an important growing problem for the parastatal enterprises. In such a situation the ability of these enterprises to earn foreign exchange is of considerable importance as this may directly alleviate the negative impact of the public enterprise sector's massive debt burden. The next chapter examines the foreign trade impact of Mexican parastatal enterprise.

CHAPTER 6

PUBLIC INDUSTRIAL ENTERPRISES AND FOREIGN TRADE

Mexico's foreign trade has been characterized by a permanent deficit in the balance of payments. The country's current account deficit has been traditionally financed to a large extent by the income of the services sector including particularly tourism, border transactions with the United States of America and the in-bond services performed for American enterprises.

During the 1950-1970 period the value of merchandise exports grew at an annual average rate of 4.9% while imports registered a growth of 7% per annum. Tourism grew at an average rate of 6.8% and border transactions grew at an average rate of 10.4% during this period.

In the sixties the growing demand of imported production goods was substantially covered by the income obtained through agricultural exports and tourism. However as the decade wore on foreign capital inflow through investment and aid acquired a greater importance since the exports coming from the agricultural and mining sectors stagnated.

During the 1970-1978 period the main source of foreign finance was the border transactions with the United States of America. In this period this activity financed approximately 35.8% of the deficit on the current account. The in-bond industry has also been increasing its importance as a balancing factor. In 1970 it generated resources equivalent to 8.6% of the current account's deficit, in 1978 its share increased to 27.4%.

(a) Parastatal Sector's Trade Balance

The activities carried out by the parastatal sector create the need to make significant expenses in imported goods in order to fulfil the expansion projects and acquire the food which is insufficiently produced in the country. The parastatal sectors' imports constitute one of the main factors behind the country's growing trade deficit.

During the 1970-1978 period the parastatal sector registered a negative trade balance. However from 1976 onwards the trade deficit has been decreasing due to expanding crude oil exports. In 1970 the parastatal sector's deficit represented 32.9% of the country's total deficit. In 1975 54.5% of the country's commercial deficit was accounted for by the parastatal sector. Subsequently the constant increase of crude oil exports reduced the negative trade balance of public enterprises. In 1978 this sector had a trade surplus amounting to 4,560 million pesos.

The state manufacturing sector registered a positive trade balance in the 1971-1974 period due to high sugar exports and textile exports. The fall in sugar exports since 1975 explains the deficit in the state manufacturing sector's trade balance during the period 1976-1978. Oil was a net deficit sector in the early years of the seventies. Its trade deficit increased from 3.9% of the total in 1970 to 17.6% in 1974. A significant proportion of the machinery used for the exploration, extraction and refining processes comes from foreign countries and its acquisition means an outlay of foreign currency.

Since 1975 oil exports started increasing at an average of 113.4% per annum. The trade balance changed from a deficit of 2,987 million pesos in 1975 to a surplus of 12,500 million pesos in 1978.

The parastatal mining sector assigns a considerable proportion of its production to the international market and in the period 1970-1978 it registered a positive trade balance. In 1970 it obtained a surplus balance of 178 million pesos and in 1978 this went up to 1,055 million

pesos. The parastatal mining sector's contribution to the financing of the country's commercial deficit even though it is small has been constantly increasing.

The electricity sector is a net importer as it does not export electricity and the greater part of its equipment comes from abroad. In 1970 this sector's imports amounted to 898 million pesos, equivalent to 6.6% of the country's trade deficit. In 1978 foreign acquisitions went up to 5,405 million pesos equivalent to 10.9% of the country's trade deficit. At the present time some possibilities are being explored to supply electricity to cities of the United States of America located on the border, through the state enterprise "Comision Federal de Electricidad".

The parastatal sector's imports as a proportion of total national imports increased sharply in the 1970-1975 period. They constituted 21.3% of the total in 1970 and in 1975 this share rose to 46.0%. Subsequently it decreased and in 1978 was 34.7%.

The parastatal sector's quick imports growth in the decade's first five years reflected private investment's stagnation. While the total imports grew by 58.9% in 1974 those corresponding to the parastatal sector grew by 95.3%. On the other hand in 1975 total imports of goods increased only by 8.5% and the state enterprises' imports increased by 22.3%.

Imports carried out by the siderurgical sector deserve special attention since they doubled in 1974 and tripled in 1975 as in those years the first stage of the country's largest steel company "Siderurgica Lazaro Cardenas - Las Truchas" was being built.

The oil sector's imports in 1974 were 2.3 times larger than the year before and reflect the important work of exploration and extraction carried out by "PEMEX". In 1975 Mexico became a net exporter of oil.

The 1976 currency devaluation led to a reduction of 8.6% in the parastatal industrial sector's imports. Its share in national imports experienced a constant decrease falling from 30.6% in 1975 to 23.4% in 1978. This situation is basically explained by the siderurgical industry's behaviour which after the currency devaluation of 1970 delayed its enlargement programme.

The currency devaluation and the investment decrease which was its direct consequence also explain the imports reductions in other parts of the parastatal industry. Thus the manufacture of transport equipment decreased its foreign purchases by 35.5%; the mining sector reduced them to less than half the sum of its imports in the previous year and the paper industry reduced imports by 70%.

The oil sector was an exception however. "PEMEX" increased its imports registering a growth of 45.6% as the extraction programme continued its enlargement in order to increase exports.

In 1977 the country's total imports grew by 39.0% reaching a sum of 126,352 million pesos. Imports of the parastatal industrial sector were increased by 13.7%; their share in national imports however fell to 20.7%.

In 1978 parastatal industrial sector's imports increased by 59.9% to 41,740.1 million pesos, equivalent to 23.4% of national imports. The main cause of this growth in the acquisitions carried out by "PEMEX" which increased its imports by 76.0% with respect to the previous year.

As far as exports are concerned extractive activities (including oil) constitute the leading sector. In 1978 it represented 36.1% of national exports. Cattle exports is another important item contributing 26.1% of total exports. The manufacturing sector carried out foreign sales equivalent to 37.8% of total exported goods.

Foreign sales of crude oil by "PEMEX" grew more than 16 times in the 1975-1979 period. Crude oil exports in 1979 went up to 87,659 million pesos, equivalent to 44% of the country's foreign sales.

The importance of the parastatal industrial sector in the country's total exports of goods has considerably increased. In 1970 it contributed 12% of the total and in 1978 its participation reached 40%.

As far as exports of manufactured products are concerned two opposite tendencies can be observed. In the 1970-1974 period the share of state manufacturing exports in total manufactured exports increased from 13.9% to 25.4%; subsequently there was a decrease and in 1978 the parastatal sector's share was only 6.9%.

Up to 1975 the main export commodities of the parastatal industrial sector were refined sugar and frozen and canned shrimp. In 1975 a difficult situation appeared in sugar production, the yield per hectare decreased, international prices experienced fluctuations and foreign sales were drastically reduced.

In the 1976-1978 period the sugar sector's crisis got worse, several mills with state participation were closed and export of refined sugar was detained.

In 1978 the parastatal manufacturing sector's exports went up to 3,400 million pesos, equivalent to 6.9 of total foreign sales carried out by the country's industrial enterprises.

In that year the main export articles of the parastatal industrial sector were the following: transport equipment 28.6%; textile products 23.4%; casting products 20.4% and food products 14.2%.

At the present time oil products are the most important exports. In 1970 exports of oil derivatives amounted to 2.9% of total exports. In 1978 crude oil and its derivatives contributed with 32% of the country's total exports and for 1979 it is estimated that they represent 46.6%.

In the first years of the nineteneighties the economy will depend heavily on foreign exchange earnings from oil. Since oil production is entirely a state activity, Mexico's future export performance depends crucially on the parastatal industrial sector.

This section has assessed the impact of the contribution of the parastatal industrial sector in Mexico's growth. The public sector plays a vital role in key areas of the economy. This sector however faces a series of problems, most important of which are its dependence on foreign finance and foreign technology. An improvement in the performance of the parastatal sector can make an important impact on the process of Mexican industrialisation. The next section reviews organisational structures and managerial practices within this sector with a view to making realistic suggestions for improving its performance as an agent of development.

PART THREE: INSTITUTIONAL AND ORGANIZATIONAL

ASPECTS OF THE PARASTATAL INDUSTRIAL SECTOR

CHAPTER 7. ORGANISATION OF THE PARASTATAL INDUSTRIAL SECTOR

1. Holdings or conglomerates of the parastatal industrial sector

The "Secretaria de Patrimonio y Fomento Industrial" (Ministry for National Wealth and Industrial Promotion) is responsible for the execution of the National Plan for Industrial Development 1979-82. It is also the entity in charge of controlling the parastatal industrial sector and evaluating and controlling the behaviour of public industrial enterprises.

At the present time the parastatal sector is constituted by 544 public enterprises of which 284 are within the parastatal industrial sector, this means that 52.2% of the public enterprises are industrial.

The parastatal industrial sector is constituted by the following entities:

- Decentralized organisations	12
- Enterprises with direct state majority participation	21
- Enterprises with indirect state majority participation	214
- Enterprises with minority state participation	37
T O T A L	<u>284</u>

Forms of state holdings or conglomerates have developed as a consequence of the ways in which public enterprises have been created and acquired. Most parastatal entities were constituted as subsidiaries of the main national credit institutions: "Nacional Financiera, S.A." (National Development Bank) and "Sociedad Mexicana de Credito Industrial" (Mexican Society for Industrial Credit), as well as of other public enterprises.

These entities are incorporated in the parastatal sector through

the capital contributions made by the main enterprise or holding. When this contribution permits the control over 50% or more of the capital, the enterprise is considered a state majority company. If the contribution represents a lower proportion the enterprise is classified as a state minority firm.

In 1979 there were 53 enterprises with state minority participation within the public sector, 37 of them belonged to the parastatal industrial sector.

Within the parastatal sector there are several entities which work as holdings. the expansion of this sector is partly due to the efforts carried out by such entities.

The "Comision de Fomento Minero" (Mining Promotion Commission) was created in 1934 and is the oldest holding. Its main objective is to promote the development of the mining sector through financing, capital contributions, renting of machinery and technical studies. At the present time it holds shares in 32 mining-metallurgical enterprises and promotes important expansion projects, especially regarding exploitation of copper, sulphur and phosphorus deposits which are the property of the subsidiary enterprises.

In 1940 the Federal Government created the most important development banking institution of the country, the "Nacional Financiera, S.A." (National Development Bank). Its main activity is to promote development in every sector of the economy. In 1979 it held shares in several public industrial enterprises located in the most important sectors of the economy. The existence of the parastatal siderurgical sector is largely due to the efforts made by the Federal Government and by the "Nacional Financiera".

The most important steel factories in the country such as "Altos Hornos de Mexico", "Siderurgica Lazaro Cardenas - Las Truchas" and "Fundidora de Monterrey, S.A." are all subsidiaries of "Nacional Financiera".

The same could be said of the cellulose, paper and fertilizer industries, which were created thanks to the support granted by "Nacional Financiera". The state agricultural nutrients monopoly "Fertilizantes Mexicanos" is a subsidiary of "Nacional Financiera". The principal state enterprises producing cellulose and paper are "Compania Industrial de Atenquique, S.A." and "Fabrica de Papel Tuxtepec, S.A.". These enterprises represent the first efforts carried out by "Nacional Financiera, S.A." in order to promote industrial development.

The first industries in the country oriented to the manufacture of capital goods, particularly of transport equipment, were created when "Nacional Financiera, S.A." acquired the plants which had been installed with foreign capital and were later abandoned. To this group belong "Constructora Nacional de Carros de Ferrocarril" (National Factory of Railway Cars), "Diesel Nacional" (National Diesel Company) and "Siderurgica Nacional" (National Siderurgical Company).

The "Sociedad Mexicana de Credito Industrial" (Mexican Society for Industrial Credit) was originally created as a private banking corporation. Subsequently the Federal Government acquired the majority of its shares and it was transformed into a mixed banking corporation since private capital continued its participation in the society though in a minority position. This institution has created 28 subsidiary enterprises which are located within the car industry, secondary petrochemical industry, basic chemistry and home equipment industries, among others.

The subsidiary enterprises of the "Sociedad Mexicana de Credito Industrial" (Mexican Society for Industrial Credit) within the car industry are "Vehiculos Automotores de Mexico, S.A." and "Mexicana de Autobuses, S.A.". These enterprises have a share of 23% in the market of compact cars and of 75% in the production of buses with integral body. In like manner, "Equipos Automotores, S.A.", "Borg and Beck de Mexico, S.A." and "Manufacturera Mexicana de Partes de Automobiles, S.A.",

hold 100% of the market of radiators and participated with 60% in the manufacture of bullet moulds, clutches and spark plugs.

In the petrochemical sector the subsidiary enterprises "Tereftalos Mexicanos, S.A." and "Glicoles Mexicanos, S.A." have 50% of the market of tereftalos and 35% of the raw materials for manufacturing synthetic fibers (polyester).

"Sosa Texcoco, S.A." and "Cloro de Tehuantepec" are the chemical enterprises belonging to this credit institution. They have 60% of the national market of chlorine, 55% of the sodium carbonate and 50% of the caustic soda market.

"Cementos Anahuac del Golfo, S.A.", which is the principal cement exporting company, "Industrias de la Telecomunicacion", and is in second place regarding telephone production "Mecanica Falk", the principal manufacturer of motor-reducers and gears and the only producer of type A winches, are also subsidiaries of "Sociedad Mexicana de Credito Industrial".

The federal decentralised organisation "Comision Nacional de la Industria Azucarera" (National Commission for the Sugar Industry) was created in 1970. It created a holding enterprise in charge of the administration of sugar mills owned by the parastatal sector, and so, "Operadora Nacional de Ingenios, S.A." (National Sugar Mill Operator Co.) was constituted in 1971. Its function was the building, acquisition and operation of industrial units producing sugar and alcohol. At the present time this organisation is in charge of 31 state sugar mills.

In 1971 the Federal Government supplied the resources to create the enterprise "Productos Pesqueros Mexicanos" (Mexican Fish Products) to encourage fishing activity and its industrialisation in order to achieve a sufficient supply of marine products for the national market and to increase exports. At the present time "Productos Pesqueros Mexicanos" constitutes a holding which has control over 21 integrated enterprises

which own a fishing fleet, canning, packing, freezing and refrigerating plants, storage houses and distribution centers.

One of the principal subsidiary enterprises of "Nacional Financiera" is "Altos Hornos de Mexico, S.A." which is the main steel factory in the country and the second in importance in Latin America. This enterprise is itself a holding as it participates in the social capital of 29 enterprises of all kinds such as mining enterprises, steel casting plants, manufacturers of intermediate inputs and capital goods, enterprises for the commercialisation of siderurgical products, thermoelectric plants, hotels and estate agencies.

2. Administrative reform and organizational forms

Under the 1977 administrative reforms the Federal Government adopted several measures which affect the parastatal administration. They include those designed to improve the structure of public administration according to the legal framework which modified its organisation and functioning; and those aimed to establishing a sectoral organisation as the adequate frame for the co-ordination and control of public enterprises. An attempt was made to improve the control and vigilance mechanisms of the public sector enterprises; and to achieve a more efficient co-ordination among the ministries and state departments and the entities of the parastatal sector as well as a more rational use of resources by these enterprises.

The entities of the parastatal sector which participate in the same activities have been grouped by sectors since 1977, having a ministry or a state department in charge of co-ordinating their activities in the form of a sectoral central authority. The relations among the Executive and the entities of the parastatal sector are co-ordinated through the respective sectoral central authority.

The Ministry for National Wealth and Industrial Promotion (SEPAFIN)

co-ordinating the state entities which control a large part of the resources and which have great influence over the country's economic activity. "SEPAFIN" co-ordinates all the state enterprises carrying out industrial activities, while the Finance Ministry is head of the financial and credit institutions sector.

The 1977 Administrative Reform also implied a new assignment of functions to the ministries and state departments. Previously control over the state enterprises' expenditure was carried out through three ministries, Finance, Presidency and National Wealth. This situation complicated the administrative process and delayed decision making.

The Ministry for Programming and Budgeting was created in 1977 and absorbed some of the functions performed by the other departments. With respect to the entities of the parastatal sector the Ministry for Programming and Budgeting constitutes the official branch office in charge of: programming their expenses; budgeting their current and capital expenses; authorising and controlling expenditure and evaluating negotiations. To carry out these activities the following three vice ministries were created: Programming, Budgeting and Evaluation.

Since this ministry is also in charge of the design of national and regional plans for economic and social development, an efficient administrative structure has been created which permits the activities of the parastatal sector to maintain the same orientation and pursue the objectives and goals of the national plans.

It must be pointed out that the Finance Ministry continues to control and authorise credit resources applied for by the entities of the parastatal sector.

Another important aspect derived from the Administrative Reform is the introduction of the programme budget within the centrally controlled parastatal sector. With this measure more adequate mechanisms

have been established in order to achieve a rationalisation of public sector expenses.

The traditional budget used to list separately all the resources which were assigned to each entity. However there did not exist a general procedure to know how efficiently these resources were used. With the use of the programme budget, public sector expenditure is structured at programme and sub-programme levels, pointing out in each case the objectives and goals of each level, the cost for the development of each project as well as the responsible authorities for its execution. In this way the efficient use of resources is quite simple to verify through the evaluation of the fulfilment or non-fulfilment of the programmes within the time, goals and costs previously stated.

Moreover, institutional groups constituted by sectors and the Ministry for Programming and Budgeting have been established in order to speed up the programming functions. These groups establish sectoral policy and programmes indicate the goods and services which should be produced, identify the needs for resources, determine relations with other sectors and the budgeting distributions in the short and medium term.

These new mechanisms which facilitate the co-ordination of inter-linked activities are important achievements of the 1977 Administrative Reform, which has avoided the appearance of bottle-necks, has eliminated functional overlap and has made evaluation of successes and failures of each sector feasible, allowing flexible decision making in order to modify objectives and goals in a permanent feed-back system.

CHAPTER 8

AUTONOMY, LEGAL STRUCTURE, CONTROL AND SUPERVISION

SYSTEMS OF PUBLIC INDUSTRIAL ENTERPRISES

Public industrial enterprises enjoy sufficient autonomy and carry out their own accounting. They determine production, sales and employment levels and the pace of technological innovations.

Regarding the legal structure of the Mexican public industrial enterprises, it is important to point out that there are three different kinds of parastatal entities whose control structures are described below:

CONTROL STRUCTURES OF DIFFERENT TYPES OF

PARASTATAL ORGANISATIONS

<u>Parastatal Entities</u>	<u>Constitutional Mechanisms</u>	<u>Control System</u>
1. Decentralised organisms	Law, regulations or decrete of public law	National and sectorial control system
2. Enterprises with majority state participation: direct and indirect	Private law: General Law of Commercial Societies and the General Law of Co-operative Societies	National and sectorial control system
3. Enterprises with minority state participation	Private Law: General Law of Commercial Societies and the General Law of Co-operative Societies	National and sectorial control system

The national control system is composed of several ministries. At a macroeconomic level it is headed by the Ministry for Programming and Budgeting which co-ordinates planning, budgeting and negotiations. Financial global control is carried out by the Ministry for Finance. Control over acquisitions is carried out by the Ministry for Commerce; the regulative control over real estates has been assigned to the Ministry for Human Settlements and Public Works. Control over contracts and public works is carried out by the Ministry for Programming and

Budgeting¹.

The sectorial control system devolves on the Heads of Sector and consists of control over planning activities and co-ordination and evaluation of the parastatal entities which had been assigned to them by the Central Government.

1. Legal Structure of the Public Industrial Enterprises

Different legal forms which can be adopted by Mexican public enterprises include:

(i) Decentralized organisations:

These parastatal entities are not very numerous within the parastatal industrial sector. However they are important due to their size and because they constitute true industrial complexes both in terms of their capital investment as well as for the physical volume of production they generate.

These entities are created by legal decision of the Executive and Legislative Powers, they form part of public law and their objectives and activities are ruled by their Organic Law which is approved by the Legislative Power.

Usually the Government is the sole provider of capital owned by these firms. This capital is not represented in shares and consequently there does not exist an assembly of shareholders.

(ii) Enterprises with majority and minority state participation:

The enterprises with majority and minority state participation are constituted in accordance with the rules of the private law ("Ley General de Sociedades Mercantiles" y la "Ley General de Sociedades Cooperativas") (General Law for Commercial Societies and the General Law for Co-operative Societies), and their creation

¹Control over contracts and public works has given rise to a political discussion since many think it would be better that the Ministry for Human Settlements and Public Works should perform this function due to its specialised character.

does not have to be authorised by the Legislative Power. Within the enterprises with state majority participation a distinction has been made between majority direct and indirect participation. The Central Government has control over enterprises with direct majority participation, however it does not control those with indirect majority participation. They are controlled by intermediate entities such as conglomerates or state holdings.

Among the enterprises with majority state participation there are a few co-operative societies. The state owns share capital and participates in their administration. It has the same rights as other owners of co-operative enterprise¹.

Almost all enterprises with majority state participation (direct and indirect) and with minority participation, have adopted the shareholding form. In this kind of enterprise the social capital is represented by shares (as in private enterprises) and the Federal Government and/or other parastatal entities are partners.

2. External Control Mechanisms of the Public Industrial Enterprises

Public industrial enterprises are subject to an external control which is carried out both at national and sectorial levels. This control applies to all public enterprises and is carried out through the state apparatus in the following manner:

(a) Central Government Control

The new organic law of Public Federal Administration in force since 1977, enables the President of the Republic to appoint the president or members of the administrative councils, boards of directors or similar

¹ In the period between 1934 and 1940 great emphasis was given to the development of the co-operative movement. An example of a co-operative society with direct majority state participation is "Talleres Graficos de la Nacion. S.C. de P.E. y R.L." (National Graphic Workshops) and an example of enterprise with indirect majority participation is the "Sociedad Cooperativa de Ejidatarios, Obreros y Empleados del Ingenio Emiliano Zapata, S.C.P.E.S." (Co-operative Society of the "Ejidatarios", workers and employees of the Emiliano Zapata Sugar Mill).

officials of the parastatal entities controlled by the Federal Government. In the same manner the Federal Executive can determine which public officials will assume the responsibility to act as shareholders in the name of the Federal Government in those public enterprises.

(b) Control by the Legislative Power

The decentralised organisations are created by legal decisions of the Executive and Legislative Powers. In these cases the constitution of the enterprise is usually incorporated in its organic law, which is approved by the Legislative Power. This law constitutes the first control mechanism as the following aspects are specified in it: the organisational objective; its administrative structure; its capital structure and other aspects which regulate its activity.

One of the functions that by law correspond to the Legislative Power is the revision and approval of the Federal Expenditure Budget and the Account of the Public Federal Wealth. In the first document, the expenditure of the Federal Government and of each one of the parastatal sector enterprises with controlled budgets are determined. The Account of the Public Wealth is the document which presents -ex post- in a specified way, the financial situation of the public sector, analysing the evolution of incomes, expenditure and debt, both of the Federal Government and of the parastatal sector with controlled budgets.

It is worth mentioning that the Legislative Power is helped by one of its branch offices, the Wealth Major Accounting Office, to carry out these activities. This branch office carries out the revision of the Federal Public Wealth account in order to affirm the preciseness of the income and expenditure operations carried out by the Executive. This branch office has also the authority to ask for any kind of documents from the entities of the public sector as well as from private enterprises and individuals which have participated in

income and expenditure operations involving the entities of the public sector.

(c) The operation of the national control system

Public industrial enterprises are controlled through the direct participation of the Executive in their administrative councils or boards of directors, through the designation of a representative appointed by the President of the Republic. On the other hand control by the Legislative Power over these enterprises is of a financial kind through income and public expenditure controls.

Control at a macroeconomic level is carried out by the Ministry for Programming and Budgeting; national financial control is exercised by the Ministry for Finance, control over goods and acquisitions is provided by the Ministry for Commerce, control over real estates is carried out by the Ministry for Human Settlements and Public Works and finally the control over contracts and public works is exercised by the Ministry for Programming and Budgeting.

(i) Control by programmes

The programme budget approach has been adopted within the public sector since 1977. The Vice-Ministry for Programming has been created within the Ministry for Programming and Budgeting. This branch office has, among its functions, the design of national and regional plans for social and economic development, which are closely related to the activities of the state enterprises of each sector.

As a consequence of the general guidelines derived from the National Plan for Economic and Social Development, sectorial plans and objectives, programmes and goals of public industrial enterprises are established together by the sectorial co-ordinators and the participating enterprises, in order to assist in the fulfilment of the national objectives. The cost of each programme and sub-programme is specified. This constitutes the starting point for the design of the Federal Expenditure Budget.

In order to enable all public enterprises to undertake effective corporate planning, in 1977 a decision was taken to create in each of them an administrative unit in charge of planning, programming, budgeting and evaluating the activities related to their expenditure. This unit is in permanent communication with the Head of the Sector to which the enterprise belongs.

(ii) Control over expenditure

A most important part of the external control mechanisms is constituted by the fact that all expenditures of the main public enterprises have to be authorised by the Ministry for Programming and Budgeting.

When the Ministry for Programming and Budgeting was created all existing offices in charge of controlling and authorising the expenditure of public enterprises were concentrated in a central office.

Control over the total expenditure of the parastatal sector is exercised by the "Direccion General de Egresos" (Directorate General for Expenditure) of the Ministry for Programming and Budgeting. This administrative office is jointly in charge, with the "Direccion General de Inversiones" (Directorate General for Investments), of drawing up the Federal Budget. It studies the current investment expenditures carried out by the Federal Government and by the organisations and enterprises with controlled budgets.

Once the budget has been approved by the Legislative Power, the Directorate General for Expenditure is instructed to watch over and control the expenditure practice of each one of the public sector's entities. It designs an expenses calendar for each entity, authorises the enlargements, decreases and transfers of financial resources originally assigned in the budget, as well as the payment of Federal Government subsidies to the state enterprises.

(iii) Control over investment

The parastatal enterprises together with their respective Heads investments programme, to the Directorate General for Investment of the Ministry for Programming and Budgeting.

The Directorate General for Investment arranges each entity's project in a hierarchical order, basing itself on the programmes received by the Head of the Sector and on the guidelines of economic policy contained in the national and sectorial development plans. Once the projects have been arranged in order of priority the Directorate General establishes the public sector's investment programme which includes both the Ministries and the State Departments as well as the parastatal enterprises. During the year this office authorises the investment programmes of each parastatal entity through the evaluation of each project's physical advances. In co-ordination with the Ministry for Finance it studies the financial implication of the investment programme of each public enterprise.

Another function performed by the Directorate General for Investments is to carry out feasibility studies according to the guidelines, objectives and goals of the development plans. Moreover, it recommends measures and actions in order to increase the effectiveness of the investment programme.

(iv) Evaluation and control of the operation of public enterprises.

Public industrial enterprises as well as the other enterprises of the parastatal sector are subject to the control and evaluation of their operation since the programme budget approach was adopted in 1977. This is carried out in four stages closely relating to each other: programming, budgeting, control and evaluation. To carry out this last stage the Vice-Ministry for Evaluation was created within the Ministry for Programming and Budgeting. This branch office, as its

name suggests, has the function of analysing the Federal Government's expenditure practice and that of the parastatal entities in order to determine to what extent the programmes, objectives and goals originally established in the budget were accomplished.

The evaluation carried out by this branch office is done at several levels. It looks for consistency among objectives and goals of

Its analysis evaluates project profitability from the point of view of their economic and social direct and indirect effects. In this case the Vice-Ministry has the right to examine, together with the Directorate General for Expenditure and for Investments, the monthly and yearly financial statements of the state enterprises as well as statements of external auditors.

External auditors constitute a controlling mechanism that was introduced a long time ago. Previously the signing of contracts with specialised bureaux was carried out by the Ministry for Patrimony and Industrial Promotion, and now, with the new administrative structure, the signing of contracts with the external auditors is carried out by the Vice-Ministry for Evaluation.

The function of the external auditor is to certify that the statement of accounts of the state enterprises clearly shows the financial situation of the entity. They must explain the main reasons that lead to specific financial situations and give recommendations considered necessary to improve the financial structure of the enterprise. The report of the external auditories is given to the Administrative Board of the enterprise, the Head of Sector to which the parastatal entity belongs and to the Ministry for Programming and Budgeting for their consideration.

(v) Control over the expenditure for construction

An important proportion of capital expenditure carried out by parastatal enterprises takes the form of building works which are generally carried out by building companies of the private sector. With the purpose of achieving better control over this kind of expenses, specific legislation has been passed and a branch office of the Ministry for Programming and Budgeting is in charge of watching over the contracts and over the execution of the building works. In order to submit a building tender public enterprises should have the approval of the Directorate General for Investments. On the other hand building enterprises wishing to bid for these tenders should be registered in the Federal Government's list of contractors.

The yearly programme of building works which should be carried out by the enterprises of the parastatal sector is controlled through the Ministry for Programming and Budgeting. Control over the physical advance of the work, its cost and its comparison with the original programme is specified in such a programme.

(vi) Control over the acquisition of goods and services

The enterprises of the parastatal sector are obliged to register at the Ministry for Commerce the contract projects for the acquisition of goods and raw materials when this purchase exceeds specified limits. The Ministry for Commerce asks the entities for the yearly acquisition programme. During the year it reviews the purchase projects of contracts or orders and, in turn, authorises them, then it proceeds with their registration.

The Ministry for Commerce has the power to ask the parastatal entities for any information related to acquisitions or inventories. In like manner it can revise and modify the purchasing system.

In the case of goods acquired abroad, state enterprises should have the authorisation of the "Instituto Mexicano de Comercio Exterior"

(Mexican Institute for Foreign Trade) in order to proceed with the registration of the contract or order at the Ministry for Commerce.

(vii) Control over imports by the parastatal sector

In 1978 public sector imports represented 36.2% of the country's total imports. This shows the importance of adequate control over this kind of transaction for the national economy.

Since 1950 several measures for the co-ordination of imports by the parastatal sector have been taken. The Imports Committee of the public sector was created in 1959 and at the present time, it is integrated within the Mexican Institute for Foreign Trade. This committee ensures that the public sector's entities do not acquire goods abroad when similar goods can be acquired from national manufacturers.

Public sector entities should produce their yearly programme of acquisitions of foreign goods and services to the Imports Committee. The national customs require the Committee's authorisation for all public sector imports.

(viii) Control over credit transactions in the public sector

The operation and investment expenses of the state enterprises are financed in a significant proportion through credits. In order to rationalise the use of this instrument the Ministry for Finance, in co-ordination with the Ministry for Programming and Budgeting, controls the loans requested by public enterprises.

To determine the financial needs of the parastatal sector the Ministry for Finance asks the Heads of Sector for the yearly projects and programmes of each one of the parastatal entities.

The entities of the parastatal sector need the previous approval of the Ministry for Finance, in order to carry out official negotiations, informal or exploratory negotiations, intended to obtain financial resources from the international capital market.

Before authorising the credit transaction, the Ministry for Finance makes sure that the payment capacity of the parastatal entities asking Ministry has the authority to refuse authorising financial transactions. It can revoke the financing application when the credit is assigned to projects or programmes which are not authorised by the Ministry for Programming and Budgeting.

(ix) Price control

The Federal Government carries out control over the price of some goods which are important in the diet of the poorer sections of the population or over products which constitute basic inputs for the development of the economy. In these cases the goods are subject to an official price and for its modification, they require the authorisation of the Ministry for Commerce.

Among the goods produced by public enterprises which are subject to price control are: energy products (gasoline, fuel oil, gas and electricity); steel derivatives (flat laminates, rod, structural profiles); fertilizers and metallic and non-metallic minerals. In like manner, some service fares charged by public enterprises are also under the control of the Federal Government and their modification require the authorisation from their respective Ministry. Among them are: railways, airlines and maritime transport.

(x) Control over information

Diverse branch offices continually require information from parastatal enterprises.

The General Co-ordination Office for the National Information System, which is a branch office of the Ministry for Programming and Budgeting, has been carrying out studies for the establishment of a more simple information system regarding periodic information. It is intended to reduce work and avoid duplication in the information requirements.

The national control system is an activity in which the Central Government and several State Ministries participate. It has importance as an instrument for monitoring the performance of the public sector and it is very useful for the amendment, on time, of mistakes which affect the normal development of national economic policy.

(d) Sectorial control by co-ordinating offices

Heads of Sector have the responsibility of co-ordinating the operation of the enterprises they are in charge of. They have to produce to the Ministry for Programming and Budgeting the projects and programmes of activities of each state enterprise as well as supervise their fulfilment.

The Heads of Sector work in co-ordination with the Ministry for Finance, and are authorised to inspect working procedures and production systems, recommending the amendments they consider necessary for the organisational and operational improvements of public enterprises to the President of the Republic. They can propose the fusion, dissolution and liquidation of parastatal entities that are not fulfilling the objectives for which they were created.

Heads of Sector appoint public officials as members of the Administrative Board in each public sector entity. In the most important enterprises the President of the Administrative Council is usually the Minister of the State Department or Ministry which acts as Head of Sector and he is directly appointed by the President of the Republic.

According to the Administrative Reform guidelines the entities of the parastatal sector were grouped in twelve sectors. They are in charge of the following branch offices of the Executive:

<u>Sector of Economic Activity</u>	<u>Co-ordinating Entity or Head of Sector</u>
1. Agriculture, cattle and forestry	Ministry of Agriculture and Hydraulic Resources. It co-ordinates 65 parastatal entities of which 42 out industrial activities.

2. Fishing Fishing Department. It groups 22 parastatal entities of which 18 carry out industrial activities.
3. Industrial Ministry for National Wealth and Industrial Promotion. It acts as Head of Sector to 201 parastatal mining and manufacturing enterprises.
4. Economic Policy This sector is constituted by the Ministry for Finance and the Ministry for Programming and Budgeting, this last one being the Head of Sector. The Ministry for Finance fixes the general guidelines for the financial policy and looks after the contracts of foreign credits for all parastatal entities. The ministry for Programming and Budgeting looks after, controls and evaluates the expenditure of the public sector's enterprises so as to ensure that its work is in accordance with the development plans.

The Ministry for Finance is the Head of Sector of the state financial institutions, that is to say: banks, development banks, real estate agencies, funds and trusts. Altogether it co-ordinates 139 entities; None of these carries out industrial activities.
5. Communication & Transport The Ministry for Communication and Transport co-ordinates the activities of the state enterprises which transport goods and people, such as the railway sector and airlines, navy lines and road transport enterprises. It is also in charge of the telephonic enterprises. Altogether it groups 53 entities, three of them carry out industrial activities. These last enterprises are included in this sector as they constitute branch offices of the Mexican Telephone Company.
6. Human Settlements The Ministry for Human Settlements and Public Works carries out the principal public infrastructure works and designs the human settlement's policy. It is not in charge of state industrial enterprises.
7. Commerce The Ministry for Commerce: this branch is in charge of all state enterprises which promote national and international trade. Altogether they are 37 entities, four of which process agricultural goods and are branch offices of "Compania Nacional de Subsistencias Populares, S.A." (National Company for Popular Consumer Goods) which is the most important trade enterprise of the public sector.

8. Labour
The Ministry for Labour and Social Services is in charge of supervising the industrial relations system. The only industrial enterprise it administers is a publishing company which produces books of interest for the working class.
9. Tourism
The Ministry for Tourism co-ordinates the activities of state entities such as hotels and restaurants. It does not co-ordinate industrial enterprises.
10. Administration and Defence
This sector is integrated by the Ministries for National Defence, for Foreign Relations and for Governance. This last ministry works as Head of Sector and it is in charge of 18 entities of the parastatal sector of which 9 are industrial enterprises.
11. Education
The Ministry for Public Education is in charge of 20 state entities. The great majority of them are decentralized organisations which carry out high level researches. It controls four publishing companies which publish scientific works.
12. Health and Social Security
The Ministry for Health and Public Assistance co-ordinates 17 entities of the parastatal sector giving medical services. It does not include any industrial enterprises.

The Head of Sector authority analyses the projects and programmes of each public enterprise and it studies their mutual consistency and complementarity. The adjustments and modifications proposed for the projects and programmes are evaluated by the executive members of each parastatal entity with the State Secretary or Department Manager responsible for the sector.

Once the Head of Sector and the Ministry for Programming and Budgeting have approved the programmes and projects the public enterprises then enjoy autonomy as far as their execution is concerned. The managing corporations of the parastatal entities develop the working systems and methods. In the same manner these managing corporations working together with the Head of Sector authority amend the administrative structure of the parastatal entity.

Public enterprises exercise autonomy through the contracting of personnel, fixing salaries, social loans and working hours. These activities are regulated by the Board of Directors of the enterprise and the representative of the workers. The Administrative Board of each parastatal entity is free to appoint middle level management.

The entities of the parastatal sector also enjoy autonomy as far as the sales policy is concerned. When the goods they produce do not have an official price the enterprise along with the Head of Sector modifies the price of the goods produced. When an official standard of quality does not exist the enterprise itself establishes its production system and its quality control over the services and goods it supplies.

In the Mexican case the external control of the public industrial enterprises and of the parastatal sector is carried out through several Ministries and State Departments which have the necessary specialised personnel. Moreover the authorities who carry out the control have acquired through practice great professional experience. The people working in the public sector carrying out controlling functions constitute a multi-disciplinary group. It is important to point out however that there is no legislation which demands certain professional specialisation in order to hold administrative posts related to the control of the entities of the parastatal sector.

In general it may be concluded that particularly since 1977 Mexico has developed a well integrated control system in the parastatal sector. This has played its part in enhancing the performance of public sector enterprise within the economy.

PART FOUR: THE ROLE OF THE PARASTATAL INDUSTRIAL SECTOR IN RELATION TO
PRIVATE SECTOR, TECHNOLOGICAL DEVELOPMENT AND INTERNATIONAL CO-OPERATION

CHAPTER 9. RELATIONS BETWEEN PARASTATAL INDUSTRIAL
ENTERPRISES AND THE PRIVATE SECTOR

1. General relations with the private industrial sector

Relations between the parastatal industrial sector and the private sector in Mexico are regulated by a legal framework within the perspective of a mixed economy.

These relations have had a complex and often conflictive development, especially during crises periods. It is necessary to assert that the private sector's objectives are not the same as those of the public sector; each administration has the duty to define the character of these relations.

The parastatal industrial sector is strong only in some strategic branches of the economy and has to co-ordinate its actions with the private sector which has a dominating role in national industrial production. The present administration has formulated the strategy of shared development which defines responsibilities and gives security to the private sector's investments. This has led to the formulation of an agreement which has been improved through the "Alianza para la Produccion" (Alliance for Production Programme). The Government has established mechanisms for increased co-operation between the private and public sectors.

The Mexican Government has used fiscal policy as an instrument to orient productive activities of the private sector according to the investment priorities of the Federal Government. At the present time tax incentives are granted to enterprises which:

- (a) are engaged in activities considered to be of priority interest for the nation's economy
- (b) make investments creating new jobs

- (c) manufacture new goods that will substitute imports
- (d) will settle in less developed areas
- (e) encourage small scale enterprises.

Besides tax incentives the public sector has given extensive credit assistance to the private industrial sector, especially to small and medium sized industries. This has been carried out through federal financial institutions such as: "Banco de Mexico" (Central Bank) and "Nacional Financiera" (National Development Bank), that created trusts specialising in industrial promotion.

2. Linkages with small and medium sized industries

Small and medium sized industries are of great importance in the country's manufacturing sector. They comprise more than 100,000 establishments, generate 60% of the national industrial production giving employment to 80% of the industrial labour force.

The public sector sustains mechanisms that try to link large to medium and small industries by the means of subcontracting. Large industries give contracts to small and medium sized industries to provide parts or intermediate goods. The public sector's intervention is necessary to avoid economic concentration through the creation of a wide number of small and medium sized enterprises. To achieve this reliance is placed on subcontracting as well as on an extensive programme that orients the strategy and assistance provided both by the public sector and by public enterprises.

The Federal Government has co-ordinated the activities of the specialised funds of national credit institutions and has established an integral assistance programme for small and medium sized industries, i.e. enterprises whose capital stock are less than 36 million pesos.

This programme gives priority to:

- (a) those industries satisfying basic needs of the population, such as the manufacturing of food, clothes, shoes, furniture and drugs;

- (b) enterprises producing capital intermediate inputs;
- (c) enterprises selected for special treatment because they create a considerable number of jobs, obtain a significant improvement in the balance of payment or are distinguished by their high value added relative to the required financial assistance.

The integral assistance programme will cover the provision of technical assistance, cost benefit studies, credits, purchase of the firm's stock and installation of machinery and equipment.

The main trusts managed by the Federal Government's credit institutions which are specialised in promoting small and medium sized industries are the following:

- (a) Fondo de Garantía y Fomento a la Industria Mediana y Pequena
(Trust to Support and Promote Small and Medium Sized Industries)
In 1978 this entity granted credits to 3,638 industrial enterprises which gave employment to 111,000 workers. 55% of these enterprises produced popular consumer goods (food, shoes and clothes), 37% of them produced intermediate consumer goods (textiles, chemical products) and 8% produced capital goods (mechanical and electrical machinery). The great majority of beneficiary enterprises are located in less developed areas.
- (b) Fondo Nacional de Fomento Industrial (National Trust for Industrial Development)
Through this institution assistance was given to 250 manufacturers. It is worth mentioning that this entity participates in the firm's risk capital as a temporary partner; once the project has matured the stocks are sold to private investors.
- (c) Fondo para el Fomento de las Exportaciones de Productos Manufacturados
(National Fund for Industrial Exports)
In 1978 it granted credits worth 20,931 million pesos.

(d) Fondo de Equipamiento Industrial (Fund for Industrial Equipment)

This entity authorised financing for 2,288 millions of pesos in 1978 assigned to 61 projects that will create 6,500 new jobs.

In their first five years of operation these projects will save foreign exchange estimated at 18,100 million pesos. .

(e) Fideicomiso de Conjuntos, Parques y Ciudades Industriales y Centros Comerciales (National Trust for Industrial Parks, Cities and Trade Centres)

Industrial and urban infrastructure in strategic areas of the country has been created with money supplied by "Nacional Financiera" (National Development Bank) encouraging investors to establish industries in these areas.

At the present time there are twelve fully established industrial cities and seven more are being built. Agreements have been signed with "Comision Federal de Electricidad" (Federal Electricity Commission) to facilitate payment for the required electric installations. The communications system between industrial cities and the rest of the country has received support from the state's railway enterprises. Telephonic, postal and telegraphic services have also been established through special agreements with the public sector's entities supplying these services. Likewise the state's oil monopoly provides natural gas to the industrial cities.

The parastatal sector has thus consciously attempted to foster economic complementarity and to encourage the development of small industrial enterprises.

3. Public Industrial Enterprises' Contribution to Rural Development and to the Satisfaction of Peasant's basic needs

Parastatal agro-industries are enlarging their factories and developing new projects to improve productivity, increase non-agricultural

rural employment and improve rural income. Rural development policy postulates that all agro-industrial projects should be located in rural areas, providing social benefits and satisfying some essential needs of the rural community.

Rural development involves great efforts, both on increasing productivity and on enlarging farming areas. The parastatal agro-industry has been offering assistance to non irrigated agriculture and has tried to promote flexible ways to organise commoners, "ejidatarios" and small private plots for production, inputs acquisition, financing and commercialisation of agricultural products.

Increased efforts are required to improve efficiency and increase farming areas in the production of fertilizers, improved seeds and other basic agricultural inputs. Public industrial enterprises are playing a major role in the fulfilment of this task.

The parastatal industrial sector produces and supplies basic inputs, instruments and certain machinery and equipment to agriculture.

The most significant assistance given by the state to the individual peasant, "ejidos" and to agricultural co-operatives has been carried out through the provision of credit and through the supply of infrastructure. In 1943 the "Comision Nacional de Maiz" (National Corn Commission) was created. It was later transformed to the state enterprise "Productora Nacional de Semillas" (National Seeds Producer) which produces special quality seeds. At the present time this enterprises exports improved corn seeds to South America.

In order to build an adequate infrastructure regarding grain storage, seeds and other agricultural products, the Federal Government created in 1936 the state enterprise "Almacenes Nacionales de Deposito" (National Storage System) which besides giving storing and conservation services, grants credits, keeping deposited merchandise as pledge. In 1971

the state enterprise "Bodegas Rurales CONASUPO S.A. de C.V." (CONASUPO Rural Warehouses) was created to give storage services to rural communities. The storage capacity of these enterprises went up to five million tons in 1978 while the private sector's warehouses registered a capacity of only 2.5 million tons.

With respect to the satisfaction of basic rural social and economic needs, the public industrial enterprises offer a series of agricultural inputs, as well as certain industrial consumer products such as tractors, tools, equipment, implements and machinery. All of these products are purchased through the credit given by specialised sectorial institutions, such as "Banco Nacional de Credito Rural" (National Rural Credit Bank).

In 1971 the official banking system supplied 77.8% of credits granted to the agriculture and cattle raising sector, while private credit institutions supplied the remaining 22.2%. However in recent years the private sector has shown a greater interest in this sector, increasing its participation to 56.7% of the credits granted by the national banking system to the agriculture and cattle raising sector in 1978.

Most significant contributions have also been made by "Fertilizantes Mexicanos" (Mexican Fertilizers), which supplies fertilizers and insecticides at prices 50% lower than those in the national market.

It is estimated that "Fertilizantes Mexicanos" (Mexican Fertilizers) will produce 3.7 million tons of fertilizers in 1980. These fertilizers will be distributed among nine million hectares. In 1982 the installed capacity of this enterprise will be increased to six million tons so the country will not only be self-sufficient in these products but will have an exportable surplus.

The country's important agro-industries are the sugar mills which have been supported by "Financiera Nacional Azucarera, S.A." (National

Sugar Development Bank), a Federal Government institution of credit oriented to satisfy financial requirements of sugar producing peasants. Credits granted by this institution supplied employment to 110,000 peasant families during 1978.

It may therefore be concluded that the public industrial sector has played an important role in sustaining agricultural growth in Mexico.

CHAPTER 10

PUBLIC INDUSTRIAL ENTERPRISES

AND TECHNOLOGICAL DEVELOPMENT

The government has created a large number of scientific organisations to enhance technological development. These include "Consejo Nacional de Ciencia y Tecnologia" (National Council for Science and Technology); "Instituto Mexicano del Petroleo" (Mexican Oil Institute); "Instituto de Investigaciones Siderurgicas" (Siderurgical Research Institute) and "Instituto de Investigaciones Electricas" (Electricity Research Institute).

The "Consejo Nacional de Ciencia y Tecnologia" was created in 1970 as a decentralised organisation which operates as an agency of consultation for all federal executive dependencies and public enterprises regarding scientific and technological research projects.

This entity has designed several national plans for science and technology. Moreover it has formulated and identified science and technology priority areas.

"Instituto Mexicano del Petroleo" was created in 1965 as a decentralised organisation of the public sector. The institute's basic activities are the supply of technological services to "Petroleos Mexicanos" (Mexican Petroleum Company) and to the chemical and petrochemical industry; research and development of new technologies, including assimilation and improvement of already existing ones; as well as training of the industry's human resources.

At the present time the "Instituto Mexicano del Petroleo" (Mexican Oil Institute) owns 90 registered trade marks which protect processes in the refining and development of petrochemical products and is supplying technology for the development of 70 basic engineering projects, among them the building of ethylene factories. This institute has trained more than 150,000 workers and technicians and has improved the academic level

of professionals and researchers of "Petroleos Mexicanos" (Mexican Petroleum Company).

The Federal Government together with the integrated siderurgical enterprises created the "Instituto Mexicano de Investigaciones Siderurgicas" (Mexican Institute for Siderurgical Research) in order to accelerate scientific research in this area, increase national production, enhance the efficiency of technological processes and improve product quality.

The Federal Government established the "Instituto de Investigaciones Electricas" (Electricity Research Institute) in 1979 in order to secure the harmonious development of the electricity sector. Among the main projects this institute is carrying out the following ones may be mentioned:

- The programme to make use of geothermic resources by means of indigenous technology, especially in the handling of geothermic fluids.
- A technological analysis of steam generators has just started in order to define which are the most adequate ones for the needs of the electricity industry.
- Technological development of the mining sector has been encouraged by the studies carried out by the "Comision de Fomento Minero" (Commission for Mining Promotion) which is the organisation created by the Federal Government to assist this sector in relation to economic, financial, commercial, industrial and project engineering policies.
- In the laboratories of the Commission several production processes have been improved. Among them are the following:
 - An original process was developed for the attainment of alumina from fine white clay.
 - A process to obtain high concentration copper at a lower cost.
 - The processes for the industrialisation of manganese and silver minerals and for obtaining high purity strontium carbonate used for colour televisions were developed.

Expanding the technological base requires the rational exploitation of natural resources. The exploitation of non-renewable strategic natural resources is carried out exclusively by the parastatal industrial sector, for example, "Petroleos Mexicanos" (Mexican Petroleum Company) carries out the exploitation, extraction, refining and commercialization of hydrocarbon products. It is important to point out that in these activities, the law clearly prohibits the granting of concessions and contracts to private enterprises.

Nuclear energy exploitation also constitutes an exclusive activity of the state which can develop it through specialised public sector organisations such as the state enterprise "Uranio Mexicano" (Mexican Uranium Company) and the "Instituto Nacional de Investigaciones Nucleares" (National Institute for Nuclear Research). These entities carry out exploitation, extraction, transformation and commercialisation of radioactive minerals and at the present time are undertaking important investments to obtain nucleoelectric energy in specialised plants.

Electric energy generation represents another exclusive activity of the State. At the present time the nation has control over 99% of the generation of electric energy, the remaining 1% is constituted by small plants belonging to industrial enterprises which generate the energy for their own factories.

With reference to mining activities, the participation of the parastatal sector is also important. The state has paid special attention to this sector of the economy and has established two specialised entities "Comision de Fomento Minero" (Commission for Mining Promotion) and "Consejo de Recursos Minerales" (Council for Mining Resources).

The "Comision de Fomento Minero" was created in 1934 to improve national mining. Among its functions are the exploitation of mines, commercialisation of minerals, letting of equipment and granting of credits, among many others.

The exploitation of strategic minerals has been reserved by the "Comision de Fomento Minero" (Commission for Mining Promotion) for the state participation enterprises. Raw materials for the production of fertilizers such as potassium, sulphur and phosphate, as well as the inputs for the siderurgical industry as iron and coal, are developed solely by public sector entities.

At the present time the "Comision de Fomento Minero" (Commission for Mining Promotion) participates in several projects which include not only the exploitation of the above-mentioned minerals, but also the production of fluoride, iron, lead, copper and silver among others.

The "Consejo de Recursos Minerales" (Council for Mining Resources) is the entity of the public sector which acts as a consulting organisation of the Federal Government on questions of exploration, exploitation and conservation of mining resources.

The exploration works carried out by the "Consejo de Recursos Minerales" (Council for Mining Resources) led the detection of important new deposits of iron. Deposits of carbon convertible to coke and of anthracite carbon for 200 million tons were also located. Reserves of 803 million tons of dolomite were cubed and a rich deposit of phosphoric rock were discovered. The parastatal sector has thus made a significant contribution to natural resource development and to the expansion of the Mexican economy's technological infrastructure.

CHAPTER 11

FOREIGN INVESTMENT AND INTERNATIONAL CO-OPERATION

In 1973 there were 19 public enterprises with foreign investment participation. In 1978 there were 50 parastatal entities holding joint investments with foreign companies. This demonstrates an increasing interest of foreign investors in carrying out projects with the public sector entities. Foreign participation in the parastatal sector rose to US dollars 87 million in 1978. American enterprises contributed 62.5% of the joint investments with the public sector. Canadian enterprises are second in importance with a participation of 12.9% of the total. The rest of the joint investments were carried out mainly with Japanese, British and French enterprises.

Almost half of the foreign capital in public joint ventures is concentrated in the mining sector. Important joint investments are held with American and Canadian enterprises. The main project is the "Compania Minera de Cananea, S.A." (Cananea's Mining Company) where foreign investment participates with 48% of share capital, equivalent to more than US \$25. Its production capacity is estimated in more than 70,000 tons per year of blister copper.

This mining company was mexicanised in 1971 when the following state holdings acquired shares: "Comision de Fomento Minero" (Commission for Mining Promotion) and "Nacional Financiera, S.A." (National Development Bank), At the same time shares were granted to the firm's employees and workers and to a great number of national shareholders.

From 1971 onwards the enterprise has taken care that the mexicanisation was not only reflected in the social capital structure but also in its administrative, operational and technical management.

Another joint venture in the mining sector is "Compania Cuprifera La Verde, S.A." ("La Verde" Copper Company) where Canadian investment shares 47% of the social capital, equivalent to US \$7.8 million. This company aims at a production level of 35,000 tons of metallic copper. A foundry and a refinery will be built later.

State enterprises in the transport equipment manufacturing branch account for 13.7% of the total foreign investment in the parastatal sector. The main partner enterprises are of American origin and supply technology for the manufacture of cars, engines and tractors.

The chemical and petrochemical industry has a participation rate of 11.7% of foreign capital. In this sector foreign capital is less concentrated since, in addition to American enterprises, there are Canadian, Swiss and French enterprises.

"Nacional Financiera, S.A." is also in partnership with foreign investment to carry out new projects.

These projects include:

- (a) "Manufacturera de Cigüeñales de Mexico, S.A." (Crankshaft Manufacturer of Mexico). This enterprise will manufacture crankshafts for cars' and trucks' gasoline engines. Subsequently it will enlarge its production line to diesel engines. In its first stage the plant will have a capacity of 150,000 crankshafts per year and during the first years of operation will generate foreign currency savings for 2,183 million pesos.
- (b) "Interruptores de Mexico, S.A." (Mexican Switches Company). This plant will have a capacity of 414 high voltage switches. German capital will contribute 33% of the investment. The technology adopted is the most advanced one in this field and will be provided by the enterprise "SIEMENS" which will not collect royalties upon sales. Subsequently switches will be exported to the United States

and Latin America using the brand "SIEMENS". The state enterprise "Comision Federal de Electricidad" (Federal Electricity Commission) will be the main customer of this enterprise which will supply up to 75% of the national market's requirements. During the first years of operation it will generate foreign currency savings of 3,000 million pesos.

- (c) "Telettra Industrial, S.A.". This enterprise is designed to manufacture telecommunication and remote control equipment. Foreign investment participates with 49% of the total capital and is contributed by the Italian enterprise "Telettra Laboratori de Telefonía Eleetronica e Radio" which will provide the technology and will collect royalties equivalent to 1.2% over net sales of microwave equipment. The main customers will be the following state enterprises: "Telefonos de Mexico, S.A." (Mexican Telephonic Company), "Comision Federal de Electricidad" (Federal Electricity Commission) and the "Secretaria de Comunicaciones y Transportes" (Communication and Transport Ministry). The remaining production will be exported at competitive prices to the international market generating foreign currency savings of 318 million pesos during the first years of operation.

The parastatal industrial sector has tried to enlarge co-operation with public enterprises of other countries, both from the Latin American region and from outside it. Main projects in this field include:

(i) Oil

The recent agreements between the state enterprises "PEMEX" (Mexican Petroleum Company) and "CAMPSA" from Spain, to carry out joint investments in the petrochemical field is of particular importance. "PEMEX" will invest US \$34 million in the enterprise "Petroleos del Norte Espanol" (Northern Spain Petroleum Company), equivalent to 15%

of its social capital with the option to enlarge its participation to 30%. "PEMEX" will have the right to participate in the Board of Directors of the Spanish enterprise.

This joint investment will represent advantages for both countries since Mexico and Spain will enter the European Market for petroleum derivative products. "PEMEX" will guarantee the supply of raw material to the Spanish enterprise which has a capacity of nine million tons per year and will be enlarged to reach 14 million tons. On the other hand this enterprise will employ several Mexican technological processes to increase its productivity.

(ii) Fertilizers

The state enterprise "Fertilizantes Mexicanos, S.A." (Mexican Fertilizers Company) has started a joint investment programme with Central American countries, having acquired part of the shares of "Fertica, S.A." (Central American Fertilizers Company), an enterprise based in the Republic of Panama and with subsidiaries in Costa Rica, El Salvador, Nicaragua and Guatemala. In 1969 "Fertilizantes Mexicanos, S.A." acquired the total shares of this enterprise, however, the present Administration has decided to return to the Central American countries their respective shares.

Mexico also participates in the "Naviera Multinacional del Caribe (NAMUCAR)" (Caribbean Multinational Shipping Company) which was formed in 1975 in Costa Rica with contributions from Colombia, Cuba, Jamaica, Mexico, Nicaragua, Panama and Venezuela. This enterprise started operations with a capital of US \$30 million. Each country has rights to the same benefits and has equal obligations.

The enterprise "Multinacional Latinoamericana de Comercializacion de Fertilizantes, S.A. (MULTIFERT)" (Latin American Multinational for the Commercialization of Fertilizers) is another joint public sector venture which started operating in January 1980 with the co-operation of

Cuba, El Salvador, Guatemala, Mexico, Peru and Venezuela. The firm's capital is US \$3.7 million. It is hoped to expand ownership to 11 countries.

Other public sector joint ventures leading to the establishment of Latin American multinationals is also planned. Mexico is an enthusiastic supporter of most of the projects.

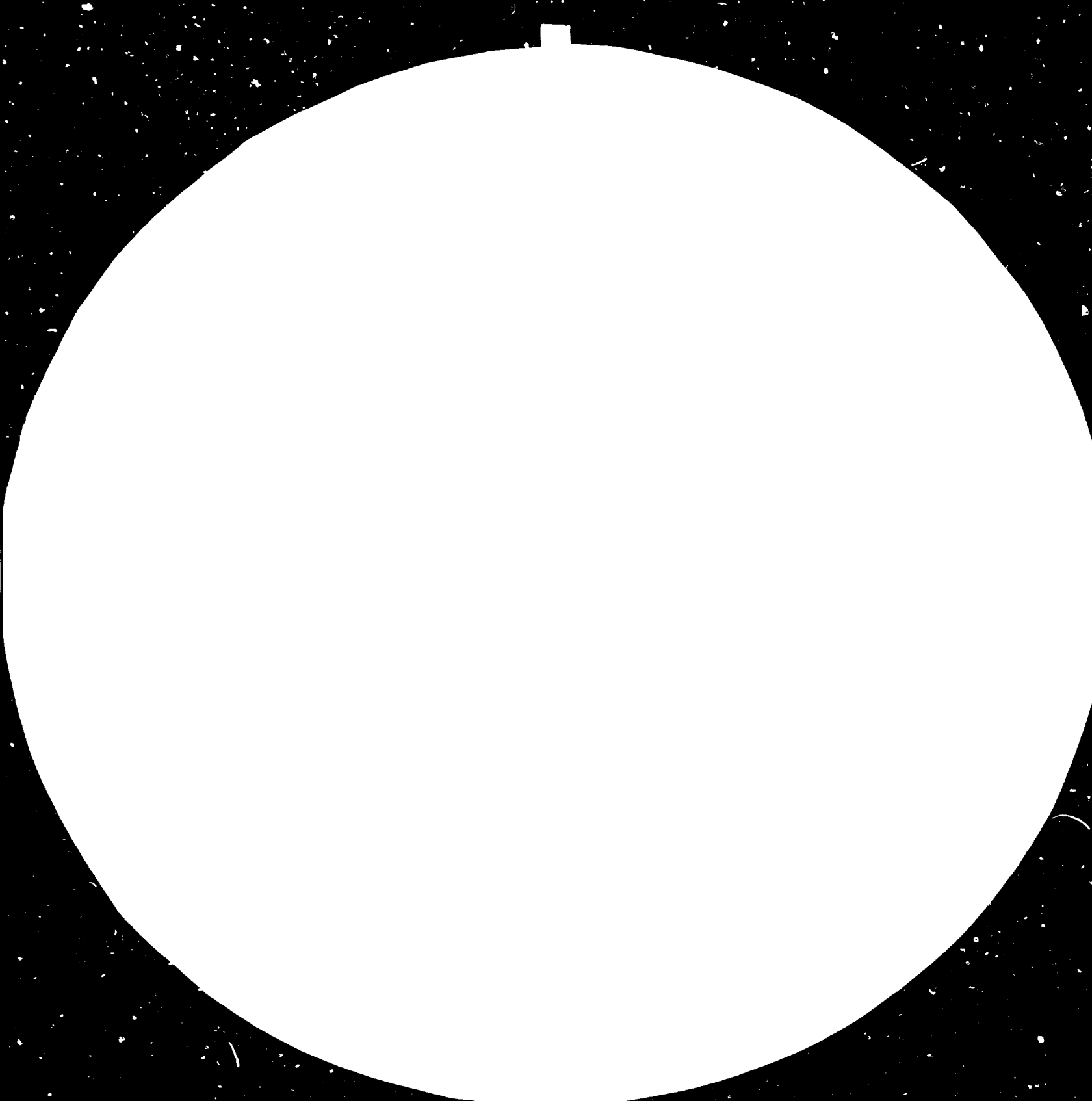
The Mexican parastatal sector has sought association with both public and private foreign capital. So far the full potential of such co-operation has not been realised, but there is an acute awareness that it can play an important part in Mexico's technological development as other manufactured goods markets.

PART FIVE: CONCLUSIONS

The main conclusions of this study may be summarised as follows:

- (1) The role played by public industrial enterprises in the Mexican economy is of vital importance for the country's economic and social development. Their importance has been constantly increasing. They have been growing rapidly and the role of the state as an economic manager is assuming greater significance.
- (2) Public industrial enterprises are located in the dynamic and strategic branches of the Mexican economy such as: extractive industry, oil, basic petrochemistry, electricity, fertilizers, siderurgy, agricultural and cattle industry. Nine general objectives largely explain the creation of public industrial enterprises. These are to protect national sovereignty; to supply basic inputs for industrial development at reduced prices; to promote the development of capital goods industry and to push forward in the process of imports substitution; to promote regional development and industrial decentralization; to improve the standard of living of the rural sectors through the rational exploitation of natural resources and the creation of jobs; to protect the acquisitive power of the population with scarce resources offering them basic food at lower prices; to rehabilitate private enterprises which are poorly administered and in bankruptcy; to improve the country's trade balance and to promote scientific and technological development.
- (3) The administrative reform process, pays special attention to the parastatal industrial sector and seeks to influence public enterprises policy in order to achieve higher productivity levels, an efficient administration of their material and financial resources and to generate enough income to cover current expenses of operation,

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3.2



3.6



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A
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improve self-finance and reduce the growth of the parastatal industrial sector's external debt.

- (4) The relations between the parastatal industrial sector and the private sector can generally be described as harmonious. It is the Government's concern to define the character of these relations.

A considerable proportion of state enterprises were created in order to solve economic problems not adequately tackled by the private sector in strategic branches and sectors. Frequently state enterprises participate in activities to assist the private sector. The state acquires enterprises which face a difficult financial situation to protect employment. From the juridic point of view there is no law limiting the parastatal sector's participation to determined sectors of the economy; however, some strategic activities are exclusively reserved to the state such as oil exploitation and basic petrochemicals; radio-active minerals exploitation and generation of nuclear energy; exploitation of iron, carbon sulphur, phosphorous and potasium deposits; generation and distribution of electricity; railways and telgraphic and radio telegraphic communications.

- (5) Public industrial enterprises employ a large number of workers. The creation of new jobs has been higher in the parastatal industrial sector than in the private sector; however, the unemployment and underemployment problem has not been solved in Mexico. The parastatal enterprises employ in many cases capital intensive technology for production.

- (6) The state sector reduces private sector economic concentration and disciplines and regulates transnational investment activity. They enhance national negotiation capacity vis-a-vis transnational enterprises. Mexico has been very careful in its joint venture

investment policy with transnational enterprises, it has only sought the collaboration when it has been imperative for the public industrial enterprise to be associated with a transnational enterprise.

- (7) The Mexican parastatal industrial sector is quite diversified and there are parastatal industrial entities in almost all branches of industrial production. Some of these entities constitute state monopolies such as "PEMEX" which has control over oil and the whole complex of basic petrochemistry; "FERTIFEX" controlling the whole complex of fertilizers; "Comision Federal de Electricidad" controlling the generation and distribution of electricity. At the same time there are some holdings such as "Comision de Fomento Minero" which groups the state mining enterprises, "SIDERMEX" which constitutes the holding for the steel production plants and "Productos Pesqueros Mexicanos" which with 15 state enterprises carries out the fishing, processing and commercialisation of diverse marine species for human consumption and industrial use. These different types of parastatal organisations have a distinctive role to play in sustaining Mexican industrial development.

TABLE A1

GROSS PRODUCTION BY BRANCH OF INDUSTRY: PUBLIC AND PRIVATE
(thousand pesos)
1975

CONCEPT	Total	Private Enterprises	Participation %	Public Enterprises	Participation %
Total industry	560 076 119	426 249 893	76.1	133 826 226	23.9
Extractive Industries	11 961 656	8 563 590	71.6	3 398 066	28.4
Extraction and Yield of Mineral Coal and Graphite	798 713	174 644	21.9	624 069	78.1
Extraction and Yield of Metallic Minerals	8 035 378	6 348 350	79.0	1 687 028	21.0
Extraction of Non-Metallic Minerals, excluding Salt	2 807 794	1 723 352	61.4	1 084 442	38.6
Exploitation of Salt	319 771	317 244	99.8	2 527	0.8
Manufacture Industries	461 186 568	417 686 303	90.6	43 500 265	9.4
Manufacture of Food	84 906 385	77 737 829	91.6	7 168 556	8.4
Manufacture of Beverages	26 188 857	26 136 573	99.8	52 284	0.2
Manufacture of Tobacco Products	6 445 370	4 322 434	67.1	2 122 936	32.9
Textile Industry	29 351 002	26 878 227	91.6	2 472 775	8.4
Manufacture of Clothes	12 007 990	11 838 012	98.6	169 978	1.4
Manufacture of Shoes and Leather	6 447 252	6 447 252	100.0	-	-
Manufacture of Wood and Cork Products	4 803 287	4 222 805	87.9	580 482	12.1
Manufacture and Reparation of Furniture and Accessories	4 152 145	4 140 788	99.7	11 357	0.3
Paper Industry	16 043 644	14 772 852	92.1	1 270 792	7.9
Publishing, Printing and Connected Industries	10 111 772	10 035 896	99.3	75 876	0.7
Chemical Industry	60 502 165	56 862 401	94.0	3 639 764	6.0
Refinement of Petroleum and Mineral Coal c/	3 458 665	3 205 255	92.7	253 410	7.3
Manufacture of Plastic and Rubber Products	15 526 861	15 526 861	100.0	-	-
Manufacture of Non-Metallic Mineral Products	20 087 285	19 370 998	96.4	716 287	3.6
Basic Metals Industries	46 689 439	33 326 393	71.4	13 363 046	28.6
Manufacture of Metallic Products	25 263 453	23 677 824	93.7	1 585 629	6.3
Manufacture, Assembly and Reparation of Machinery, Equipment and Spare Parts, excluding Electrical	18 063 437	17 736 354	98.2	327 083	1.8
Manufacture and Assembly of Machinery, Equipment, Apparatus, Accessory and Electrical and Electronical Articles and Spare Parts	35799791	-	-	1295521	-
Construction, Reconstruction and Assembly of Transport Equipment and Spare Parts	23 038 106	22 049 667	95.7	988 439	4.3
Other Manufacture Industries	42 618 160	33 958 190	79.7	8 659 970	20.3
Electrical Energy	5 481 293	5 439 692	99.2	41 601	0.8
Petroleum and its Derivates	21 235 351	-	-	21 235 351	100.0
	65 692 544	-	-	65 692 544	100.0

a/ Includes Yield of Mineral Ferric

b/ Excluding Iron Mineral

c/ Excluding PEMEX

d/ Public and Private Participation

SOURCE: Censo Industrial 1965, 1970, 1975, Secretaría de Programación y Presupuesto.

TABLE A2

GROSS DOMESTIC PRODUCT PUBLIC AND PRIVATE
(million pesos-at current prices)

C O N C E P T	1 9 7 2					1 9 7 5				
	Total	Private	Participation %	Public	Participation %	Total	Private	Participation %	Public	Participation %
Gross Domestic Product	512 300	427 471	83.4	84 829	16.6	988 300	804 814	81.4	183 486	18.6
Primary Sector	52 885	52 722	99.7	163	0.3	99 927	99 636	99.7	291	0.3
Agriculture and Livestock	49 876	49 774	99.8	102	0.2	94 938	94 748	99.8	190	0.2
Forestry	1 925	1 867	97.0	58	3.0	3 189	3 093	97.0	96	3.0
Fishing	1 084	1 081	99.7	3	0.3	1 800	1 795	99.7	5	0.3
Secondary Sector	173 621	153 050	88.2	20 571	11.8	343 613	296 257	86.2	47 356	13.8
Mining	5 593	5 386	96.3	207	3.7	10 701	8 668	81.0	2 033	19.0
Petroleum, Petrochemical and derivates of mineral coal	14 873	5 192	34.9	9 681	65.1	31 304	10 925	34.9	20 379	65.1
Manufacturing	118 593	113 854	96.0	4 739	4.0	227 147	211 523	93.1	15 624	6.9
Construction	27 308	27 087	99.2	221	0.8	63 290	62 784	99.2	506	0.8
Electricity	7 254	1 531	21.1	5 723	78.9	11 171	2 357	21.1	8 814	78.9
Tertiary Sector	292 158	228 063	78.1	64 095	21.9	555 685	419 846	75.6	135 839	24.4
Commerce	147 970	140 916	95.2	7 054	4.8	288 249	274 437	95.2	13 812	4.8
Communications and Transports	14 554	9 249	63.5	5 305	36.5	29 013	18 423	63.5	10 590	36.5
Government	35 573	-	-	35 573	100.0	85 053	-	-	85 053	100.0
Other Services	94 061	77 898	82.8	16 163	17.2	153 368	126 986	82.8	26 382	17.2
Agreements by bank services	- 6 364	- 6 364	100.0	-	-	-10 925	-10 923	100.0	-	-

SOURCE: Banco de México., S.A., Informe Anual de 1973 y 1976.
 Preliminary draft of the national report of Mexico in connection with the participation
 in the international research project coordinating by ICPE,
 April, 1979.
 Villarreal René, Las empresas públicas como instrumento de política económica de México.
 "El Trimestre Económico", Vol. XLV No. 178, abril-junio, 1978.

TABLE A3

COMPOSITION AND GROWTH RATES OF GROSS DOMESTIC PRODUCT, PUBLIC AND PRIVATE
- percentages -

C O N C E P T	C O M P O S I T I O N						Growth Rates a/		
	1972			1975			1972/1975		
	Total	Private	Public	Total	Private	Public	Total	Private	Public
Gross Domestic Product	100.0	100.0	100.0	100.0	100.0	100.0	24.5	23.5	29.3
Primary Sector	10.3	12.3	0.2	10.1	12.4	0.2	23.6	23.6	21.3
Agriculture and Livestock	9.7	11.6	0.1	9.6	11.8	0.1	23.9	23.9	23.0
Forestry	0.4	0.4	0.1	0.3	0.4	0.1	18.3	18.3	18.3
Fishing	0.2	0.3	-	0.2	0.2	-	18.4	18.4	18.6
Secondary Sector	33.9	35.8	24.2	34.8	36.8	25.8	25.6	24.6	32.0
Mining	1.1	1.3	0.2	1.1	1.1	1.1	24.1	17.2	114.2
Petroleum, Petrochemical and derivates of mineral coal	2.9	1.2	11.4	3.2	1.3	11.1	28.2	28.1	28.2
Manufacturing	23.2	20.6	5.6	23.0	26.3	8.5	24.2	22.9	48.8
Construction	5.3	6.3	0.3	6.4	7.8	0.3	32.3	32.3	31.8
Electricity	1.4	0.4	6.7	1.1	0.3	4.8	15.5	54.0	15.5
Tertiary Sector	57.0	53.4	75.6	56.2	52.2	74.0	23.9	22.6	28.4
Commerce	28.9	33.0	8.3	29.2	34.1	7.5	24.9	24.9	25.1
Communications and Transporte	2.8	2.2	6.3	2.9	2.3	5.8	25.9	25.8	25.9
Government	6.9	-	41.9	8.6	-	46.3	33.7	-	33.7
Other Services	18.4	18.2	19.1	15.5	15.8	14.4	17.7	17.9	17.7
Agreements by bank services	- 1.2	- 1.5	-	- 1.1	- 1.4	-	19.7	19.7	-

a/ Rate of annual average growth

SOURCE: Banco de México, Informe anual 1972, 1975.

TABLE A4

VALUE ADDED BY BRANCH OF INDUSTRY: PUBLIC AND PRIVATE
(thousand pesos)
1975

CONCEPT	Total	Private Enterprises	Participation %	Public Enterprises	Participation %
Total Industry	251 436 479	176 614 787	70.2	74 821 692	29.8
Extractive Industries	7 333 978	5 225 044	71.2	2 108 934	28.8
Extraction and Yield of Mineral Coal and Graphite	383 146	114 895	30.0	268 251	70.0
Extraction and Yield of Metallic Minerals	5 006 907	3 941 909	78.7	1 064 998	21.3
Extraction of Non-Metallic Minerals, excluding Salt	1 747 116	973 522	55.7	773 594	44.3
Exploitation of Salt	196 809	194 718	98.9	2 091	1.1
Manufacture Industries	188 321 924	171 389 743	91.0	16 932 181	9.0
Manufacture of Food	24 642 488	22 059 880	89.5	2 582 608	10.5
Manufacture of Beverages	14 697 869	14 681 103	99.9	16 766	0.1
Manufacture of Tobacco Products	4 045 377	3 102 860	76.7	942 517	23.3
Textile Industry	12 528 159	11 412 204	91.1	1 115 955	8.9
Manufacture of Clothes	4 737 729	4 655 195	98.3	82 534	1.7
Manufacture of Shoes and Leather	2 683 471	2 683 471	100.0	-	-
Manufacture of Wood and Cork Products	2 256 759	1 960 130	86.9	296 629	13.1
Manufacture and Reparation of Furniture and Accessories	1 720 527	1 713 185	99.6	7 342	0.4
Paper Industry	5 887 571	5 373 570	91.3	514 001	8.7
Publishing, Printing and Connected Industries	4 928 272	4 871 917	98.9	56 355	1.1
Chemical Industry	25 885 163	24 560 171	94.9	1 324 992	5.1
Refinement of Petroleum and Mineral Coals ^{a/}	1 193 353	1 071 353	89.8	122 000	10.2
Manufacture of Plastic and Rubber Products	7 382 364	7 382 364	100.0	-	-
Manufacture of Non-Metallic Mineral Products	10 070 265	9 599 857	95.3	470 408	4.7
Basic Metals Industries	15 934 971	11 293 549	70.9	4 641 422	29.1
Manufacture of Metallic Products	11 684 028	10 762 677	92.1	921 351	7.9
Manufacture, Assembly and Reparation of Machinery, Equipment and Spare Parts, excluding Electrical	9 600 892	9 456 104	98.5	144 788	1.5
Manufacture and Assembly of Machinery, Equipment, Apparatus, Accessory and Electrical and Electronical Articles and Spare Parts	11 675 436	11 261 639	96.5	413 797	3.5
Construction, Reconstruction and Assembly of Transport Equipment and Spare Parts	13 852 849	10 602 389	76.5	3 250 460	23.5
Other Manufacture Industries	2 914 381	2 886 125	99.0	28 256	1.0
Electrical Energy	15 563 425	-	-	15 563 425	100.0
Petroleum and its Derivates	40 217 152	-	-	40 217 152	100.0

a/ Includes Yield of mineral ferric

b/ Excluding Iron Mineral

c/ Excluding PEMEX

d/ Public and Private Participation

SOURCE: Censo Industrial 1965, 1970, 1975, Secretaría de Programación y Presupuesto.

TABLE A5

GROSS FIXED INVESTMENT BY BRANCH OF INDUSTRY: PUBLIC AND PRIVATE
(Thousand pesos)
1975

CONCEPT	Total	Private Enterprises	Participation %	Public Enterprises	Participation %
Total Industry	35 701 677	19 071 431	53.4	16 630 246	46.6
Extractive Industries	1 505 592	911 782	60.6	593 810	39.4
Extraction and Yield of Mineral Coal and Graphite	140 333	8 302	5.9	132 031	94.1
Extraction and Yield of Metallic Minerals	1 121 801	723 023	64.5	398 778	35.5
Extraction of Non-Metallic Minerals, excluding Salt	238 256	175 356	73.6	62 900	26.4
Exploitation of Salt	5 202	5 101	98.1	101	1.9
Manufacture Industries	22 262 900	18 159 649	81.6	4 103 251	18.4
Manufacture of Food	3 291 456	2 179 268	66.2	1 112 188	33.8
Manufacture of Beverages	891 011	889 887	99.9	1 124	0.1
Manufacture of Tobacco Products	51 852	25 978	50.1	25 874	49.9
Textile Industry	1 252 080	1 131 537	90.4	120 543	9.6
Manufacture of Clothes	212 695	211 495	99.4	1 200	0.6
Manufacture of Shoes and Leather	185 590	185 590	100.0	-	-
Manufacture of Wood and Cork Products	289 175	185 502	64.1	103 673	35.9
Manufacture and Reparation of Furniture and Accessories	111 176	110 562	99.4	614	0.6
Paper Industry	1 011 665	846 872	83.7	164 793	16.3
Publishing, Printing and Connected Industries	358 695	349 350	97.4	9 345	2.6
Chemical Industry	3 799 324	3 731 188	98.2	68 136	1.8
Refinement of Petroleum and Mineral Coal ^{a/}	184 303	184 271	100.0	32	-
Manufacture of Plastic and Rubber Products	953 738	953 738	100.0	-	-
Manufacture of Non-Metallic Mineral Products	2 887 159	1 585 828	54.9	1 301 331	45.1
Basic Metals Industries	2 583 974	1 895 861	73.4	688 113	26.6
Manufacture of Metallic Products	1 034 997	959 438	92.7	75 559	7.3
Manufacture, Assembly and Reparation of Machinery, Equipment and Spare Parts, excluding Electrical	778 473	676 423	86.9	102 050	13.1
Manufacture and Assembly of Machinery, Equipment, Apparatus, Accessory and Electrical and Electronical Articles and Spare Parts	660 762	632 214	95.7	28 548	4.3
Construction, Reconstruction and Assembly of Transport Equipment and Spare Parts	1 524 354	1 223 115	80.2	301 239	19.8
Other Manufacture Industries	200 421	201 532	100.6	- 1 111	-0.6
Electrical Energy	4 239 944	-	-	4 239 944	100.0
Petroleum and its Derivates	7 693 241	-	-	7 693 241	100.0

a/ Excluding PEMEX

SOURCE: Censo Industrial 1970, 1975, Secretaría de Programación y Presupuesto.

TABLE A6

INVESTMENTS OF THE PUBLIC AND PRIVATE SECTORS
(IN MILLION DOLLARS)

YEARS	TOTAL INVESTMENTS (1=2+8)	PUBLIC INVESTMENTS				PRIVATE INVESTMENTS							
		TOTAL (2=4+ 6)	% (3=2/1)	FEDERAL GOVERNMENT (4)	% (5=4/1)	PUBLIC ENTERPRISES (6)	% (7=6/1)	TOTAL (8=10+12)	% (9=8/1)	NATIONAL (10)	% (11=10/1)	FOREIGN (12)	% (13=12/1)
1960	5 820.6	2 108.8	36.2	780.3	13.4	1 328.5	22.8	3 711.8	63.8	3 516.0	60.4	195.8	3.4
1970	6 559.3	2 338.3	35.5	874.5	13.3	1 463.8	22.2	4 251.0	64.5	4 050.3	61.5	200.7	3.0
1971	6 533.2	1 793.2	27.5	742.0	11.4	1 051.2	16.1	4 740.0	72.6	4 543.9	69.6	196.1	3.0
1972	7 850.3	2 666.0	34.1	1 845.7	13.9	1 420.3	18.1	5 163.8	66.0	4 974.5	63.6	189.3	2.4
1973	10 120.1	3 990.2	39.4	1 724.3	17.0	2 265.9	22.4	6 129.9	60.6	5 843.0	57.8	286.9	2.8
1974	13 899.1	5 189.5	37.3	1 985.6	14.3	3 203.9	23.0	8 709.6	62.7	8 347.4	60.1	362.2	2.6
1975 ^{a/}	17 750.2	7 667.5	43.2	2 540.0	14.3	5 127.5	28.9	10 082.7	56.8	9 787.7	55.1	295.0	1.7
1976 ^{b/}	17 450.1	7 032.5	40.3	2 268.8	13.0	4 763.7	27.3	10 417.6	59.7	10 118.5	58.0	299.1	1.7
1977 ^{c/}	15 031.7	6 205.0	41.3	2 016.5	13.6	4 158.5	27.7	8 826.7	58.7	8 499.4	56.5	327.3	2.2
1978 ^{d/}	20 867.9	9 479.5	45.4	3 127.6	15.0	6 351.9	30.4	11 388.4	54.6	11 094.8	53.2	293.6	1.4

^{a/} Until 1973 the parity was 12.490 pesos per dollar

^{b/} The parity was 15.444 pesos per dollar

^{c/} The parity was 22.579 pesos per dollar

^{d/} The parity was 22.767 pesos per dollar

^{e/} Preliminary data

SOURCE: BANCO DE MEXICO, S.A.

TABLE A7

GROWTH RATES OF GROSS FIXED CAPITAL FORMATION FOR THE ECONOMY AS A WHOLE AND FOR
THE MANUFACTURING SECTOR: PUBLIC AND PRIVATE ^{a/}
-percentages-

	1975/1970			1978/1975		
	Total	Private Sector	Public Sector ^{b/}	Total	Private Sector	Public Sector ^{b/}
Total	<u>9.9</u>	<u>7.2</u>	<u>19.6</u>	<u>2.7</u>	<u>1.6</u>	<u>5.5</u>
Agriculture	<u>9.6</u>	<u>9.6</u>	-	<u>0.5</u>	<u>0.5</u>	-
Livestock	<u>9.1</u>	<u>9.1</u>	-	<u>- 7.7</u>	<u>- 7.7</u>	-
Fishing	<u>9.8</u>	<u>9.8</u>	-	<u>2.7</u>	<u>2.7</u>	-
Industry	<u>14.0</u>	<u>5.8</u>	<u>25.7</u>	<u>1.5</u>	<u>- 7.3</u>	<u>8.0</u>
Mining	<u>15.2</u>	<u>12.2</u>	<u>71.1</u>	<u>14.2</u>	<u>11.7</u>	<u>27.4</u>
Manufacture Industries	<u>- 8.9</u>	<u>- 3.3</u>	<u>- 72.2</u>	<u>- 10.7</u>	<u>- 6.6</u>	<u>- 17.8</u>
Manufacture of Food	<u>- 8.0</u>	<u>- 6.0</u>	-	<u>- 13.3</u>	<u>- 12.7</u>	<u>- 22.7</u>
Manufacture of Beverages	<u>- 4.1</u>	<u>- 4.1</u>	-	<u>7.5</u>	<u>7.5</u>	-
Manufacture of Tobacco Products	<u>4.3</u>	<u>4.3</u>	-	-	-	-
Textile Industry	<u>- 0.3</u>	<u>0.5</u>	<u>- 10.9</u>	<u>5.5</u>	<u>2.4</u>	<u>44.0</u>
Manufacture of Clothes, Shoes and Leather	<u>5.6</u>	<u>5.6</u>	-	<u>- 8.0</u>	<u>- 8.0</u>	-
Manufacture of Wood and Cork Products	<u>6.1</u>	<u>0.1</u>	<u>206.3</u>	<u>- 2.4</u>	<u>- 1.4</u>	<u>- 5.7</u>
Paper Industry	<u>8.6</u>	<u>5.2</u>	<u>57.4</u>	<u>0.6</u>	<u>- 12.5</u>	<u>40.2</u>
Publishing and Connected Industries	<u>0.9</u>	<u>0.9</u>	-	<u>- 18.0</u>	<u>- 18.0</u>	-
Chemical Industry	<u>12.4</u>	<u>11.7</u>	<u>28.3</u>	<u>- 1.0</u>	<u>- 10.5</u>	<u>75.7</u>
Manufacture of Plastic and Rubber Products	<u>- 3.8</u>	<u>- 3.8</u>	-	<u>2.8</u>	<u>2.8</u>	-
Manufacture of Non-Metallic Mineral Products	<u>16.0</u>	<u>16.0</u>	-	<u>- 6.9</u>	<u>- 6.9</u>	-
Basic Metals Industries	<u>12.8</u>	<u>- 12.4</u>	<u>88.9</u>	<u>- 33.2</u>	<u>- 26.8</u>	<u>- 35.9</u>
Manufacture of Metallic Products	<u>- 4.4</u>	<u>- 4.4</u>	-	<u>16.3</u>	<u>16.1</u>	-
Manufacture, Assembly of Machinery, Equipment and Spare Parts excluding Electrical	<u>16.3</u>	<u>12.0</u>	<u>66.1</u>	<u>- 7.7</u>	<u>- 1.2</u>	<u>- 61.2</u>
Manufacture and Assembly of Machinery Equipment Apparatus, Accessory and Electrical and Electronical Articles and Spare Parts	<u>- 4.4</u>	<u>- 4.6</u>	-	<u>- 8.0</u>	<u>- 9.0</u>	<u>56.5</u>
Construction, Reconstruction and Assembly of Transport Equipment and Spare Parts	<u>24.9</u>	<u>3.4</u>	<u>100.0</u>	<u>- 25.7</u>	<u>- 8.2</u>	<u>- 41.5</u>
Other Manufacture Industries	<u>6.2</u>	<u>6.2</u>	-	<u>- 32.2</u>	<u>- 32.2</u>	-
Electrical Energy	<u>16.1</u>	-	<u>16.1</u>	<u>- 10.2</u>	-	<u>- 10.2</u>
Petroleum and its Derivates	<u>28.6</u>	-	<u>28.6</u>	<u>34.6</u>	-	<u>34.6</u>
Construction	<u>30.5</u>	<u>30.5</u>	-	<u>- 25.3</u>	<u>- 25.3</u>	-
Recreation	<u>1.8</u>	<u>1.8</u>	-	<u>42.3</u>	<u>42.3</u>	-
Transport and Communication	<u>8.9</u>	<u>11.0</u>	<u>5.6</u>	<u>- 1.4</u>	<u>- 2.1</u>	<u>- 0.1</u>
Commerce	<u>6.6</u>	<u>7.3</u>	<u>3.5</u>	<u>- 12.5</u>	<u>- 7.5</u>	<u>- 66.0</u>
Services	<u>6.7</u>	<u>6.7</u>	-	<u>8.4</u>	<u>8.4</u>	<u>16.1</u>

^{a/} Rate of annual average growth

^{b/} Excluding Federal Government

SOURCE: Secretaría de Patrimonio y Fomento Industrial

TABLE A8

LEVELS OF EMPLOYMENT BY BRANCH OF INDUSTRY: PUBLIC AND PRIVATE b/
(N° of Workers)
1975

	Total	Private Enterprises	Participation %	Public Enterprises	Participation %
Total Industry	1 954 872	1 673 861	85.6	281 011	14.4
Extractive Industries	56 109	40 910	72.9	15 199	27.1
Extraction and Yield of Mineral Coal and Graphite	6 490	1 568	24.2	4 922	75.8
Extraction and Yield of Metallic Minerals	35 690	27 627	77.4	8 063	22.6
Extraction of Non-Metallic Minerals, excluding Salt	11 830	9 711	82.1	2 119	17.9
Exploitation of Salt	2 099	2 004	95.5	95	4.5
Manufacture Industries	1 760 622	1 632 951	92.7	127 671	7.3
Manufacture of Food	329 698	297 021	90.1	32 677	9.9
Manufacture of Beverages	82 913	82 496	99.5	417	0.5
Manufacture of Tobacco Products	8 003	3 662	45.8	4 341	54.2
Textile Industry	148 500	135 192	91.0	13 308	9.0
Manufacture of Clothes	95 559	94 593	99.0	966	1.0
Manufacture of Shoes and Leather	49 537	49 537	100.0	-	-
Manufacture of Wood and Cork Products	44 706	38 551	86.2	6 155	13.8
Manufacture and Reparation of Furniture and Accessories	38 555	33 185	98.9	5 370	1.1
Paper Industry	41 417	38 371	92.6	3 046	7.4
Publishing, Printing and Connected Industries	53 410	52 771	98.8	639	1.2
Chemical Industry	138 213	130 782	94.6	7 431	5.4
Refinement of Petroleum and Mineral Coals/	5 633	5 348	94.9	285	5.1
Manufacture of Plastic and Rubber Products	58 712	58 712	100.0	-	-
Manufacture of Non-Metallic Mineral Products	102 921	100 795	97.9	2 126	2.1
Basic Metals Industries	82 026	59 012	71.9	23 014	28.1
Manufacture of Metallic Products	133 542	128 298	96.1	5 244	3.9
Manufacture, Assembly and Reparation of Machinery, Equipment and Spare Parts, excluding Electrical	83 960	82 661	98.5	1 299	1.5
Manufacture and Assembly of Machinery, Equipment, Apparatus, Accessory and Electrical and Electronic Articles and Spare Parts	117 223	112 900	96.3	4 323	3.7
Construction, Reconstruction and Assembly of Transport Equipment and Spare Parts	115 031	93 175	81.0	21 856	19.0
Other Manufacture Industries	36 063	35 889	99.5	174	0.5
Electrical Energy	51 358	-	-	51 358	100.0
Petroleum and its Derivates	86 783	-	-	86 783	100.0

a/ Employment until June 30

b/ Employment until December 31

c/ Excluding PEMEX

d/ Includes Yield of Mineral Ferric

e/ Excluding Iron Mineral

f/ Public and Private Participation

SOURCE: Censo Industrial 1965, 1970 y 1975 Secretaría de Programación y Presupuesto

TABLE A9

GROWTH RATES OF EMPLOYMENT BY BRANCHES OF INDUSTRY: PUBLIC AND PRIVATE ^{a/}
(Percentages)

	1970/1965			1975/1970		
	Total	Private Sector	Public Sector	Total	Private Sector	Public Sector
Total Industry	<u>3.4</u>	<u>2.9</u>	<u>7.8</u>	<u>1.7</u>	<u>1.2</u>	<u>5.3</u>
Extractive Industries	-1.2	-2.2	4.6	-2.3	-5.0	8.6
Extraction and Yield of Mineral Coal and Graphite	-19.4	-19.6	-19.0	18.4	-7.6	37.6
Extraction and Yield of Metallic Minerals	0.3	-1.2	9.2	-3.7	-4.6	0.1
Extraction of Non-Metallic Minerals, excluding Salt	-	-1.5	-	-2.5	-4.8	16.4
Exploitation of Salt	4.1	3.8	-	-10.8	-11.4	16.6
Manufacture Industries	3.4	3.1	11.4	1.8	1.3	8.1
Manufacture of Food	2.8	2.3	9.7	0.6	0.1	6.7
Manufacture of Beverages	6.9	6.8	-	1.5	1.5	0.3
Manufacture of Tobacco Products	7.4	7.4	-	-9.2	-22.3	-
Textile Industry	-1.3	-1.3	0.2	-1.4	-2.1	8.7
Manufacture of Clothes	4.7	4.7	4.2	0.9	1.0	-0.7
Manufacture of Shoes and Leather	1.1	1.2	-27.5	-0.1	-0.1	-
Manufacture of Wood and Cork Products	-0.9	-1.4	7.0	0.6	-1.0	16.5
Manufacture and Reparation of Furniture and Accessories	12.9	12.9	-	-0.4	-0.6	-
Paper Industry	5.7	5.6	7.9	0.3	-2.1	9.4
Publishing, Printing and Connected Industries	3.6	3.4	15.9	-2.0	-1.8	-15.3
Chemical Industry	6.9	6.5	16.2	-2.0	-2.2	2.0
Refinement of Petroleum and Mineral Coal ^{b/}	14.8	11.1	118.5	1.1	3.5	-19.6
Manufacture of Plastic and Rubber Products	5.6	5.6	-	19.7	19.7	-
Manufacture of Non-Metallic Mineral Products	4.0	2.9	62.2	1.8	2.6	-17.5
Basic Metals Industries	7.5	7.3	8.1	2.2	1.4	4.5
Manufacture of Metallic Products	3.6	3.3	-	1.2	0.8	20.6
Manufacture, Assembly and Reparation of Machinery, Equipment and Spare Parts, excluding Electrical	7.2	7.9	-26.7	10.3	10.0	36.0
Manufacture and Assembly of Machinery, Equipment, Apparatus, Accessory and Electrical and Electronical Articles and Spare Parts	4.2	4.2	-	3.9	3.2	-
Construction, Reconstruction and Assembly of Transport Equipment and Spare Parts	-1.7	-4.3	23.9	9.2	8.7	11.7
Other Manufacture Industries	3.1	3.1	-	4.2	4.1	-
Electrical Energy	6.2	-	6.2	0.6	-	0.6
Petroleum and Its Derivates	<u>5.6</u>	<u>-</u>	<u>5.6</u>	<u>4.1</u>	<u>-</u>	<u>4.1</u>

a/ Rate of annual average growth

b/ Excluding PEMEX

SOURCE: Censo Industrial 1965, 1970, 1975, Secretaría de Programación y Presupuesto.

TABLE A10

NATIONAL AND EXTERNAL MAJOR ACQUISITIONS OF PUBLIC SECTOR ^{a/b/}
(million pesos)
1979

CONCEPT	TOTAL	Participation %	National	Participation %	External ^{c/}	Participation %
TOTAL	219 435	100.0	133 372	100.0	86 063	100.0
Livestock	551	0.3	355	0.3	196	0.2
Animals Products	922	0.4	417	0.3	505	0.6
Vegetables Products	35 514	16.6	19 264	14.5	17 230	10.0
Food Fresh, semilaborate and elaborates including Beverages	12 714	5.8	9 894	7.4	2 820	3.3
Minerals	4 077	1.9	2 934	2.2	1 143	1.3
Fuel, Lubricant and their Additives	9 887	4.5	8 491	6.4	1 396	1.6
Substances and Chemical products	17 555	8.0	13 586	10.2	3 969	4.6
Rubber and its products	862	0.4	819	0.6	43	-
Leather, Skin and their manufacturing	31	-	31	-	-	-
Wood, Cork and their products (excluding Furniture)	1 635	0.7	1 631	1.2	4	-
Cellulose, Paper, Pasteboard and its manufacturing	4 105	1.9	1 698	1.3	2 407	2.8
Printing, Forms, Books and Publishing	1 007	0.5	945	0.7	62	0.1
Textiles and products elaborate with Textiles	2 570	1.2	2 555	1.9	15	-
Minerals products; Non-Metallic	10 878	5.0	6 822	5.1	4 056	4.7
Glass, Crystal and its manufacturing	394	0.2	374	0.3	20	-
Usual Metals and its manufacturing	21 929	10.0	15 510	11.6	6 419	7.5
Machinery and equipment (excluding electrical)	27 865	12.7	11 510	8.6	16 355	19.0
Machines and Tools	407	0.2	251	0.2	156	0.2
Machinery and Electrical Equipment	6 356	2.9	2 874	2.2	3 482	4.0
Products, and Electrical Material	5 112	2.3	4 795	3.6	317	0.4
Electronical Articles						
Communication material	3 271	3.8	1 938	1.5	6 333	7.4
Equipment of Transport	9 107	4.1	3 175	2.4	5 932	6.9
Surgico-medical equipment, apparatus and Instruments	1 827	0.8	1 403	1.1	424	0.5
Miscellaneous apparatus	4 928	2.2	1 895	1.4	3 033	3.5
Accessory and Tools for Machinery and Equipment	757	0.3	431	0.3	326	0.4
Refactions and Parts for Machinery Equipment	16 534	7.5	8 462	6.3	8 072	9.4
Furniture	2 474	1.1	1 901	1.4	573	0.7
Shod	189	0.1	189	0.1	-	-
Others	9 977	4.6	9 202	6.9	775	0.9

a/ Estimated data

b/ Includes Federal Government and Public Enterprises, Excluding Services

c/ Includes direct and indirect imports

SOURCE: Secretaría de Comercio, Dirección General de Normas sobre Adquisiciones y Almacenes

TABLE A11

ORIGIN OF FOREIGN CAPITAL IN THE STATE ENTERPRISES
(Thousand dollar)
1978

TOTAL	87 066.0	100.0 %
U.S.A.	54 416.7	62.5
Canada	11 237.5	12.9
Japan	6 535.9	7.5
Great Britain	3 711.4	4.3
Italy	1 408.4	1.6
France	1 375.4	1.5
Yugoslavia	531.7	0.6
Switzerland	491.0	0.6
Spain	257.5	0.3
Belgium	242.1	0.3
Germany	44.0	0.1
Others	6 813.0	7.8

The parity was 22.72 pesos per dollar

SOURCE: Secretaría de Patrimonio y Fomento Industrial, Dirección de Inversión Extranjera y Tecnología.

TABLE A12 (CONTINUED)

STATE ENTERPRISES WITH PARTICIPATION OF FOREIGN CAPITAL

(Thousand dollar)

3a.

CONCEPTS	1 9 7 8			Capital Origin
	Social Capital	Foreign Investment	Participation of Foreign Capital	
Production of Metals Products	1 540.5	754.8	49.0	-
Swecomex, S.A.	<u>1 540.5</u>	<u>754.8</u>	<u>49.0</u>	U.S.A.
Manufacture, Assembling and Reparation of Machinery	8 054.5	1 984.2	24.6	-
AHMSA - Fábrica Nacional de Máquinas-Herramientas, S.A. de C.V.	4 401.4	531.7	12.1	Yugoslavia
Oerlikon Italiana de México, S.A.	3 521.1	1 408.5	40.0	Italy
Nacional de Instrumental Médico, S.A. de C.V.	132.0	44.0	33.3	Germany
Construction and Reconstruction Assembling of Transport Equipment	31 687.8	12 026.7	38.0	-
Dina Komatsy Nacional, S.A. de C.V.	<u>3 521.1</u>	<u>1 408.5</u>	<u>40.0</u>	Japan
Dina Rowel Nacional, S.A. de C.V.	2 200.7	880.3	40.0	U.S.A.
Mecánica Falk, S.A. de C.V.	1 320.4	647.0	49.0	U.S.A.
Motores Perkins, S.A.	11 831.0	3 667.3	31.0	-
Rassini Rheem, S.A. de C.V.	4 093.3	2 052.7	50.2	U.S.A.
Vehículos Automotores Mexicanos, S.A. de C.V.	8 061.1	3 106.8	38.5	U.S.A.
Borg and Beck de México, S.A.	660.2	264.1	40.0	U.S.A.
Manufacture and Assembling of Machinery Electrical and Electronical Articles	10 074.0	4 278.3	42.5	-
Consorcio Manufacturero, S.A.	<u>2 420.8</u>	<u>528.2</u>	<u>21.8</u>	-
Industrias de Telecomunicación, S.A.	7 653.2	3 750.1	49.0	U.S.A.
Telecommunication	1 628.5	488.6	30.0	-
Televisión del Distrito Federal	<u>1 628.5</u>	<u>488.6</u>	<u>30.0</u>	-
Commerce	352.1	129.8	36.9	-
Exmex, S.A. de C.V.	<u>350.1</u>	<u>108.9</u>	<u>33.0</u>	-
Tornimex, S.A. de C.V.	22.0	20.9	95.0	-

The parity was 22.72 pesos per dollar

SOURCE: Secretaría de Patrimonio y Fomento Industrial, Dirección de Inversión Extranjera y Tecnología.

TABLE A12 (CONTINUED)

STATE ENTERPRISES WITH PARTICIPATION OF FOREIGN CAPITAL

(thousand dollar) *

1 9 7 8

CONCEPTS	Social Capital	Foreign Investment	Participation of Foreign Capital	Capital Origin
Total	399 519.6	87 065.0	21.8	-
Extraction and yield of mineral products	116 570.2	43 887.4	37.7	-
Compañía Cuprifera La Verde, S.A.	16 505.3	7 836.7	47.5	Canada
Compañía Exploradora del Istmo, S.A.	10 783.5	3 666.4	34.0	U.S.A.
Compañía Minera Aullán, S.A. de C.V.	13 204.2	1 622.8	12.3	Japan
Compañía Minera Comonfort, S.A.	308.1	42.3	13.7	U.S.A.
Compañía Minera de Cananúa, S.A.	52 816.9	25 343.3	48.0	U.S.A.
Compañía Minera Nacozari, S.A.	220.0	107.4	48.8	U.S.A.
Azufres Nacionales de México, S.A. de C.V.	1 320.4	448.9	34.0	Canada
Azufre Nacional, S.A.	735.0	180.1	24.5	-
Explomfo, S.A. de C.V.	2 209.5	751.2	34.0	Canada
Exportadora de Sal, S.A.	7 152.3	3 504.6	49.0	Japan
Minera la Union, S.A.	8.8	4.3	49.0	-
Minerales Submarinos Mexicanos, S.A.	159.6	39.5	24.8	U.S.A.
Sosa Texcoco, S.A.	5 347.7	4.3	0.1	-
Zincamex, S.A.	5 523.8	242.1	4.4	Belgium
Estudios Mineros Japón México, S.A. de C.V.	275.1	93.5	34.0	-
Food Industry	184.9	61.6	33.3	-
Ceres Ecologica de México, S.A. de C.V.	184.9	61.6	33.3	U.S.A.

TABLE A12

STATE ENTERPRISES WITH PARTICIPATION OF FOREIGN CAPITAL

(Thousand dollar)

21.

CONCEPTS	1 9 7 8			Capital Origin
	Social Capital	Foreign Investment	Participation of Foreign Capital	
Benefaction and Manufacture of Tobacco Products	21 535.9	3 769.4	17.5	-
Tabacos Aztecas, S.A.	506.2	202.5	40.0	-
Tabacos Mexicanos, S.A. de C.V.	8 802.8	215.7	2.5	-
Cigarros La Tabacalera Mexicana, S.A. de C.V.	12 221.9	3 351.2	27.4	U.S.A.
Cellulose and Paper Industry	5 000.6	2 452.7	49.0	-
Ella, S.A.	825.3	403.8	48.9	Switzerland
Productora Nacional de Papel Destintado, S.A. de C.V.	4 181.3	2 048.9	49.0	-
Chemical and Petrochemical Industry	41 817.4	10 220.2	24.4	-
Hules Mexicanos, S.A.	5 501.8	2 000.7	40.0	Canada
Productos Quimicos Vegetales, S.A. de C.V.	660.2	132.0	20.0	U.S.A.
Productora Quimica de Jalisco, S.A. de C.V.	220.1	88.0	40.0	Switzerland
Poliestireno y Derivados, S.A. de C.V.	5 505.8	1 375.4	25.0	France
Telestalatos Mexicanos, S.A.	19 806.3	2 376.8	12.0	U.S.A.
Tetractileno de México, S.A.	2 200.7	1 078.3	49.0	-
Fermentaciones Mexicanas, S.A. de C.V.	7 922.5	3 169.0	40.0	-
Basic Metal Industries	161 078.2	7 011.3	4.4	-
Productos Tabulares Monelova, S.A.	4 701.4	1 760.6	40.0	U.S.A.
Bliss and Laughlin Latinoamericana, S.A.	1 483.3	1 483.1	100.0	U.S.A.
Cabezas de Acero Kikapoo, S.A.	550.1	269.6	49.0	U.S.A.
Altos Hornos de México, S.A.	154 049.3	3 219.6	2.1	U.S.A.
Compañía Industrial y Comercial Americana, S.A.	572.1	257.5	45.0	Spain
Servicios Rassini, S.A. de C.V.	22.0	20.9	95.0	U.S.A.

TABLE A13

EXTERNAL DEBT OF THE PUBLIC ENTERPRISES ^{a/} _{b/}
(million of dollars)

Years	Total	Public Industrial enterprises	Participation %	Public Financial enterprises	Participation %	Others Public enterprises	Participation %
1970	3 560.9	1 617.1	45.4	1 257.1	35.3	686.7	19.3
1971	3 803.7	1 744.3	45.9	1 340.9	35.2	718.5	18.9
1972	4 184.3	1 929.4	46.1	1 243.6	29.7	1 011.3	24.2
1973	5 684.3	2 472.6	43.5	1 909.1	33.6	1 302.6	22.9
1974	8 026.3	3 435.4	42.8	2 919.1	36.4	1 671.8	20.8
1975	12 279.7	5 292.6	43.1	4 336.4	35.3	2 650.7	21.6
1976	16 072.0	6 511.4	40.5	6 567.7	40.9	2 992.9	18.6
1977	18 639.7	7 941.3	42.6	7 739.1	41.5	2 959.3	15.9
1978 ^{c/}	20 836.7	10 247.6	49.2	7 984.4	38.3	2 604.7	12.5

a/ Balance of an account (saldos)

b/ Includes external debt to long and short range

c/ Preliminary Figures

SOURCE: Secretaría de Hacienda y Crédito Público, Dirección General de Crédito.

TABLE A14

TRADE BALANCE OF THE PUBLIC ENTERPRISES BY MAJOR BRANCHES OF INDUSTRY ^{a/}
(million pesos)

CONCEPT	1978		Balance of an account
	Imports	Exports	
Total Public Enterprises	<u>61,813.3</u>	<u>51,397.5</u>	<u>-10,415.8</u>
Total Industrial Public Enterprises	<u>41,710.1</u>	<u>46,299.9</u>	<u>4,559.8</u>
Extractive Industries	<u>655.5</u>	<u>1,710.3</u>	<u>1,054.8</u>
Extraction and Yield of Mineral Coal Graphite	159.8	0.7	- 158.6
Extraction and Yield of Metallic Minerals	353.4	1.7	- 351.7
Extraction of Non-Metallic Minerals, excluding Salt	79.4	1,508.0	1,428.6
Exploitation of Salt	63.4	199.9	136.5
Manufacture Industries	<u>7,037.3</u>	<u>3,398.9</u>	<u>- 3,638.4</u>
Manufacture of Food	488.8	481.6	7.2
Manufacture of Beverages	-	-	-
Manufacture of Tobacco Products	-	-	-
Textile industry	38.4	794.6	756.2
Manufacture of Clothes	39.6	12.6	27.0
Manufacture of Shoes and Leather	-	-	-
Manufacture of Wood and Cork Products	16.3	-	16.3
Manufacture and Reparation of Furniture and Accessories	-	-	-
Paper industry	230.0	0.1	229.9
Publishing, Printing and Connected Industries	4.4	-	4.4
Chemical Industry	2,656.6	387.4	- 2,269.2
Refinement of Petroleum and Mineral Coal	-	-	-
Manufacture of Plastic and Rubber Products	44.5	53.3	8.8
Manufacture of Non-Metallic Mineral Products	21.8	0.4	- 21.4
Basic Metals industries	1,616.6	692.1	- 924.5
Manufacture of Metallic Products	27.1	-	- 27.1
Manufacture, Assembly and Reparation of Machinery, Equipment and Spare Parts, excluding Electrical	-	-	-
Manufacture and Assembly of Machinery, Equipment, Apparatus, Accessory and Electrical and Electronical	-	-	-
Articles and Spare Parts	-	-	-
Construction, Reconstruction and Assembly of Transport Equipment and Spare Parts	1,853.2	970.4	- 882.8
Other Manufacture Industries	-	6.4	6.4
Electrical Energy	<u>5,405.3</u>	<u>49.9</u>	<u>- 5,355.4</u>
Petroleum and its Derivates	<u>28,642.0</u>	<u>41,140.8</u>	<u>12,498.8</u>
Other Public Enterprises	<u>20,073.2</u>	<u>5,097.5</u>	<u>-14,975.7</u>

^{a/} This refers to the value of importations and exportations affected by public enterprises; furthermore, transactions are registered according to activity type of, and not according to production type handled by such public enterprises

SOURCE: Dirección General de Estadística, Secretaría de Programación y Presupuesto; Secretaría de Patrimonio y Fomento Industrial, Datos Básicos del Sector Parastatal

