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High Price for Change

Privatization in Mexico

Jacques Rogozinski

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Jacques Rogozinski

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To Janet, Helena, Jaime and Joel

Of family and friends, many are too few

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Preface

...Many people suffered as a result of these changes; but they would have suffered more without them.

No niego que muchos han sufrido a consequencia de los cambios; añado, habrían sufrido más sin ellos.

Octavio Paz

The debate over privatization as a tool of economic policy has centered on whether its political and social costs are too high. In Mexico's case, the government was on the verge of bankruptcy, the economic model of state intervention was already exhausted, and the country's potential growth was stunted. Delaying the privatization process would have cost the Mexican people far more in the long run.

The principal argument for privatization of state-owned enterprises that produce private goods is that it will improve efficiency and quality of production. Whether this happens depends largely on at least three external factors: an adequate regulatory framework; a functioning judicial system; and market-oriented policies.

In addition, for privatization to be successful, *the process must be transparent.* Transparency of the legal and operational frameworks is fundamental for achieving privatization's long-term goals. *Open and clear communication* with the public about what to expect is also a requirement. The public must be informed of the permanent consequences of divesting public sector enterprises, both the benefits and drawbacks. Higher costs for services and higher unemployment are likely to be temporary results. Educating the public about these consequences of privatization can help to deter political backlash or manipulation of public opinion.

Furthermore, the new and old private sector must understand that companies under private ownership are responsible for their own success or failure. If every failing business were rescued by the government, the public would get the message that the government's role is to socialize losses and privatize profits.

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On the other hand, the privatization process will modify the established order. In Mexico, it prompted change in the traditional political and social structures: the principal instruments of production were strengthened, while political clientelism was weakened. As Octavio Paz has commented, "By managing powerful state-owned enterprises, the [PRI] party ran Mexico's economy. Its members exerted power consecutively or simultaneously, over the government's political, economic and administrative processes. ...The privatization process has displaced politicians and bureaucrats from various key positions in controlling the Mexican economy. This [helped to] clear the path to democracy."

This volume analyzes both the short-term results and overall effects of privatization in Mexico, evaluating its total costs as the *price for change*.

Jacques Rogozinski

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Acknowledgments

Compiling and documenting an experience as complex as Mexico's privatization process is more than an individual effort. In this case, analyzing what happened in Mexico's public sector between 1988 and 1994 required countless hours of discussion concerning the facts, issues and concepts involved.

I would like to extend my heartfelt gratitude to Dr. Pedro Aspe Armella, former Secretary of Finance and Public Credit of Mexico, who generously shared his insight and perception of the events surrounding this complex process. I commend his extraordinary efforts and his commitment to the modernization of our country, and recognize how he has applied his finest qualities, with total dedication to this pursuit.

I would also like to thank Rafael García Rosas and Jorge Silberstein, brilliant, dedicated co-workers, who were untiring in their efforts to assist me during this period in the Privatization Unit. They offered valuable criticisms and suggestions for the preparation of this work.

Organizing this description into a coherent, readable dialogue took intuitive and creative expertise, which was offered patiently and generously by Julio Scherer Ibarra. I respect immensely his professionalism and express my gratitude for his invaluable participation.

Special thanks are due to Ramiro Tovar for his contribution to Chapter 5 of this volume. I also appreciate the assistance of Cecilia Amerio and Rossana Ingle, my former colleagues in the Privatization Unit, and of Dr. Isaac Katz, who helped revise the manuscript and coordinated the gathering of information and statistics, with the cooperation of his students at the Tecnológico Autónomo de México.

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Foreword

One of the most important subjects on political and academic agendas in the 1980s and 1990s has been the privatization of public enterprises. Both the state and economic policy have a significant impact on economic growth and public welfare. It is not surprising, then, that numerous analysts have studied the topic. Through various approaches and armed with different economic theories, experts have sought to explain the reasons for significant state participation, on the one hand, and minimal government involvement in economic activities, on the other, as well as the impact of each strategy on resource allocation and income distribution.

The privatization of public enterprises is likely to continue for years, and to be widely discussed in Mexico and throughout the world. Privatization encompasses not only economic considerations, but political and social issues as well. It requires a thoughtful analysis of the relationship between politics and economics, as well as a thorough assessment of the effects of privatization on society and culture. In Mexico, we have insisted that privatization include a social component and that it focus on benefitting the largest possible number of citizens.

Indeed, one objective of economic policy is to correct market imperfections, especially when markets fail to provide equal access to all economic agents. The state should also be actively involved in reducing poverty and advancing the cause of justice in society. The Mexican government has therefore chosen to modify its development model in order to promote modernization of the economy. This development model is based on the recognition of new circumstances created by the globalization of the world economy, new international competitive practices, and the country's need to promote the freedom of individuals to engage in business activities—as well as the right to education, employment, fair wages, health, housing and many other benefits that guarantee and improve the standard of living and quality of life of the Mexican people.

Privatization has been studied extensively, but most studies focus on its theoretical aspects, on comparative analyses of the formulas used in other countries, or on descriptive accounts of the sales process. Only rarely has an

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author who played a leading role in privatization compiled a written record that not only describes experiences, but also analyzes the theoretical aspects and discusses the reasons for and the effects of the process itself, as is the case in this valuable and important work.

One of the great strengths of this book, then, is the arrangement of its contents. The first chapter discusses the theoretical aspects of the differing behaviors of public and private enterprises, as well as the macroeconomic objectives and effects of privatization. The second chapter describes the role of the state and of public enterprises in Mexico up to 1982, when the government decided to begin the process of divesting state-controlled enterprises. The third chapter contains a very detailed sectoral assessment of the objectives of government-controlled enterprises, their organization and their economic performance, which in most cases led to growing deficits, owing to their inefficient operation.

The fourth chapter contains an in-depth analysis of the general features of Mexico's privatization program, its specific objectives, the legal and regulatory framework, the sales mechanism and the use of resources obtained from the sale of public enterprises. Finally, in the fifth chapter, the results of the process are analyzed together with its macroeconomic impact on government finances, the balance of payments and the financial market. The chapter ends with a look at the microeconomic effects on employment, profits and productivity.

This book focuses our attention on the state's experience in managing a large number of public enterprises and entities and the role that this has played in the economic crises we have weathered. The lesson is that there is no guarantee that because a government is large it will be more capable of fulfilling its social obligations. In Mexico, significant structural limitations prevented a prompt and efficient response to the population's most pressing needs, and the number of options open to the state dwindled.

This situation necessitated a reform of the state aimed at stabilizing and modernizing our country's economy as well as remedying major social ills. As a result of the state reform, the government abandoned its role of owner of many highly diverse enterprises and began concentrating and focusing its efforts on solving the problems of drinking water, health, education, agricultural investment, nutrition, housing, the environment, infrastructure and the administration of justice. Thus, reform of the state entailed transforming a paternalistic government into a supportive government—one that governs for all but that works especially hard for those who have less.

The reason for privatizing state-controlled enterprises was, on the one hand, to divest those entities that were neither strategic nor high on the list of the state's priorities (and transfer their management to the private or social sector), and, on the other, to eliminate the constant, large transfers of tax

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receipts required for their operation. These actions would conserve public resources, allowing the government to increase social spending and satisfy the people's most urgent needs in the area of public services and infrastructure works.

The complicated tasks involved in privatization pointed up the necessity of creating a specialized unit to handle the sale of public enterprises. This led in 1990 to the establishment of the Public Enterprise Divestiture Unit, which is attached to the Secretariat of Finance and Public Credit and is headed by the author of this book. From the outset, Dr. Jacques Rogozinski has dedicated himself with great enthusiasm to fulfilling the objectives of the privatization program.

The divestiture process requires a great deal of legal and administrative work and prodigious coordination efforts to ensure that the sale of public enterprises is as transparent as possible for both the public and the government itself. Special care was also taken to ensure that the privatization strategy would be consistent with the aims of the tax and budget reform, economic deregulation, financial reform, trade liberalization, the renegotiation of external debt and the strengthening of property rights, *inter alia*.

In Mexico, the transparency of divestiture was one of the most important points to be considered. Consequently, an objective, quantitative criterion was used to effect the sales: the price offered by buyers. This criterion took precedence in all sales decisions, to ensure the greatest possible revenue for the government and, above all, for the people, who, in the final analysis, benefit from the revenue generated by the sale of these enterprises. Because it is nonrecurrent, privatization revenue was not used to finance current expenditure. It was used, however, to pay off public debt. The resulting lower interest payments generated permanent savings, allowing for a sustainable, noninflationary increase in social spending.

The other factors involved in sales decisions were also considered, such as analysis of the future investment commitment, experience in the industry to which the enterprise belonged, and a prospective buyer's promise to remain where the enterprise was located, to prevent regional unemployment problems and promote market competition.

Dr. Rogozinski's analyses and comments throughout this book show us why the sale of state-controlled enterprises was desirable, not only from an economic viewpoint, but also from a social perspective. A government buffeted by economic crises could not continue managing the large number of public enterprises that had accumulated over time and that prevented it from satisfying social needs.

As a public official who has held a variety of positions in the government, the author has extensive experience and a strong commitment to his country, as evidenced by his decision to write about his involvement in this process. He

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thus exposes himself to the criticism not only of supporters of the process, but also of those who oppose the divestiture of public enterprises. This testimonial is further proof of his determination to explain clearly to the public the reasons for and the results of privatization.

While we worked together, I was able to observe the great professionalism and dedication with which Dr. Rogozinski fulfilled his responsibilities, as well as his outstanding spirit of cooperation and teamwork. We shared the same academic concerns and many points of view concerning how best to achieve the objectives of the privatization process and the need for cooperation to accelerate our economy's progress and raise our fellow citizens' standard of living.

I would like to express my gratitude to Dr. Rogozinski and to all those public and private officials who collaborated competently and responsibly and who so ably met the challenge of privatizing public enterprises.

This book is a clear example of how theory should relate to practice. It explains the factors, challenges and major problems involved in the execution of a successful privatization program. Thus, although the scope of the work is broad and encompasses both the theoretical and practical aspects of privatization, the subject itself seems inexhaustible. At present, only a few incomplete case studies exist, and many recent events have yet to be studied. As the results can only be assessed over the course of several years, subsequent research should evaluate the long-term impact of privatization.

This important and thoughtful work sheds light on the reasons for Mexico's privatization of public enterprises, as well as the benefits to be derived from this far-reaching program, which has always aimed to lay the foundation for the country's modernization and economic development. As a major contribution to the research on privatization, the book should be consulted and carefully analyzed by the public in general.

Pedro Aspe Armella

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CHAPTER 1

Theoretical Aspects of Privatization

Any process of privatization requires a framework of clear objectives and a solid theoretical base. To outline the theoretical aspects of privatization, this chapter first analyzes how privatization affects the operation of an enterprise, the structure of the market, the capital market, and income redistribution, inter alia. Next it considers the requirements a privatization process must satisfy and assesses its economic implications in terms of the operational differences between public and private enterprises, and the effect of the process on economic activity.

The behavior and performance of publicly and privately owned enterprises differ for two major reasons that can be broadly categorized as *agent-principal divergence* and *market structure*. The agent-principal problem arises because every organization has a hierarchy of persons with different objectives, each looking out for personal welfare. An agent responsible for overseeing the production process (manager) can behave in ways of little benefit to the principal (owner), which will be reflected in a certain level of inefficiency in both production and the use of inputs. How a private company handles agent-principal problems can vary, depending on whether the company operates within a monopolistic or perfectly competitive[1] market structure. Research does indicate, however, that the incentives for efficiency are generally stronger in a private company than in a public enterprise.

The second reason for differences in performance is market structure, a determining and fundamental factor in business behavior. An enterprise in a competitive environment has stronger incentives to produce efficiently. The enterprise is therefore better able to combat agent-principal problems, as well as other causes of productive inefficiency. In certain cases, companies try to obtain market power, or monopolistic power—the capacity to raise the prices of their goods and services above what they would be in a freely competitive market—by limiting output. Market power is achieved through artificial barriers to the entry of additional enterprises. Such barriers prevent potential competitors from participating in industries in which established sellers are earning supernormal profits, and in most cases are established by a government to benefit public entities. Other factors that can affect the behavior and perfor-

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mance of enterprises to a lesser degree are implicit contracts, "soft" budget constraints, various corporate structures, and investment decisions.

Consequently, before initiating a privatization process, it is crucial to identify the real objectives to be pursued, and to analyze the feasibility of achieving them through the sale of enterprises or by some other method. One objective of public enterprises may be to generate public sector revenue: this should be carefully weighed, as well as the possible redistribution of income and effects on economic growth that privatization might entail. The main objective of privatization should be to increase an enterprise's productive efficiency. This means the enterprise must modify its behavior and performance, as the latter improves social welfare more decisively than seeking to redistribute income or trying to obtain more resources for that purpose.

Likewise, the characteristics of the privatization process must be clearly defined, with emphasis on the requirements that the process must satisfy to achieve its objectives. These requirements include the following: compliance with the legal and regulatory framework; the sales mechanism; the role of the valuation of the enterprise; the selection of the buyer; coordination with complementary policies; the speed of the process; and the use of the proceeds.

Difference in Performance of Public and Private Enterprises

Public or private ownership affects the decisionmaking and management of enterprises from the moment they are established. In operating a public enterprise, the government has different objectives than those of the shareholders in a private company. This leads to variations in such aspects as employment, optimal production technology (the capital-labor ratio used), the control of managers (how the agent-principal problem is handled), production and price levels, as well as other factors related to the entity's performance.

From a theoretical perspective, Pint (1991) points out that for public enterprises, a government's political motivation will limit debate about the costs and benefits of operating the entity, and will introduce other concerns that influence the electorate. Pint classifies these concerns as follows:

a) *Consumer's surplus.*[2] The government can manage the enterprise in such a way that consumers have a larger surplus and greater satisfaction, which is reflected in a favorable vote.

b) *Producer's surplus.*[3] The government can maximize the producer's surplus, which in turn reduces the amount of taxes collected from voters,[4] provided that the increase in the price of the good does not cancel out or exceed the effect of the tax reduction.

c) *Labor force.* The government, by employing labor and providing work,

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wins the votes of employees in its enterprises, who have incentives to vote for their employer. Public enterprise workers therefore believe that if the political party in power changes, the new "owner" could adjust staffing levels, close the enterprise, change the production structure or the technology, or make other changes that would affect them.

According to this, the government will choose a combination of inputs, quantities and prices to maximize its popularity with voters, taking into account the three ways it can influence the electorate. Evaluating the conditions for maximizing the performance of public enterprises reveals that the input ratio (capital/labor) is less than optimal from the viewpoint of productive efficiency, because more manpower than necessary is employed; consequently, the employment level is more than optimal. This situation arises because the government principal assigns an electoral value to public enterprise workers.

In a competitive market,[5] the only difference in the behavior of public and private enterprises is manifested in the input ratios. The public entity's input ratio is less than optimal, so it incurs a higher cost than necessary to produce the same quantity of a good or service it provides. Thus a public entity cannot influence the sales price in a competitive market, because it is competing with enterprises with larger receipts and lower costs (due to more nearly optimal input ratios).

If, in addition, a state-owned enterprise keeps lowering the optimal input ratio to increase its popularity with voters, it will incur losses requiring more bank credit or a higher level of government debt. This leads to the conclusion that private companies operate with more optimal input ratios and are therefore more efficient than public enterprises.

If both entities are monopolistic, there is an additional effect on prices. If a monopoly is enjoyed by a private company, the private principal will behave as a pure monopolist[6] and will maximize producer's surplus at the expense of consumer's surplus. The public entity, on the other hand, taking into account the effect on voters, would offer a larger quantity of the good at a lower price (i.e., it would tend to achieve a more efficient allocative balance). From this it would appear that public enterprises are more efficient in allocating inputs than private companies. But when other factors are considered, such as the type of regulations applicable to private monopolies, it cannot be concluded that one sort of monopoly is better than the other.

Agent-Principal Problems

When a company owner hires a manager, the owner and the manager may differ on how best to implement the production process. Pint's model (1991)

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assumes that the manager is independent of the enterprise, maximizes his own utility function (wages and compensation) and has information about the company's operations and productivity that the owner lacks. In those circumstances, the manager can decrease the entity's profitability. The owner, for his part, will try to draw up a contract that minimizes compensation not directly linked to productivity, thereby encouraging the manager to select the most efficient production process.

When this problem is a factor in the decisionmaking of a private company, the best decision[7] the principal can make is to ensure that production involves an input ratio greater than if the agent-principal problem were not present. Therefore, the tendency would be to use more capital, because in this way the manager will be paid less. If both enterprises are monopolistic, the result described above is intensified (i.e., the private entity sells its product at a higher price than does the public entity). For the same reason as before, the government includes consumer's surplus in its electoral utility function.

Because the control mechanisms are essentially the same for both enterprises, the government principal can choose the same type of contract as the private principal. Sometimes this does not occur, owing to the different objectives, operations and incentives peculiar to each type of enterprise. Incorporating different incentive mechanisms for each model reinforces the view that private companies are more efficient producers than public entities.

For example, the main mechanisms used to control a manager's performance are prices and earnings, which reflect the market performance of products and enterprises. The price signaling mechanism[8] may not work properly for public enterprises, however, because the manager cannot be so effectively controlled, even when an enterprise seeks to produce as efficiently as possible (Lindsay 1976). Moreover, because market price levels change,[9] and assuming that the government principal seeks to maximize a social utility function, this will distort the information that might be received concerning the performance of the manager and the enterprise. As soon as a public entity stops trying to maximize its economic benefits, it loses market signaling power. In contrast, the performance of private companies seeking to maximize economic benefits can be monitored through prices and the stock market, thereby achieving control over the manager.

The function of the government owner is to monitor the manager directly through quality controls, as Lindsay (1976) points out. Nevertheless, as it cannot encompass all the qualities of a good, this type of control is limited, so that the manager neglects those qualities that are not controlled and that prevent him from reducing the entity's production cost. In private organizations, however, the production cost can be interpreted by the owner in such a way that the manager introduces a more efficient production process and avoids

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a decrease in the quality of the product. Thus when market conditions are identical, the quality of the good produced by the public enterprise will tend to be lower because of the lack of incentives[10] and the agent-principal problem, with the result that there is no efficient control mechanism.

Finally, other factors corroborate the conclusion that private companies have stronger incentives that make them operate more efficiently. In private sector enterprises, there are three groups of capital market participants who inhibit the manager's ability to act:

- The enterprise's shareholders, who seek contractual arrangements to maximize their own profits.
- Other investors or agents (managers of companies), who may buy the company's shares and change the existing contractual arrangements.
- The company's creditors, who would seek to modify existing contracts should their interests be affected or the company become bankrupt.

Thus in the private sector, management decisions take account of three possibilities: greater vigilance by shareholders, the acquisition of power by groups outside the company, and bankruptcy. In public enterprises, however, none of these groups is entirely homogeneous (Vickers and Yarrow 1988). Other types of agents are involved in the network of public/government/public enterprise relations, such as the general public, its elected political representatives, and civil servants. Moreover, an agent-principal divergence exists between elected representatives and the general public, as well as between those representatives and managers.

In the case of elected representatives, it seems reasonable to assume that their interest in holding office is very great and that they therefore decide to maximize the probability of being elected. Voters, however, have less ability to control elected politicians; information concerning their performance is very costly and sometimes difficult to obtain, hence the probability of its affecting future election results is very low. Politicians ought to seek efficiency in public entities, but lack incentives to pursue the desired improvement unless it will provide them with a measure of electoral utility.

The activities of civil servants are reviewed by the political appointees reponsible for various government ministries. If the only means of control is the budget, the results will be highly inefficient, since real costs will always be higher than optimum cost. In these circumstances, it can be assumed that with a larger budget, the level of activity will be above the optimum level.

Thus the control structure of government enterprises presents three potential sources of inefficiency in production. First, political objectives may crowd out social and economic objectives. Second, administrative decisions are influenced by political rather than business considerations, leading to er-

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roneous decisions that cause inefficiencies in productive behavior and financial losses. Third, internal inefficiencies in bureaucracies result in imperfect incentive structures throughout the public sector, causing production levels, prices, and intensity in the use of factors of production to deviate from optimum levels.

Implicit Contracts

The treatment and selection of workers and providers of inputs in public enterprises differ from the mechanisms used by private organizations, and generally affect both the decisionmaking of the government owner and the entity's earnings.

Workers usually influence the authorities' decisions through their desire to benefit at the expense of other individuals competing in the labor market. The selection and treatment of suppliers depends on their degree of political influence over the government principal, although in the public sector the most influential supplier may sometimes also be the most efficient. Private companies, on the other hand, generally choose only the supplier who offers the largest quantity at the lowest price.

Public sector workers can affect how their contracts are concluded and the quantity of labor employed by the government, in addition to incorporating certain limitations in the government budget and the way in which public sector resources are obtained. Courant el al. (1979) analyze how government workers can affect the operation and performance of public enterprises, as well as the behavior of the government principal. Their model makes the following assumptions:

a) Individuals work in the public or private sector and access to public sector employment is controlled by a union. All workers maximize their welfare in terms of their private consumption and the production levels of the public entity, in which the latter is measured by the level of government employees.

b) Private sector workers produce consumer goods and the profits from selling such goods are distributed uniformly among them. Assuming that the marginal productivity of labor is constant, then so are wages.

c) The government always has a balanced budget and its revenues are determined by the tax rate and basis of assessment, which is the same for all workers. Thus, government expenditure is the product of the wages paid to public sector workers multiplied by the number of such workers.

d) The basis of assessment is determined using a weighted index of the wages paid in public and private companies.

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Workers are also voters, and those in the public sector will want to increase their number in order to control the vote and obtain the highest possible levels of wages and employment.[11] Despite this tendency, public sector workers will never become a majority, because as their number increases, a point is reached where the income of each begins to decrease, even though workers as a group retain a certain amount of bargaining power (Courant et al. 1979). Nonetheless, to some degree public enterprises operate differently from private companies because public sector workers have political power.

The next step is to take account of the existence of *implicit contracts*. An implicit contract is a complete description (prepared before the situation of an enterprise and the economic environment is known) of the labor services to be provided to the company, including the respective payments to be made to the worker. The wages paid to labor do not exactly correspond to changes in labor productivity, seeing that market behavior is not constant and fluctuations occur that can affect worker productivity.

Thus workers who are risk-averse will negotiate contracts with business owners in which wages are the basic income factor (Azardis and Stiglitz 1983). Incentives based on each worker's marginal productivity become a secondary concern, despite the fact that the position of the company and of the economy might continue to be favorable, suggesting that wage levels are independent of the levels of worker productivity.

Another result is that workers have no incentive to put forth extra effort, especially in times of crisis, if they have sufficient wages to satisfy their basic needs. They therefore decide to decrease their productivity, which again raises an agent-principal problem. Other distortions may also result, such as the preference for holding laid-off workers to contracts that adjust to changes in the economic situation, although these distortions do not significantly affect how such contracts work.

In general, the government could employ a larger number of workers with better wages if the implicit contracts negotiated were more favorable to public sector workers than those negotiated with private workers. The result would be excess employment in the public sector and underemployment in the private sector, relative to the optimum level of employment. This would happen only if the government tries to maximize the probability of being reelected.

Soft Budget Constraints

To analyze the effects of soft budget constraints, one must first define budget constraints. According to Kornai (1986) and Clower (1965), a "hard" budget constraint is a postulate of rational planning that has two properties. First, a decisionmaker usually tries to cover his expenses with the income generated

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by selling his output and/or by earning a return on his assets, while attempting to adjust his expenditure to his available financial resources. Second, the constraint is based not only on the individual's current financial position, but also on his expectations about his future financial condition and when he will make the expenditure.

When a budget constraint is softened, it is known as "soft." Softening occurs when the strict relationship between income and expenditure is relaxed because excess expenditure will generally be covered by the government. In this context, an entrepreneur or business manager who makes expenditure decisions modifies his optimizing behavior if he expects to receive financial assistance and is very likely to receive it. This does not necessarily mean that he stops maximizing his profits, although he may incur expenses greater than his income and suffer sustained losses. This type of financial assistance is a product of his paternalistic relationship with the government.

Kornai (1986) explains that there are various ways of softening a company's budget constraint:

• *Soft subsidies.* These may be defined as amounts granted by the government to increase the difference between the production cost and the sales price of a good. Such subsidies are soft if they are subject to negotiation, pressure or lobbying. They are generally provided by federal or state governments.

• *Soft tax system or taxes.* The tax system is soft if the payment rules are negotiable and are subject to political pressure, regardless of whether tax rates are high or low.

• *Soft credit.* Credit is soft when it does not require the fulfillment of existing credit contracts and when irregular debt service is tolerated with a very strong possibility of renegotiation or extension. Such credit is used to assist firms in serious financial trouble, and it is acknowledged beforehand that there is no real likelihood of repayment. Therefore, the interest rates applicable to the financing are irrelevant in this case as well.

• *Soft administrative prices.* These are charged when the price of the goods traded is not determined in a producer-buyer relationship, but by some bureaucratic agency or institution. Such prices are soft when increased costs affect sales prices without generating losses.

However, there is no "hard" constraint for every "soft" constraint, so that the owner or manager of the company must estimate the degree and possibility of "softness" in a given situation. This can be expected because external assistance is not granted automatically and requires that the manager or owner of the company employ various means to soften his constraint, through political pressure, mutual favors, lobbying and other strategies.

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The existence of soft budget constraints causes various distortions in the behavior of enterprises. For example, much of the effect of prices on the company's decisionmaking is lost. If there is a change in the relative price of inputs and the budget cannot be softened, the company would decide to replace more expensive inputs with relatively cheaper ones, so that more of the cheaper inputs would be purchased and less of the more expensive units, causing an adjustment in the quantity of inputs ordered. The result could change the quality or quantity of the products, or even require introducing technological innovation and development to avoid budget overruns and possible losses.

On the other hand, a soft budget constraint eliminates the necessity of trying to replace inputs, since the increase in expenditure above and beyond the income generated by the sale of the final good will be covered with resources from another institution. Thus a soft budget constraint does not provide the company incentives to maximize its efforts. In addition, the management of the company focuses its attention on seeking resources to soften its constraint. The company's efficiency also suffers, from both the allocative and the productive viewpoints.

The final distortion Kornai (1986) mentions is the creation of excessive demand for inputs. If a manager's objectives include increasing the size of the company by stepping up the volume of production, sales or even the size of the productive plant, he will surely seek the inputs needed to ensure expansion of the business.

Such an expansion can be achieved by buying more machinery, increasing the number of workers, or raising the level of the entity's installed capacity—which means increasing the level of investment, but, above all, taking on more debt. With a "hard" budget constraint, the level of investment would be determined primarily by the budget and secondarily by what it would be reasonable to pay should a loan be required.

Conversely, with a very soft budget constraint, there is no real limit on the demand for inputs or investment, so that investment demand and loan supply are not proportional: many companies undertake large projects with the very real risk of not achieving the expected results. Thus the existence of highly variable soft budget constraints alters the optimizing behavior of expenditure for both individuals and enterprises.

Soft budget constraints—in which the government provides assistance—are paid for through inflation (when the government obtains credit from the central bank), higher interest rates (when the government issues more domestic debt) or higher taxes, which are the three domestic sources of government financing.

The foregoing has implications that can worsen income distribution; it

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also diminishes the effectiveness of economic policy. The effects of a restrictive monetary policy, and enterprises' response to it, are uncertain when there are soft budget constraints, because organizations do not curb their demand even in the face of a serious risk of financial failure. Consequently, trying to reduce demand by reducing liquidity only works when monetary policy is associated with sufficiently hard budget constraints that do not entail a government deficit.

In mixed economies such as Mexico's, the following kinds of organizations may have soft budget constraints:

a) Enterprises owned by federal, state or municipal governments that could be earning profits and that are operated at a loss, either as a result of selling their products at below-market prices or because heavy losses led to their nationalization. A soft budget constraint also results when enterprises have a certain amount of market power and their prices are regulated in such a way that sales prices do not reflect production costs.

b) Organizations that propose public investment projects and deliberately underestimate their costs to win approval, so that the government must eventually allocate more resources.

c) Financially troubled private companies, both large and small, that receive government assistance for long periods of time.

d) Private commercial banks that receive assistance in order to guarantee the investing public's deposits on a permanent basis.

e) Nonprofit institutions that provide services to the public (education, social security, medical care and other nongovernment services). In this case, the institutions that receive assistance are subject to a certain degree of government control.

f) Local governments that obtain varying levels of assistance from the federal government.

g) Various government agencies (departments, secretariats of state) that can negotiate the amount of resources they receive.

There are numerous reasons for granting financial assistance, of course, despite the creation of soft budget constraints. Among these reasons are job protection; protecting domestic production from foreign competition to avoid widespread business failures; attaining redistributive objectives; concern for security and stability; and the social and strategic value of a given activity. While it cannot be denied that the foregoing reasons may have a certain validity, a comparison should be made between the costs of decreased efficiency and the benefits that soft budget constraints might provide. In addition, the possible elimination or establishment of such constraints should be weighed, based on the circumstances in each case.

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Financial and Investment Decisions and the Corporate Structure

The corporate structure also affects the operation of enterprises, as it is the framework that determines the type and number of employees who work in the enterprise, as well as their behavior and the control exercised over them. The type of corporate structure adopted by public and private enterprises differs according to the various types of economic agents, and encompasses different control mechanisms. Moreover, financial performance is much more important in private companies than in public enterprises, and because they have different primary objectives, their investment criteria also differ.

Private companies have only one type of agent, and the owner of the enterprise may be a principal comprising various individuals known as shareholders. In this case, the structure and organization are designed to maximize shareholder profits, while the managers' profits are subject to a system of incentives (necessitated by the agent-principal problem). The objective of the board of directors is to monitor and evaluate managers.

Public enterprises, on the other hand, have a more complex structure because there are three types of agents: elected political representatives, the civil servants they employ, and the managers of public enterprises. The principal is the general public, but it has less control than a board of directors, with the result that public enterprises have fewer incentives to achieve efficient production.

Financial performance plays a central role in private companies; its function is to enhance and create incentives within the company to achieve more efficient production. It also sends a signal to shareholders, providing them with information about the role of the manager as well as the opportunity to intervene if his accomplishments are not satisfactory. Since shareholders seek to maximize the company's financial return, managers, in being evaluated, will obviously try to show that they have lowered costs and are properly supervising the company's employees. This means that shareholders, who are not experts in the sector in which the business operates (because their portfolios are diversified), should be neutral in evaluating their returns, since the company operates in a competitive environment. In this case, the firm's financial return is maximized when costs are low and efficiency is high, so that it is necessary to control managers as effectively as possible and to use and pay optimal amounts for factors and inputs, as failing to exercise such control will drive up the company's production costs.

An analysis based on the findings of Vickers and Yarrow (1988) reveals that if there is only one shareholder/owner and he makes all contracting decisions for the company, contracts will be based on the estimated volume of production, the choice of supplier and the level of the manager's and the principal's access to information. If the owner assumes the costs of performing the contracts and receives all the profits the company earns, he will also

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monitor and evaluate the manager's performance. Not only will the owner conclude favorable contracts, but he will also react immediately to changes in the company's financial position.

In a more complex situation where the share capital is divided among a number of shareholders, a free agent or "parasite shareholder" problem arises, If someone increases his level of supervision and evaluation of the company, he alone will pay the additional costs of doing so, whereas all shareholders will receive a portion of the resulting profits. Because that agent receives only a fraction of the increase in profits (depending on the number of shares he holds), he becomes discouraged and settles for a minimal amount of control and supervision of the company.

Another possible reason for ineffective control is the monitoring technology used; if there are economies of scale in obtaining information, cost conditions can make monitoring activities a natural monopoly. This technology would make it ideal for a single agent to monitor information and review financial performance.

The foregoing suggests that the incentive mechanisms of companies with several shareholders who base their control on the monitoring of financial performance are inadequate. In public enterprises, however, the existence of such a mechanism is an exception, seeing that the same uniformity of interests does not exist, nor are factors present such as the threat of bankruptcy, the existence of an internal control body to provide additional supervision, and a high level of compensation for managers who perform well. This corroborates the fact that the control mechanisms of public and private enterprises are different.

The performance of an enterprise is also affected by the various criteria that private or government principals take into account in making investment decisions. In a private project, the decision to invest is based on a determination of the net present value of the investment project.[12] If this value is positive, it means that the investment project generates acceptable earnings and is profitable; therefore, the private company undertakes the project. In estimating and evaluating the future flows of the project, the company takes into account only those market variables that have an impact on the project itself, without considering the fact that its investment affects other companies.

The decision to undertake an investment project is made differently in the public sector, since the government seeks to maximize a social utility function, which is directly dependent upon consumption and a given rate of social welfare. This involves the use of a discount rate different from the one applied by a private investor. Government investments will be made even when the rate of social welfare exceeds the rate of financial return of the investment project. In this case, the government's rate of return is independent of the market interest rate taken into account by private investors. This is so be-

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cause the government's investment must be analyzed from the viewpoint of society as a whole.

Productive Inefficiency

When a company is not producing at the lowest possible cost, it is usually because workers, in making individual decisions about labor effort,[13] exhibit areas of inertia caused by the agent-principal problem. Thus, Bos (1986) argues that inefficiency is greater in public enterprises than in private companies since, on the one hand, private companies more frequently link income to the level of labor effort and, on the other, the costs of changing the level of labor effort are smaller in private companies than in public enterprises, because the latter's bureaucratic structures drive up such costs. Therefore, a smaller area of inertia is generated for private companies than for public enterprises.[14]

In the case of private companies, three groups of participants seek to reduce areas of labor inertia in order to achieve efficient production: *shareholders; other investors or agents* (managers of other companies); and *creditors*. When their interests are affected, these groups also seek to modify contractual arrangements. Each group exerts pressure differently: the first can supervise the performance of both the company and the manager; the second, by buying the company outright, can make any changes they deem necessary; and the third, if the company is bankrupt, can demand that they be paid the entire amount of the debt contracted.

The impact of these three groups creates pressures that encourage cost-cutting. Such pressures differ from the incentives that influence the action of agents in public enterprises. Analysis of the monitoring carried out by shareholders reveals that financial performance affects the creation of incentives within the company, because it limits the action of the principal agent through the behavior of shareholders.

The possibility of a change in ownership of the company is another factor that encourages private companies to cut costs and become more efficient; it also works as a restraint on agent-principal behavior. The fact that the shares are negotiable encourages efficiency: inadequate performance on the part of the agent causes a decrease in the company's profits, which is reflected in a drop of its share price on the market. When all of the company's shares are sold at a cheaper price, the possibility is greater that the company will be acquired by a single individual as sole (or majority) owner. This "new" owner may stipulate advantageous contractual arrangements, since he will pay the costs of negotiation and supervision and will receive all of the resulting profits, thus eliminating the "parasite shareholder" problem.

In these circumstances, it is unlikely that some shareholders would de-

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cide not to sell their shares in the hope of benefiting from the new shareholders' improvements without costs to themselves. This may happen for several reasons. The minority shareholders of joint stock companies might not be protected against coercive measures employed by the majority owners. Or, shareholders may respond to the possible threat of purchase by another agent of the company (an inefficient manager could prompt a change in ownership through decreases in the price of a company's shares), in addition to protecting themselves with a portfolio of diversified assets.

The above assumes that the buyer of an enterprise will attempt to maximize his income through an increase in the share price, since he would exercise more efficient supervision. However, other factors can lead to the purchase of a company, such as the *earnings* an owner can obtain by increasing the companies he controls and producing a larger quantity of a certain good. He can sell more of the good at a price many times greater than its marginal production cost because he supplies more consumers than his competitors, who supply only a very small segment of the market. The possibility of *lower tax payments* may also be a motive for purchase.

The threat of purchase can prevent managers from pursuing objectives substantially different from those of shareholders, since its effect depends on the relationship between administrative effort and the probability of a change in ownership. If a manager who performs his work efficiently sees that the possibility of a change in ownership is decreasing, he will increase his effort. However, if it seems likely that the company will be sold and that he will lose his job, he will have no incentive to be efficient. This leads to the conclusion that the fact of being able to sell a company's shares, without considering the importance of the relationship between administrative effort and the probability of a change of ownership, does not always lead to an increase in productive efficiency.

The final factor that causes managers to lose control of a company is bankruptcy. We can assume that this occurs when the value of the entity's assets falls below the amount of its outstanding debt. Thus, a limit is placed on the capitalization of the company. In these circumstances, and faced with the possibility of bankruptcy, managers who wish to keep their jobs will have to increase their efforts to ensure that the total market value of the company equals the amount of its debt. The level of incentives created by the threat of bankruptcy will depend on the difference between the expected value of the company and the level of debt, so that the impact will be greater when market conditions are such as to reduce that difference. If the company is facing a period of deep recession or stiff competition, the expected value of the company will be nearer the amount of its debt. Conversely, in situations of expansion and growth, the threat of bankruptcy will play a more limited role.

If shareholders are able to control the level of the company's debt, they

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can use this tool to influence the managers' behavior by modifying the structure of the latter's incentives, forcing them to increase their effort in direct proportion to the level of debt. However, there are two constraints on this method of increasing efficiency within the company. First, if it is overused, it can lead managers to expect that the threat of bankruptcy can be eliminated at any time, regardless of any effort they make. Second, since managers are generally responsible for determining the level of the company's debt, the potential of the threat of bankruptcy to control or motivate is drastically reduced. The threat of bankruptcy is more effective when market values are down owing to depressed demand (decrease in consumption) or fierce competition, although in that case it has virtually no incentive effect in monopolistic private companies (with substantial market power).

Private companies' incentives are based on the fact that private principals maximize their profits within a context that includes the feasibility of selling their shares or the possibility of bankruptcy. Before Mexico began its privatization process, these options were virtually nonexistent in government enterprises. Despite being able to sell its shares in the enterprises it controlled, the government rarely did so, owing to its extensive involvement in the economy. And bankruptcy was an undesirable option for social and political reasons, as the government was committed to reducing unemployment (without taking into account opportunity costs).

Assuming that the government maximizes a social utility function, it can be said that social welfare is the weighted sum of the consumer's surplus and the producer's surplus, but with the greater weight being assigned to the consumer's surplus, owing to the government's redistributive objectives.

Despite this, government ownership has potential advantages over private ownership, related to the possibility of achieving more efficient production. Assuming that the government maximizes a social utility function and that the management monitoring mechanisms operate the same way in both private and public enterprises, the government can use antitrust mechanisms to increase production of a good.

Moreover, the government may have advantages because of the way it obtains information (but only if this process is coordinated by a single institution, which lowers costs considerably), while in a private company, such information is obtained by various specialized agencies that provide a wide range of information at a high cost.

According to Vickers and Yarrow (1988), the inefficiencies of public enterprises are caused by the following:

- Pursuit of objectives other than productive efficiency, such as reducing unemployment, redistributing income or other electoral objectives that increase popularity with voters;

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• Lack of incentives owing to the structure of property rights;
• Lack of competitors in certain markets, which robs public enterprises of the incentive to minimize production costs;
• Levels of bureaucratization and lack of control over agent-principal problems.

Market Structure

The competitive process and its results for both public and private enterprises operate as a natural system of incentives, as they promote productive as well as allocative efficiency. If competition promotes both types of efficiency, it is clearly desirable from the standpoint of social welfare. Nevertheless, restricting the entry of enterprises into a market is partially justified by the existence of economies of scale, although a small number of enterprises confers market power, decreasing allocative efficiency. This raises the following question: What number of enterprises increases social welfare? In other words, what is the best market structure from a social point of view?

According to Bos (1986), the optimum number of enterprises depends on each entity's cost structure (a function of its technology). A cost structure with decreasing returns[15] makes a larger number of enterprises advisable, because it increases the competitiveness and efficiency of market structures in respect of resource allocation. However, not every cost structure with decreasing returns leads to an optimum number of enterprises, since some enterprises have rising costs and cannot reduce their production costs. This prevents them from selling at the same price charged by a company with falling costs since, little by little, their losses will mount. If they continue competing at a technological disadvantage, they will eventually be squeezed out of the market. In these circumstances, only one seller of the good or service will remain in the industry, with total control over the production and the price of the good. Such companies are known as *natural or technological monopolies.*

With this type of market structure, no competitive results[16] are possible unless the government regulates and supervises the market with policies governing price, production and quality. Such control can be achieved in two ways: the government, through transfers to the owner of the enterprise, covers the difference between the monopolistic price[17] charged and the targeted competitive price,[18] and the latter in turn offers a larger quantity of the good or service in order to achieve allocative efficiency. If government transfers are not possible, the owner of the enterprise would incur losses by trying to be more efficient, which is not very likely since he has sufficient market power to earn large profits in his industry.

To gauge the effect of increasing the level of competition and assess the

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possibility of new enterprises entering a market, Vickers and Yarrow (1988) believe that the necessity of choosing between allocative efficiency and economies of scale[19] should be analyzed, to determine whether the unrestricted entry of enterprises into the market (no barriers to entry) could lead to losses in productive efficiency. It is also necessary to study the role of public enterprises in markets that compete with private companies.

If the level of each enterprise's production decreases as the number of enterprises increases, the entry of new companies is good for consumers, since they can buy the good or service in question at a lower price (consumer's surplus increases), but for the producing enterprises it is bad, as their production declines without any reduction in their costs (producer's surplus decreases). Therefore, when there are too many enterprises, the benefit to consumers will be greater than the benefit to producers.

Competition is usually spoken of only in connection with private companies, but government ownership is perfectly compatible with competition, and there are strong incentives for government managers to perform efficiently. A public entity could simply be one more enterprise within the competitive market structure, causing it to behave in the same way as a private organization in such a structure and subjecting it to the same control.

In the opinion of Vickers and Yarrow (1988), a simple case of analyzing the competitive behavior of a private enterprise that maximizes profits, and a public enterprise that maximizes welfare, arises when a public enterprise behaves as a leader. If it can choose the same level of production and profitability that a private company will have at this level of production, it can induce private agents to increase their production. This, together with the production offered by the public enterprise, contributes to greater allocative efficiency and, therefore, a higher level of social welfare. Likewise, with a large number of enterprises, this same result is achieved if the public enterprise ascribes a certain importance to maximizing profits and not to social welfare alone. The foregoing analysis indicates that the existence of a public enterprise allows for better solutions from a social welfare perspective. Unfortunately, influential politicians can seek other objectives such as maximizing their electoral utility, thereby diminishing the effect of competition on the operation of the enterprise.

Alternative Methods of Attaining the Objectives of Privatization

If the government seeks to maximize social welfare, it should evaluate other effects of privatization on the economy, such as the increased market power conferred on certain private agents; the effect on income distribution; government budget issues; economic growth factors; and the long-term viability of

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the industry. The government should consider all of these factors in determining the conditions for evaluation of the advisability and feasibility of the privatization process.

Among the objectives that a government may adopt in carrying out a privatization process are increased productivity, generation of public revenue, the reduction of transfers, greater distribution of ownership, growth of the capital market—all aimed at attaining one primary objective: social welfare. The World Bank emphasizes the necessity of performing a detailed analysis of the advisability of implementing a privatization process, based on its possible effects, in order to identify specific objectives.

Promoting efficiency should be the primary objective, as privatization has a greater effect on economic welfare through increases in efficiency when the latter is chosen as the main goal. Privatization should be used to enhance competition and prevent monopolistic behavior. This objective can be promoted even in sectors originally considered natural monopolies, using special regulations or by dividing up the production and provision of certain goods and services.

Maximizing short-term government revenue should not be the main objective of privatization, as this can lead to situations that would be injurious from an economic viewpoint (although advantageous from the perspective of the state budget), because the increase in government revenue is generally both small and temporary.[20] Consequently, savings on future transfers of fiscal resources are a far more common result than the generation of new resources.

Privatization can aid in the development of capital markets and vice versa, but market development should not be viewed as an objective of privatization. While privatization may increase the number of shareholders and the overall capitalization of markets, serious problems can arise when too many shares flood capital markets in a very short period of time.

A major problem occurs when the absorption capacity of capital markets is small relative to the volume of total or individual sales of shares. This can delay privatization and crowd out new issues of private securities. Moreover, it takes time to establish appropriate institutions and regulations in weak capital markets. When poorly performing enterprises are privatized, the lack of information and effective regulation can lead to a situation in which large investors with inside information take advantage of small investors. This can also put pressure on the government to stop selling or could undermine the credibility of future sales. Therefore, other privatization mechanisms should be adopted when capital markets are weak or insufficiently developed.

Furthermore, most public enterprises are not suitable for offering on stock markets. Many have had poor results,[21] and preparing them for a public sale can require a great deal of time and resources. In addition, selling the shares of a company in need of a thorough restructuring gives rise to the "para-

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site shareholder" problem. Lastly, capital market transactions can involve price discounts of considerable magnitude, which can at times cause political opposition to the privatization process.

Public Financing Requirements

According to the criteria for determining whether to privatize, such a process could not be justified solely based on the public sector's need for financial resources. Seeking to increase government revenue would only be justified if, in lowering taxes or increasing available public resources, the gain in social welfare is greater than all the other effects of privatization.

Based on the foregoing, a pure revenue motive is insufficient reason for undertaking privatization (see also Jones, Tandon and Vogelsang 1990). Indeed, if privatization brings about no change in the operation of enterprises or in the existing prices of goods, the government and the private sector are merely exchanging flows of assets of equal value. The only observed change concerns how assets are received and not the level of assets; hence a positive wealth effect occurs only when privatization produces gains in efficiency and in the level of revenue.[22]

Increases in social welfare owing to an improvement in the level of government revenue are desirable because they allow the government to change the way it obtains resources and minimize the distortions this causes. Financing government deficits with debt and higher taxes leads to a reduction in private consumption and/or private investment. Thus, the exact amount by which social welfare will increase depends on the opportunity cost of the resources used to finance the government deficit, since less investment means less consumption.

Bos and Peters (1988) evaluate the impact of privatization on boosting public revenue and reducing the tax burden on individuals. Their study, which also considers partial privatization (i.e., where government only sells some shares of an enterprise), assesses the optimum level of privatization from the viewpoint of generating revenue. They cite the following findings concerning the relationship between the tax burden and the degree of privatization:

a) Privatization can increase or decrease the tax burden, depending on the sale price of the enterprise's shares and the relationship of the latter to the lost income resulting from the decrease in the owner's profits. Thus, if, for any reason, the price is much less than the actual price of the asset, the direct effect of privatization may be to increase the tax burden and not reduce it, since the government would have been better off keeping the company, even if it meant sacrificing efficiency gains. To prevent this from happening, the increase in the enterprise's profits brought about by privatization and the in-

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crease in efficiency would have to offset the decrease in profits resulting from owning fewer of the enterprise's shares. In any case, the larger the sale price of the shares, the greater will be the reduction in the tax burden.

b) The maximum reduction in the tax burden is not achieved through complete privatization when the price is less than the actual value of the asset. In this case, partial privatization will yield the greatest reduction in the tax burden.

c) The marginal reduction in the tax burden is less than the marginal change in profits.

There are two known sources for financing government expenditure: debt and taxes. The usefulness of both is that they make increased government expenditure possible and they have the capacity to stabilize the economy.[23] In this connection, Rolph (1957) maintains that the composition and size of public debt are optimal when the marginal utility of each type of debt is proportional to its marginal cost and the results can be generalized to include taxes. This assertion implies an ideal proportion of public financing instruments; therefore, reductions in debt and taxes achieved while increasing revenue through privatization should be evaluated in this context.

Income Distribution

Privatization can have effects on the distribution of income through four means: reductions in the tax burden on consumers and producers; net transfers of the resources obtained in selling enterprises; distribution of the enterprises' shares; and changes in consumer and producer surpluses, by changing the ways that privatized enterprises produce goods and determine their prices. In analyzing how privatization can affect income distribution (through reductions in the tax burden or transfers of resources earned directly from the sale of enterprises), Bos and Peters (1988) conclude that complete privatization is not the most efficient redistributive instrument, as it does not maximize the reduction in the tax burden on workers and consumers. Distributing or selling shares of an enterprise to relatives or workers, however, hinders improvements in corporate control of the enterprise. The best way to improve corporate control, then, is to sell the enterprise to an owner with sufficient incentives to benefit from increased productivity and with the economic power to pursue that end.

A distributive objective such as the promotion of equity investment by a large number of shareholders considerably reduces the incentive to adopt appropriate administrative behavior. In countries with developed capital markets, redistribution is more easily pursued, because incentive mechanisms such as the threat of a change in ownership, bankruptcy and an influential financial

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press are present. In countries without these incentives, private management and strong control systems are essential.

When privatization promotes competition, it has a positive effect on income distribution, by increasing consumer surplus. The opposite occurs when enterprises with market power are privatized, as they will tend to transfer some of the consumer's surplus to themselves. With this type of enterprise, the need to impose controls on prices and product quality should be weighed, as well as the possibility of eliminating artificial barriers to entry into an industry. This may increase overall social welfare, in view of the fact that regulation will improve income distribution, although it can sometimes decrease the enterprise's efficiency and its sale prices.

To analyze the effects of privatization on income distribution, Jones, Tandon and Vogelsang (1990) identify four types of agents who demonstrate the various distributive effects of privatization:

• *Citizens* benefit from the funds obtained by the government in the form of reduced taxes, greater consumption of public goods, lower inflation, or other beneficial effects produced by increased government revenue.

• *Direct consumers of the good* are affected, since privatization affects both the price and the quantity and quality of goods offered by the privatized firm.

• *Purchasers of the enterprise* will benefit depending on whether the sales price was lower than the maximum funds available to them to pay for the enterprise. This happens because the maximum funds available to pay will equal the value of the enterprise's discounted flows.

• *Providers of inputs* lose insofar as the enterprise adopts cost-cutting policies that reduce rents, excess profits and other types of benefits. On the other hand, they may benefit from incentive payments, performance-related share distributions, greater productivity, training and other factors that increase their income.

Economic Growth

In general, the theoretical models analyzed here fail to make a clear connection between economic growth and privatization. However, the relationship between the two can be established by assuming that the latter promotes greater efficiency and therefore increases the productivity of the factors of production, labor and capital. In a stationary situation where the supply of capital and labor is constant, privatization generates growth and resources are redistributed in an environment of greater efficiency. This growth terminates when, as a result of the new allocation of resources, the factors of production are used in such a way as to constitute a return to the factors' original marginal productivity.

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The role of public enterprises and the government as promoters of growth assumes that the latter takes account of effects on enterprises and individuals, on public goods, on government expenditure and on other elements that private enterprises would not consider. Because it does weigh these factors, the government can increase the efficiency of aggregate production, which generates greater growth.

The purpose of relating growth to government behavior is to explain growth as a function of the expenditure and output of public enterprises, as it is assumed that some inputs are provided by the public sector. In this context, the results obtained in a market economy are inferior to the results that would be obtained in a planned economy,[24] because individuals take government expenditure and production as givens, when in fact the output of private enterprises affects government expenditure and production. By boosting their output, private enterprises increase the amount of taxes and government expenditure, spurring growth in the economy.

To achieve balance with private producers, it must be assumed that government expenditure is constant, with the result that private enterprises are better and more efficient where there are no distortions in the markets. When characteristics are present in these markets which cause them to function imperfectly, the superiority of private enterprises becomes less clear and government intervention in the economy to eliminate such distortions is justified.

Privatization Models

Objectives of Privatization

In planning a privatization program, the macro and microeconomic objectives should be evaluated thoroughly, since pursuing some objectives may preclude the attainment of others; thus, it is wise not to have too many *a priori* objectives. Some of the possible macroeconomic effects of privatization are related to probable changes in capital markets, income distribution, economic growth and the state budget.

The effect of privatization on capital markets depends on the development and size of those markets, as well as the scope of the privatization process. Although privatization in large, developed markets promotes trade as well as a larger volume of share transactions and higher share prices, liquidity problems can arise in less developed markets, forcing all other enterprises to increase their dividends substantially to attract capital. In extreme cases, this may result in higher interest rates on the market, possibly with recessive tendencies. This may not occur if the increase in government resources leads the

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government to decrease its financing requirements and doing so counters the increased demand for capital among purchasers of public enterprises.

Privatization can affect income distribution in two significant ways.[25] One is microeconomic and results from increases or decreases in consumer's surplus, owing to changes in the maximizing behavior of the owners of enterprises. The other is macroeconomic, in that income distribution is changed as a result of the government's smaller financing requirements and also as a result of privatizations that increase the assets of whole segments of the population, as would be the case in a distribution of an enterprise's shares among a country's households. Achieving positive microeconomic effects through more efficient production and the regulation of companies with market power is highly desirable, provided that the government can do so correctly.

Improving distribution by reducing the government's financing requirements also presents problems. Conflict arises when shares are distributed to broad segments of the population, since with a large number of shareholders, it is difficult to achieve the gains in efficiency and control that are expected as a result of privatization.

The effects on growth are similar to those simulated in growth models seeking to reproduce phenomena involving technological change and increases in the productivity of the factors of production. Thus, privatization can generate economic growth. However, it should be noted that an essential component of many growth models is a state that is active in the economy, and that takes account of effects on enterprises and individuals and other market imperfections that private entrepreneurs and the market would ignore. Consequently, in certain circumstances, government intervention is still desirable. However, there are situations in which its involvement as owner and manager can be scaled back.

Lastly, mention should be made of the effects of privatization on the state budget and the consequences that "healthier" public finances can have on the economy. As indicated above, a decrease in government financing requirements can have positive effects not only on income distribution, but also on inflation, interest rates, investment and government expenditure. Again, it must be stressed that pursuing the single objective of obtaining more revenue can push other effects into the background and have negative consequences, as would occur if antitrust regulations were compromised to secure a higher price for the enterprise.

Coordination with Complementary Policies

There are various types of complementary policies,[26] depending on what problems are to be solved, although they can be reduced to two major types: policies aimed at boosting productive efficiency and policies seeking to increase allocative efficiency.

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Complementary policies are necessary in the area of productive efficiency when it cannot be determined a priori that privatization will have beneficial effects, or, if it will, whether such effects would enhance internal efficiency and management incentives. In fact, as analyzed above, privatization has a clearly negative effect on managers' incentives to increase efficiency. Put another way, managers' incentives would be diminished if their dismissal or the bankruptcy or sale of the enterprise were to become imminent, since they would then believe that greater efficiency would not benefit them personally. Thus, when enterprises have certain special characteristics, privatization is not sufficient to generate increases in productive efficiency. It is therefore desirable to incorporate certain complementary policies that will initially minimize the negative factors that give rise to the possibility of government divestiture, which is the main determinant of management incentives.

Vickers and Yarrow (1988) analyze various incentives and efficiency in public and private enterprises. They find that incentives to cut costs and increase efficiency must be considerably greater in private companies than in public enterprises, so that privatization is desirable from a social standpoint. However, the difference shrinks when a private company loses monopolistic power and is faced with stiff competition.

Research on regulations aimed at increasing allocative efficiency and improving income distribution has focused primarily on regulating companies with market power, both public and private. A company with market power can effect a transfer of some of the consumer's surplus to its own surplus, thus generating allocative inefficiencies and income distribution problems. Moreover, a considerable loss of social welfare is common in such cases. The policies usually suggested are thus aimed at reducing the prices of goods produced by companies with market power. Another possible policy is to distribute the enterprises' shares among the population, in contrast to a small group of shareholders that can quickly boost productive efficiency. A better solution than either of these is to promote market competition, which is also suggested in the case of productive efficiency problems.

The government should estimate the costs and benefits of various complementary policies, decide whether they should be implemented, and then choose among the alternative policies. For example, there are implicit costs of regulation: a private entrepreneur who plans to purchase a public enterprise will be prepared to pay less for it if he knows that its activities will be regulated (Jones, Tandon and Vogelsang 1990). Consequently, both the amount received by the government and the positive effect of privatization owing to increased government revenue will be diminished. Another possible scenario is that the government does not properly regulate the prices or quantities it wishes to control, which can have high social costs.

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Preparatory Measures

In the process of privatizing public enterprises, it is essential that a number of preparatory measures be carried out simultaneously, related to the changes to be made in the structure, performance, debt and other features of enterprises to be privatized. The purpose of these changes is to facilitate the attainment of privatization objectives such as greater efficiency, increased revenue, the promotion of economic growth or income redistribution.

Consequently, the preparatory measures basically have two aims. The first is to facilitate attainment of the objectives of privatization and the second is to simplify the execution and enhance the feasibility of the privatizations. In reality, it is difficult to make this distinction, as measures that facilitate privatization may also promote the attainment of its objectives. Examples of such preparatory measures are the thorough restructuring of public entities, the splitting up of large companies and monopolies into for-profit and non-profit units, the separation of competitive activities from those that are non-competitive, and identifying nonperforming assets that can be sold separately from the rest of the enterprise.

Another possible adjustment relates to the introduction of new managers with attitudes and approaches different from those of previous managers, who would have greater autonomy and be committed to privatization. These new managers guide the enterprise through the transition from public to private enterprise by identifying and eliminating obsolete and unusable components, showing workers and other managers how the enterprise will function when it is private, and demonstrating to buyers the potential benefits of the purchase.

Many public enterprises carry high levels of debt, which means that some will have a negative net present value. Private buyers are unwilling to take over such debts, even if the sales price is discounted by the debt amount, since, to avoid liquidity problems, the buyer will want immediate cash flow to minimize risk and finance new expenditure and investment. The government is then forced to assume enough of the enterprises' liabilities to allow the new owner sufficient capital to protect and increase his investment. The fact that the government assumes the debt greatly facilitates the privatization process, although for heavily indebted enterprises this can take a long time.

In some cases, groups of workers oppose privatization measures because they are generally accompanied by a reduction in the number of workers employed. Because of this, if the state can negotiate with workers and unions, it is better for the government to handle large-scale layoffs and settlements, despite possible delays. This strategy is especially applicable to large enterprises and highly unionized activities, although the new investors may have a better understanding of what labor the enterprise requires. Nevertheless, if

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better results can be achieved in the negotiations if they are conducted by the government, it should undertake them, since it can also design policies to alleviate the social costs of the adjustments through retraining, severance pay and other social security measures.

In certain circumstances, governments sell enterprises without laying off any workers, in order to speed up the process. This strategy may work for fast-growing enterprises that can absorb surplus labor, but in some cases this situation dampens investors' interest in the enterprise and leads to demands for subsidies or concessions to cover the costs, not to mention the fact that promises not to dismiss workers are very difficult to keep.

The decision of whether to make changes in the employment of labor involves several considerations. First, workforce reductions may be necessary to boost efficiency, with or without a change of ownership, for the good of society as a whole. Second, labor opposition may cease when employees understand the costs of prolonged inactivity and realize that the alternative to privatization may be liquidation of the company. Third, in sectors experiencing growth, surplus labor is generally absorbed through new capital investments and a more productive use of existing assets. Fourth, the private sector offers great wage growth potential for those who are not laid off, as it is more likely that wages will be tied to productivity. Fifth, attractive separation packages soften opposition and facilitate the reduction in staffing. If laid-off workers receive larger separation packages than are required by law, they may be so attractive as to induce some workers to resign voluntarily or retire early.[27] Finally, workers can be made part owners, so that they themselves support privatization. Such arrangements can increase productivity, although profit-sharing and bond schemes are usually more powerful mechanisms.

The World Bank has argued that governments should invest neither time nor resources in physical rehabilitation prior to the sale. The reasons are as follows: first, it is difficult for the government to judge markets and make the necessary investments and decisions. Second, governments lack the money to pay for rehabilitation and modernization investments.[28] Third, restructuring can delay the privatization process. The government should also consider how difficult it will be in the sale to recoup the investment it made during the divestiture.

Much has been said about the wholesale privatization of large enterprises, and there are several reasons for it. First, the political opening can appear very briefly, in which case the most difficult cases must be dealt with before the political environment changes and the necessary adjustments can no longer be made. Second, large-scale privatizations lend immediate credibility to political decisions and objectives, sending clear signals of the government's commitment to financial markets and investors. Third, the potential economic and financial benefits can make the risks of large-scale privatization comparatively small.

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The privatization of poorly managed enterprises that provide basic goods and services promotes modernization and growth and removes "bottlenecks" or barriers to private sector development. The privatization of several large enterprises facing losses can also have a significant fiscal impact when all that is needed to reap economic benefits is a large investment that the government cannot and does not have the incentive to make. However, it is also extremely important for a government with no prior privatization experience to start with smaller enterprises, so that if any mistakes are made, the effect on the rest of the economy will be minimal.

Valuation of Enterprises

Valuation has two purposes. The first is related to determining the sales price of the enterprise, and the second consists of assessing the advisability of privatization itself. The sales price should be chosen so as to maximize the increase in social welfare (Jones, Tandon and Vogelsang 1990). Thus, the highest price at which the enterprise can be sold must be ascertained, as well as how its private valuation would change were the government to change certain of its characteristics. In this context, the enterprise's lowest sales price equals its private value, which is calculated as the net present value of the flow of net profits expected under the new owners.

Social welfare is maximized when the sales price is the highest price at which the government can sell, since the enterprise's social value is the same whether it is publicly or privately operated. Thus, all that needs to be known is the maximum price that the private buyer is willing to pay. In these circumstances, there is no change in income level or wealth effect, which means that the government does not exchange the enterprise for more or less than its worth, but simply receives the enterprise's flows of profits in the present rather than in the future. In these circumstances, the sale is socially desirable only if the highest possible price can be obtained from the private sector. If there is any doubt concerning this figure and if the sales procedure is noncompetitive, the possibility of obtaining the maximum price is considerably reduced, as well as the possibility of making the sale at all, as no one stands to win and much can be lost. This is because the privatization of an enterprise in a perfectly competitive market structure and in ideal conditions implies that there are no winners and no losers; in other words, it is a zero sum game.

The analysis changes when the enterprise has a certain amount of market power and the behavior of the owner of the enterprise and its operation change as a result of privatization. In such cases, a situation arises in which it is necessary to choose between productive efficiency and allocative efficiency. In this evaluation we assume that the future monopolist is not regulated, which could entail a loss of consumer welfare since the new owner would base prices

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on the demand for his product, seeking to maximize his producer's surplus. Thus, if the privatized enterprise were to raise prices and significantly reduce production, privatization would have to be coupled with regulation of the monopoly.

Privatization will depress private consumption in two cases. The first arises when large enterprises are privatized and market interest rates rise in consequence, assuming that the funds used for the purchase were obtained in the capital markets. Through a substitution effect caused by higher interest rates, people will cut back on consumption in order to increase their savings. The effect will be greater when the capital market is less developed. The privatization of small enterprises can also be affected when consumers purchase the privatized companies' shares. If private individuals use existing savings, the phenomenon may manifest simply as a portfolio adjustment, wherein one type of savings is exchanged for another, without any impact on consumption. However, when individuals have little or no prior savings, the purchase of shares causes a decrease in consumption. These very low levels of savings may be attributable to a banking system or capital market that is incapable of attracting sufficient resources owing to transaction costs, information problems, or the availability of individual savings.

The preceding analysis would seem to suggest that a very rigorous evaluation is always necessary. In this regard, the World Bank recommends that valuation not be overemphasized, since only in rare cases do technical estimates accurately reflect the market price of assets that have never been traded or sold before, even when the sale occurs in a developed capital market. In less developed countries such as Mexico, valuation is less precise because the macroeconomic and operational environment changes rapidly, financial data are scarce and largely unreliable, there are few comparable enterprises and the market is small.[29] Consequently, overestimating the value of an enterprise, in the sense of exaggerated valuation processes, as well as unrealistic expectations, can lead to serious delays in the privatization process, if not more negative results, such as failure to sell the enterprise at all.

Sales Mechanisms

The selection of the privatization mechanism is closely related to the objectives of privatization. When the primary aim is to boost the enterprise's productive efficiency, the most appropriate sales mechanism is the one that guarantees a system of incentives strong enough to maximize productive efficiency. When stock markets are highly developed, an enterprise can be sold by selling shares, in which case the incentives stem from the threat of a change in corporate ownership, bankruptcy and an influential financial press. Moreover, if privatization is effected through the sale of shares, one of the redistributive

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objectives is achieved inasmuch as the number of shareholders is increased. If, however, none of the above conditions necessary to create incentives is present, the dispersion of ownership can undermine the efficiency gains expected from privatization, because the increase in the number of owners can cause "parasite shareholder" problems and the existence of mechanisms with no incentive power. In such cases, the sales mechanism that best fulfills the social objective is to invite bids from only one individual, a group of individuals or a commercial partnership or corporation, as occurred in Mexico.

If the objective is to develop the capital markets, the ideal procedure is to sell the enterprise's shares in those same capital markets. This objective can lead to complications. In weak or highly volatile capital markets, a limited absorption capacity[30] can delay privatization and crowd out new private share issues. If information and regulation in stock markets are inadequate, the privatization of poorly performing public enterprises can lead to the exploitation of small investors, which leads us to suggest that with weak capital markets, the best option is to sell shares or assets through trading companies, i.e., inviting tenders for the enterprises.

In view of the foregoing, the sales mechanism should also be taken into account in assessing changes in social welfare brought about by privatization, and those elements that are most effective in maximizing social welfare should be selected. This comment is necessary because objectives can often differ radically, giving rise to very different sales mechanisms. Although the objective of increasing productive efficiency can prompt the sale of an enterprise with market power to a single individual, considerations related to income distribution would suggest distributing the shares widely, whereas the existence of weak capital markets would make selling to a few individuals advisable.

Selection of Buyer

The privatizing agent should be concerned about the type of buyer seeking to acquire public enterprises and should not automatically sell to the highest bidder. It is not enough for the government to know *how much* prospective buyers are willing to pay; it should also have an idea of *why* they are willing pay such an amount. In this way, the government will be able to avoid selling to an enterprise that would acquire monopolistic power (Jones, Tandon and Vogelsang 1990).

Moreover, government authorities may wish to select a buyer, because existing private organizations may be willing to pay more than private individuals with no previous experience in the markets. There are numerous reasons why preestablished companies may offer more than a new market participant. When an enterprise enters larger markets, economies of scale may be involved. Thus, an entity may reduce its transaction costs and exposure through

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mergers. The organization can use the enterprise's nontradable assets, such as tax deductions. Diversifying a portfolio of assets can also have positive effects. Finally, the enterprise's income may be increased by acquiring a certain amount of market power.

In addition, the government may have incentives for selection, such as to define the terms and facilitate the sale of the enterprise. In light of these considerations, the criteria for selecting a buyer should be the greatest ability to pay, the highest price, and the most likely to increase the enterprise's efficiency.

Speed of the Process

The speed of a privatization process is crucial to making the most productive use of assets and eliminating the government's administrative and financial burden. Speed is also very important in situations of political instability, as it is a determinant of the success of plans to privatize an enterprise. Thus, the costs of prolonging a sale can include the possible deterioration of the assets to be sold, loss of interest on the part of investors, and opportunities for opponents of the privatization process to gain strength.

Speed in this case is largely determined by the complexity of the privatization process. If the enterprises to be sold are relatively small and operate in competitive sectors, sales are generally rapid and relatively simple, since they involve little advance restructuring and few institutional formalities. Such sales also pose minimal political risk, because the enterprises are more easily acquired by local investors, avoiding the issue of foreign ownership. If large enterprises are to be privatized, the process is more complex and takes more time. The process may be prolonged due to the preparations required, such as the development of competitive environments or regulatory frameworks, sophisticated financial engineering, and restructuring the use of inputs, especially labor.

As indicated in this chapter, evaluations should be comprehensive and should examine the benefits and costs of accelerating the privatization process. For every privatization process, an optimal pace should be determined in order to achieve its specific objectives.

Use of Resources

The privatization of government-controlled enterprises creates a flow of resources into the public sector, and should be viewed as an increase in government revenue. It is reasonable to suppose that such resources will be used for projects with a sizable social component, such as satisfying the population's minimum welfare requirements. Moreover, the social welfare impact will be

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greatest when privatization earnings replace taxes, and government expenditure and investment projects have a larger net present value.

Should the additional resources be used in recurrent expenditure programs, or for nonrecurrent expenditures? Obviously, privatization earnings are nonrecurring—received only once. They cannot be used to finance continuing expenditures, which would put pressure on other government revenue in the future and lead to larger fiscal deficits. Consequently, the income from privatization should be used to *reduce* other sources of recurrent expenditure, primarily government debt.

Endnotes

1. A market structure wherein companies have identical production costs and little or no market power.

2. The difference between what a consumer is willing to pay for each unit consumed and the price actually paid. By this measure of welfare, the consumer will be better off if a lower price is paid for each unit consumed.

3. A measure of the producer's welfare, defined as the difference between the minimum price at which a producer could sell each unit and the price at which he actually sells it.

4. If the producer increases his surplus by raising sales prices, the government can earn more income through its enterprises, which would enable it to lower taxes.

5. Assuming that both types of enterprises take the market price as a given and are forced to sell at the same price.

6. This means that it would be the only seller of a given good or service in a market and that it would determine the sales price of its good based on the demand for it, seeking to maximize its producer's surplus.

7. The decision that obtains the largest amount of income or growth relative to the quantity of resources used for that purpose, and that maximizes profit and minimizes expenditure.

8. Refers to the function that the pricing system has in a market economy in terms of providing and transmitting information.

9. Setting the price of a good or service at one lower than the market price or else eliminating the price in order to offer the good or service free of charge.

10. There is no incentive to monitor quality, because if the quality of a free or very cheap good decreases, the demand for it does not necessarily decline, and also because increasing the quality of a free good—and, consequently, its production cost—

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does not always entail an increase in the price. Quality does not need to be monitored, then, unless it has an impact on the economic benefit.

11. Considering themselves more affected by government decisions, public sector workers have greater incentives to vote. This, together with a greater uniformity of interests, leads them to organize for that purpose.

12. To determine the net present value of an investment project, all future net flows (income minus costs) must be comparable. Therefore, such future flows are discounted in the present at the applicable interest rate.

13. The relationship between the amount of labor effort supplied and all of the variables that determine it, including the level of wages.

14. In some work areas, individuals can vary their effort within certain ranges without causing a corresponding adjustment in the terms of their employment. This gives rise to a certain level of labor inertia, because there are no perfect supervisory mechanisms.

15. These occur when an increase (or decrease) of a certain size in all inputs increases production by a larger (or smaller) proportion. Inputs can be more productive, depending on the type of technology used to produce them.

16. Reference is made to an equilibrium price and an equilibrium quantity in a competitive situation. The quantity obtained in the exchange reflects the value that the consumer associates with those units of the good or service that equal its production cost. The price at which the exchange occurs simultaneously reflects the value attached by society to the quantity exchanged and the cost of producing it. The competitive price is less than the monopolistic price and the competitive quantity traded is greater than the monopolistic quantity traded. As competitive results are approached, market structures are more efficient.

17. The price charged by a monopoly to sell a good or service.

18. The sales price charged by a company in competition.

19. Economies of scale exist when a company's average production cost in the long term decreases as the level of production increases. In the long term, all inputs to production can vary: the plant can be expanded to determine optimum size, lowest cost and highest productive level.

20. In Mexico in particular, the amount of resources generated through privatization was significant; even so, they were temporary.

21. Mexico's *Comisión Nacional de Valores* (National Securities Commission) establishes as an essential requirement for listing shares on the Mexican Securities Exchange that the listing enterprise's financial statements show positive results for the last three fiscal years.

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22. Greater efficiency generates a positive wealth effect, because a given amount of available resources permanently increases income flows.

23. The government's decision on how to finance its expenditure (with taxes or with monetary and nonmonetary debt) should focus on ensuring that the pattern of revenue flows is as stable as possible, in a context of price and real interest rate stability.

24. Wherein the state decides how resources will be allocated, what type of goods and how many of them will be produced.

25. This aspect was discussed in detail in the section on income distribution in this same chapter.

26. No detailed description is given of the types of regulations nor of other types of complementary policies, as doing so would exceed the scope of this chapter and make this a book of industrial regulations and not one on privatization.

27. However, these can entail such high transition costs that they become serious obstacles to privatization.

28. Indeed, this is one of the main reasons for privatizing.

29. In countries with less developed capital markets, the stock market is a poor indicator for valuing enterprises to be privatized, due to the small number of enterprises with shares traded on the market, low levels of capitalization, and the difficulty of selling shares. In Mexico in particular, various valuation methods were used simultaneously to determine a single minimum reference value.

30. Refers to a small volume of financial resources as a percentage of the total financial resources used to acquire shares.

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CHAPTER 2

Formation of the Public Enterprise Sector in Mexico

The government reforms undertaken in early 1983 and accelerated in 1988 were essential to Mexico's economic and social policy. One aim of these reforms was that government would relinquish the role of owner/manager of enterprises and agencies, and concentrate on the regulation of economic activity, in keeping with the spirit of Mexico's Constitution of 1917. Another aim was to provide economic agents, mainly in the private sector, with incentives to achieve efficient resource allocation and consequently higher levels of economic development, in a context of price stability and sustainable economic growth.

A key aspect of modernizing the state has been the divestiture of government-owned enterprises and agencies. Through this process, Mexico's state-owned enterprises were reduced from 1,155 enterprises and agencies (in 1982), to 219 by early 1994. To understand the scope of these divestitures, one must review the historical development of Mexico's public enterprise sector and the reasons why government grew to such proportions.

Role of the State and Public Sector in Previous Development Models

Government decisions led to the growth of public enterprises, of course, as well as to subsequent government reforms. Both movements are nonetheless closely connected with the national and international context of Mexico's economic history. The growth of Mexican public enterprises between 1917 and 1982 clearly indicates the major role of the state and public sector in Mexico's economic development model.

Of course, both government economic policy and the role of public enterprise evolved according to the specific circumstances of the Mexican economy and its global relations. The period from 1917 to 1982 can be divided into four stages that mark the beginning and end of substantial changes in Mexico's economic policy.

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1917–1940: Legal and Regulatory Framework

The origin of the state's involvement in the economy lies in the Political Constitution of 1917, Articles 27 and 28, which recognize the state's role in economic matters, primarily as the regulator and promoter of economic activity. During the crisis after the revolutionary period, the Mexican government placed high priority on creating an institutional and regulatory framework, primarily for the financial system, to facilitate and promote economic development. The government also created institutions and enterprises to provide the basic infrastructure for the development of the economy, in order to establish the conditions for market transactions and growth, promote specialization in the use of resources, and reduce transaction costs.

A key element in defining the activities of economic institutions is a legal framework, which directly affects efficiency in production factors. The legal framework comprises three parts, the first being property rights, which enable economic agents to retain the income they earn from their economic activity. The second part sets conditions for the participation and exclusion of economic agents in the various markets; and the third establishes rules that contribute to the creation and development of markets.[1] In developing countries, institutional problems can be a significant barrier to growth. An important objective of economic development policy, therefore, is to create and improve the regulatory framework and the quality of institutions, as both are pivotal in determining the income level and the welfare of the population.

The first financial institution created was the Bank of Mexico, which became the country's highest financial and monetary authority. Because its primary objective was to regulate currency in circulation, the currency exchange rate, and interest rates, the Bank of Mexico was given responsibility for issuing banknotes and regulating the financial system. This bank was also intended to provide the economy with a stable macroeconomic environment. Although the Political Constitution of 1917 mentioned the creation of a single bank of issue, it was not until 1925 that the government had sufficient resources to supply the Bank of Mexico's initial capital.[2]

To promote economic development, the government also created four development banking institutions, three of which have a sectoral focus. The first was the *Banco de Crédito Agrícola*, founded in 1926. Its objective was to grant loans for farm equipment, parts and real estate, as well as to promote, regulate and monitor the operation of *sociedades regionales y locales de crédito* (local and regional credit associations). These were responsible for providing small farmers with access to credit, as well as "contracting the construction or management of permanent land improvement projects and, on behalf of their members, purchasing, selling, and leasing (as applicable) fertilizers, seeds, posts, equipment, livestock, tools, machinery and other imple-

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ments needed for farming."[3] Thus, in addition to channeling resources to the agricultural sector (the sector most affected by the armed movement of the Revolution), this bank was to ensure that the resources were used efficiently.

The second development bank, founded in 1933 by the government, was the *Banco Nacional Hipotecario, Urbano y de Obras Públicas* (mortgage, urban, and public works bank). This bank was intended to provide states and municipalities with infrastructure works and urban equipment for economic activity. Emphasis was placed on reducing transportation costs and integrating the various regions of the country, which was also the objective of the *Comisión de Caminos* (road commission) created in 1925.

The third bank, *Nacional Financiera*, founded in 1934, was to grant credit and assistance to the national industrial sector. This bank and subsequent public enterprises were established to counter Mexico's economic crisis during the late 1920s and early 1930s. In the 1920s the Mexican economy was characterized by a relatively high degree of commercial openness, and merchandise exports were an important part of aggregate demand. Upon entering the world economy in the recessionary period that began in 1929, Mexican exports contracted significantly, leading to a slowdown in domestic economic activity. In reaction, the monetary authorities decreased the money supply.[4] This policy deepened the recession, a situation that was not resolved until 1932 when the Organic Law of the Bank of Mexico was amended and monetary policy became more expansionary.[5]

As in other countries, the Great Depression provided a strong argument for more aggressive government intervention in Mexico's economy.[6] Facing an economic slowdown in the early 1930s, the Cárdenas government based its economic policy on three major principles: direct government control of natural resources and strategic industries, increased public expenditure, and the creation of new productive and social infrastructures.[7]

In terms of state control and increased expenditure, two government actions stand out. The first was the expropriation of oil and of 17 foreign oil companies in March 1938, leading to the founding of *Petróleos Mexicanos*. The second was the creation of *Ferrocarriles Nacionales de México* (Mexican national railroad), unifying the various railway lines built since the "*porfiriato*" (presidency of Porfirio Diaz, 1876-1911) and placing them under government control.

Federal government spending tended to expand overall, rising from 6.8 percent of GDP in 1934 to 8.1 percent in 1940. This increase hardly affected the balance of government finances, however. Although the government achieved a surplus of 0.8 percent of GDP in 1934, subsequent years brought a deficit, which peaked at 1.6 percent of GDP in 1938, due to payments connected to oil expropriations.

Finally, regarding creation of the institutions and infrastructure neces-

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sary for national development, the government founded the *Banco Nacional de Comercio Exterior* (foreign trade bank) in 1937 to provide technical assistance and financing for industrial and commercial operations related to foreign trade (exports for the most part).

In the area of infrastructure works, the *Comisión Federal de Electricidad* (federal electricity commission) was founded in 1937 during the administration of President Cárdenas. The government's investment in this area rose from 2.5 percent of GDP in 1934 to 3.7 percent of GDP in 1940, with the majority of such investment going to infrastructure for the agricultural and transportation sectors.

During the initial post-revolutionary period, the government created institutions to provide a foundation for national development. By the latter half of the 1930s, however, the government had assumed a more active role, by creating 36 government-controlled enterprises, 15 from 1920 to 1934 and 21 from 1935 to 1940.

1941–1954: The War Period

Mexico's economy during this period was strongly influenced by the Second World War and the Korean War. The world war that began in 1939 and involved the United States by late 1941 significantly changed the Mexican economy. First, with industrial activity in the United States and elsewhere focused on the war effort, Mexico's industrial sector benefited from the increased protection naturally afforded by the war, marking the inception of import substitution, a policy later adopted explicitly by the government.

Second, the Mexican economy received a significant inflow of capital, which was initially sterilized[8] by the Bank of Mexico and then, from 1943, used to finance public expenditure. Due mainly to protection from external competition during the Second World War, together with the capital inflow, Mexico's economic growth averaged 6 percent for the period 1941–45.

During those years the government supplied private sector enterprises (engaged in producing durable and nondurable consumer goods) with a relatively stable and secure flow of intermediate inputs and capital. This led to a process of creating enterprises—especially capital-intensive enterprises—that required sizable investments and relatively long lead times that discouraged private sector involvement.[9] The result was the founding of *Altos Hornos de México* (blast furnaces) (1942), *Guanos y Fertilizantes* (fertilizer) (1943) and *Sosa Texcoco* (soda) (1944). Moreover, the government continued to expand state-controlled institutional and social security entities, including the *Instituto Mexicano del Seguro Social* (social security) (1942) and the *Instituto Nacional de Cardiologia* (cardiology) (1943).

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At the war's end, the protection afforded national industry disappeared, and the government explicitly adopted a protectionist policy based on import substitution. Moreover, capital began leaving the country, putting pressure on the exchange rate and leading to a currency devaluation in 1946. At this point the government began to intervene more in the economy, establishing a legal basis for action with the 1946 Law of Executive Authority in Economic Matters *(Ley de Atribuciones del Ejecutivo en Materia Económica)*. This law gave the federal executive branch broad discretionary powers in the management of economic policy, ranging from price controls and raising barriers to foreign trade, on the one hand, to creating public enterprises, on the other.

The Korean War in the early 1950s recreated, to a lesser degree, the conditions of the Second World War—greater natural protection because of the war and new capital inflows—that promoted economic growth. At war's end, however, Mexico had to contend once more with diminished external demand and a loss of international reserves. Merchandise exports decreased, and the foreign capital that in 1950–51 had entered the country, left again. In response to a deteriorating balance of payments and the need to stimulate the economy, the government adopted a series of trade policy measures aimed at promoting exports and curbing imports. In February 1954, import tariffs were increased, and in April 1954, the currency was devalued.

In addition to taking a tougher protectionist stance, the state continued to increase its participation in the economy, creating enterprises (no longer necessarily considered strategic or high priority) such as *Ayotla Textil*, *Industria Petroquímica Nacional, Diesel Nacional, Constructora Nacional de Carros de Ferrocarril* and *Compañía Industrial de Atenquique*. By the end of 1954, the Mexican public enterprise sector comprised 144 enterprises and agencies, an increase of 108 since 1940.

1955–1970: Stabilizing Development

After the devaluation in 1954 and in subsequent years, the Mexican economy entered a stage known as "stabilizing development," characterized by high economic growth rates and low inflation rates. During this period, which lasted until 1970, national industry became the engine of economic growth and received broad support and a full complement of subsidies from the government, including tariff protection, tax and financial subsidies, as well as subsidies covering the prices of goods and services provided by the public enterprise sector, primarily in the energy field. However, protection of the industrial sector also created a bias against other sectors (mainly those producing primary goods) and against exports, both primary and industrial.

The bias against the primary sector originated in the protection afforded

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the industrial sector and acted simultaneously as a tax on the former's output. Consequently, adjusting relative prices to benefit the industrial sector (at the expense of the primary sector) promoted the reallocation of resources toward production of industrial goods. Thus the resources used in production of primary goods and in mining were diverted to the industrial sector, thereby decreasing production of the former.

Protection of the industrial sector also drove up the unit costs of domestic production until Mexico's industrial enterprises were unable to compete on the international markets. Thus, protectionism created an anti-export bias, so that the only market available to the industrial sector was the domestic market. Ultimately, then, the adoption of an industrial import substitution policy reduced both imports and exports, resulting in a more closed economy.

From a macroeconomic viewpoint, beginning in 1995 and to a larger extent in 1959, economic policy focused on maintaining a fiscal deficit which, because it could be financed without excessive reliance on Bank of Mexico credit, resulted in low, stable inflation rates (a prerequisite for achieving high rates of economic growth). Table 2.1 shows the public sector deficit as a percentage of GDP, the real GDP growth rate and the annual inflation rate for the period 1954–1970.

For most of this period, the public sector deficit was less than 1 percent of GDP. Financing this fiscal policy (primarily through nonmonetary domestic debt) led to a low rate of inflation close to levels experienced abroad, making it possible to adopt a fixed exchange rate. The relatively high degree of macroeconomic stability and the certainty generated by the low inflation rate and the fixed exchange rate facilitated high rates of economic growth, with an annual average for the entire period of 7 percent.

The development policy was based on promotion of the industrial sector through the protection from foreign competition afforded by "import substitution" and domestic subsidies (tax, financial, and covering the price of inputs produced by the public enterprise sector). Although it generated a certain degree of stability, this policy led to inefficient resource allocation that reflected neither the economy's comparative advantages on the international market nor its stock of factors of production (with a relative abundance of labor and a shortage of capital).

Moreover, promotion of the industrial sector under the import substitution policy created a bias against other productive sectors (chiefly agriculture and mining), and against several basic manufactures. These three sectors are naturally labor-intensive employers. After being penalized by the import substitution policy and experiencing relative (or absolute) contraction, they reduced their use of factors, primarily labor, which then sought employment in the industrial sector. Meanwhile this same import substitution policy encouraged industrial sector enterprises to use capital-intensive production tech-

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Table 2.1 Major Macroeconomic Variables, 1954–1970

Year	Public deficit*	Net credit to govt. from Bank of Mexico*	Real GDP growth	Inflation**
1954	1.0	4.9	10.0	10.8
1955	0.3	16.1	8.5	12.3
1956	0.4	4.8	6.8	7.0
1957	0.8	5.8	7.6	6.8
1958	0.7	11.5	5.3	5.5
1959	0.6	2.5	3.0	4.0
1960	0.8	4.9	8.1	4.9
1961	0.7	1.7	4.9	3.4
1962	0.4	1.1	4.7	3.0
1963	1.3	0.7	8.0	3.1
1964	0.8	2.2	11.7	5.6
1965	0.8	3.6	6.5	2.3
1966	1.1	4.3	6.9	4.0
1967	2.1	2.9	6.3	2.9
1968	1.9	1.4	8.1	2.4
1969	2.0	3.5	6.3	3.9
1970	3.4	5.0	6.9	4.5

* As a percentage of GDP.
** Annual average inflation.
Source: Bank of Mexico.

niques and cut back on use of labor, with the result that not enough jobs were created to absorb workers laid off in other sectors.[10]

The industrial promotion policy made private investment the engine of growth in the industrial sector and of the economy in general in the 1960s. However, as the industrial sector grew, opportunities for exploiting new alternatives shrank, gradually weakening the energizing effect of the import substitution policy. This loss of effectiveness, together with the bias against the primary production sectors, forced the government to expand its role in the economy toward the end of the decade.

On the one hand, subsidies to the private sector were increased by reducing the relative prices of the major goods and services produced by the public enterprise sector (particularly electricity, gasoline, other petroleum derivatives and railway transportation). On the other, the government began taking over failed enterprises to protect jobs (with dire consequences for the future).

Initially this policy was not a significant source of fiscal pressure, given that total public sector expenditure was kept largely under control. The diminishing income from the sale of goods, however, led to a shift in other public expenditure categories, especially infrastructure investment projects. This set the stage for a significant deterioration of government finances in the 1970s.[11]

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During this period, the government began creating various enterprises and development funds to transfer resources to various sectors, especially those experiencing problems due to the import substitution policy. Of these, special mention should be made of *Compañía Nacional de Subsistencias Populares (CONASUPO)*, *Instituto Mexicano del Café* and *Financial Nacional Azucarera*. Also during this period, the government created enterprises to provide goods and services, such as *Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (ISSSTE)*, *Aeropuertos y Servicios Auxiliares*, *Instituto Mexicano del Petróleo*, and *Siderúrgica Lázaro Cárdenas–Las Truchas*. By the end of the decade, the public enterprise sector comprised 272 enterprises and agencies, an increase of 128 since 1954.

In short, during the final years of the 1960s, despite significant economic growth and a rise in real wages in urban areas, the gradual ineffectiveness of the import substitution model created an environment conducive to greater government intervention in the economy. The government assumed a larger role both as a producer of goods and services and through an expanding series of regulations, which in most cases distorted relative prices and resource allocation in the economy.

1971–1982: Expansion of the Public Sector

Despite clear signs that the substitution model adopted in the 1940s and pursued more energetically in the 1960s was losing effectiveness, the government failed to implement policies that would have had long-term effects, such as eliminating distortions by adjusting relative prices, opening up the economy and encouraging domestic enterprises to become more efficient by exposing them to foreign competition. Instead, it decided to step up its participation in the economy through increased federal government spending and a larger role for the public enterprise sector, gradually excluding the private sector from economic activity in various areas. Thus, as the Director of the Bank of Mexico affirmed in 1992:

> ...the erroneous aspects of "stabilizing development" were constantly repeated, while the right thing was never done. In fact, protectionism continued to gain ground, except for brief lapses, as did state intervention in industry and, in general, excessive regulation. Moreover, in certain stages, political rhetoric became hostile to foreign investment and, in some cases, even to private domestic investment. As investment by private individuals grew increasingly risky, entrepreneurs asked the government for every sort of protection and the government, paradoxically, usually gave it to them.[12]

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Table 2.2 Major Macroeconomic Variables, 1971–1982

Year	Real GDP growth	Inflation*	Public deficit	Private investment	Public investment
			(as percent of GDP)		
1971	4.2	5.4	2.3	15.6	4.6
1972	8.5	5.0	4.5	14.4	5.9
1973	8.4	12.0	6.3	14.2	7.2
1974	6.1	23.7	6.7	16.0	7.2
1975	5.6	15.1	9.3	15.0	8.7
1976	4.2	15.8	9.1	14.4	7.9
1977	3.5	28.9	6.3	15.2	7.6
1978	8.3	17.5	6.2	14.8	8.7
1979	9.2	18.2	7.1	16.2	9.8
1980	8.3	26.3	7.5	17.5	9.6
1981	8.0	28.0	14.1	14.4	12.9
1982	–0.6	58.9	16.9	12.4	10.2

* Annual average inflation.

Sources: Bank of Mexico, INEGI (National Institute for Statistics, Geography, and Information Science).

From a macroeconomic viewpoint, following the slight adjustment of government finances to correct the external current account deficit of nearly $1 billion[13] recorded in 1971, which also contributed to a lower economic growth rate, public sector expenditure took an upward turn in 1972. However, this increase in spending was not accompanied by a similar increase in revenue, so that the public deficit gradually swelled. Financing the deficit with debt, both domestic and external, as well as with credit from the Bank of Mexico, led initially to a shift in private investment and finally to higher inflation rates. In this context, the distortions in relative prices generated during the "stabilizing development" period grew worse, and exacerbated problems associated with the import substitution policy.

To promote economic growth, between 1971 and 1976 the government increased public spending from 24.8 percent to 37.9 percent of GDP, which widened the deficit. Expenditures in the public enterprise sector during that time rose from 13.4 percent to 17.8 percent of GDP, reflecting the larger number of enterprises and agencies as well as the expansion of subsidies granted to the private sector through the lower relative prices of goods and services produced by that sector. Table 2.2 shows some of the most relevant variables for the period in question.

As for the size of the public enterprise sector, during the period 1971–76, the total number of entities created or acquired was 232. Three extremely important aspects of the expansion of the public enterprise sector should be mentioned. The first concerns the very short-term view of the enterprises' functions and the lack of a development policy capable of responding to non-

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recurring political or social situations. The second aspect, which is closely related to the first, is that the public enterprise sector was expanded without performing any social evaluation of the project and without considering profitability and economic efficiency criteria.

Lastly, during this period, the government renewed its decision to rescue enterprises that were experiencing financial problems, as their failure would be reflected in unemployment. This was clearly a very shortsighted decision, since, on the one hand, if unemployment had resulted from the bankruptcy of such enterprises, it would have been only temporary, as investments would have been made in high-priority activities that would have required human resources. On the other hand, rescuing enterprises and including them in the public enterprise sector failed to correct the structural problems that led to bankruptcy in the first place, so that it was continually necessary to inject tax revenue, thus widening the public sector deficit.

An example of the foregoing is *Aeronaves de México*. While under government management, it drained more than $2 billion from the public coffers (equivalent to the construction of 240 hospitals or more than 3,000 km of highways) while providing service to less than 4 percent of the population. The 12,000 jobs that were saved could have been converted to employment in other activities such as the construction of infrastructure projects, which would have yielded greater benefits without entailing such enormous fiscal losses.

Meanwhile, the growing distortions caused by higher inflation and the public sector's greater financing requirements made it more difficult for the private sector to create new jobs. The government's deficit policy and rising levels of protectionism further magnified the distortions in relative prices. The economy remained at high levels, but investment became less productive, so that ever larger investments were needed to sustain the same level of economic growth. Moreover, the expansionary fiscal policy was reflected in growing external current account deficits, higher levels of external indebtedness and, finally, adjustment of the exchange rate in 1976.

The financial disorder that characterized public sector activity in the first half of the 1970s worsened significantly in subsequent years. For two years after the 1976 devaluation, the government tried halfheartedly to adjust its finances and managed to reduce the public sector financial deficit from 9.1 percent of GDP in 1976 to 6.2 percent in 1978. However, the discovery and working of large oil deposits in a context of rising real oil prices led the government to abandon fiscal discipline entirely.

Believing that oil wealth could eliminate every fiscal constraint, the government greatly expanded its involvement in the economy. The tax and financial subsidies granted to the private sector through the public enterprise sector were considerably increased. Thus, in 1980, federal government transfers and subsidies to the public enterprise sector represented 8.4 percent of GDP

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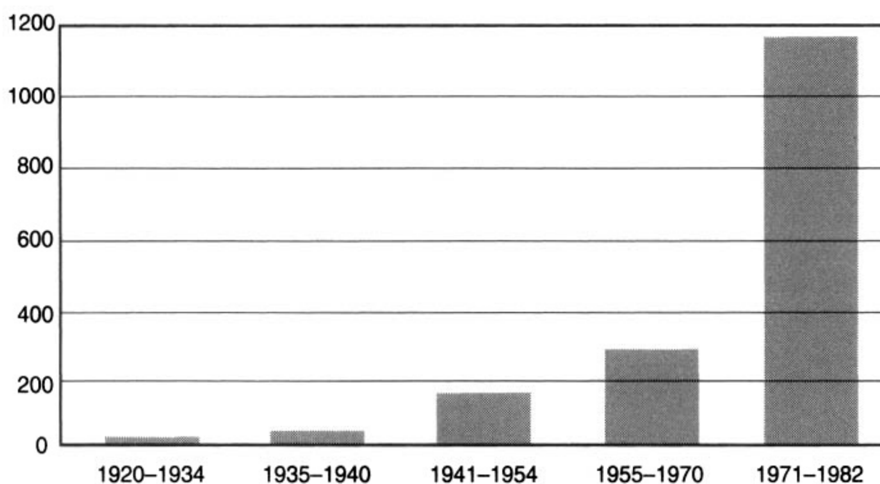
Figure 2.1 Public Sector Enterprises and Agencies, 1920–1982



and 24.3 percent of total public sector spending, while in 1982 these percentages climbed to 12.7 percent and 26.9 percent, respectively, with the public enterprise sector deficit representing 75.1 percent of the public sector financial deficit in 1982 (see Figure 2.1).

Moreover, the number of public enterprises grew to unprecedented proportions, rivaled only by nations that had abruptly introduced socialist systems, such as the countries of Eastern Europe after the Second World War, Chile under Salvador Allende, and Cuba.

From 1976–1982, the number of public sector enterprises and agencies was increased by 651, bringing the total to 1,155. In addition, the government attempted to rescue enterprises with financial problems and establish development funds for nearly every productive sector, until finally, in 1982, it expropriated private banking institutions. These policies and actions resulted in a vast, highly dispersed state apparatus whose scarce resources prevented it from attending to the requirements of strategic and priority areas and the population's basic needs.

At the end of 1982, state owned enterprises focused mainly on the development of basic infrastructure and the production of capital goods and intermediate inputs for domestic industry. In many sectors (oil, petrochemicals, steel, sugar, communications, transportation), public enterprises constituted giant monopolies or held a very sizable share of the market. The state also participated to a lesser extent in the production of both basic and nonessential consumer goods.

By 1982 the expansionary fiscal policy had resulted in a public sector financial deficit equivalent to 16.9 percent of GDP in 1982 (primarily due to a

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public enterprise sector deficit of 8.9 percent of GDP—*before* transfers and subsidies from the federal government). This policy also led to the unrestricted growth of public external debt that year to $58.1 billion (29.8 percent of GDP), repeated and constant devaluations, and annualized monthly inflation in January 1983 of 245 percent.[14] Moreover, the performance of the economy and the economic policy pursued in 1982 culminated in expropriation of the private banking system, which led the economy into one of the most critical stages of its recent history.

The impossibility of achieving sustained economic growth and increasing the welfare of the population in an unstable macroeconomic environment, aggravated by significant distortions in resource allocation, led the government of President Miguel de la Madrid to initiate a drastic change in economic policy. Reform of the state was essential to revitalize the economy. Thus, in 1985, a program was launched to privatize public sector enterprises, a process that was expanded and deepened significantly at the end of 1988.

Endnotes

1. North 1993.

2. Cavazos 1976.

3. Krauze 1981.

4. The amount of money in circulation decreased 60 percent between December 1930 and December 1931, causing a 14.9 percent drop in real GDP in 1932.

5. Cavazos 1976, Katz 1990.

6. The idea that the state should take a more active role in the economy was prompted not only by the domestic recession but also by the growing worldwide acceptance of Keynesian theory, which viewed government spending as an important source of economic growth.

7. Aspe Armella 1993.

8. 'Sterilization' occurs when a change in the central bank's international assets is partially or wholly offset by a reduction in other bank assets, primarily domestic financing, thus preventing an increase in international assets from causing an increase in base money and the money supply.

9. The fact that the private sector chose not to invest in sectors that produced capital goods was due not to their lack of profitability but rather to a structural problem in the Mexican economy. Because the Mexican financial system was relatively new, the quantity of financial resources as a percentage of GDP was relatively small, so that the

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financial resources needed to finance such projects did not exist. Moreover, because of the war, turning to the international capital market was out of the question. Finally, the uncertainty generated by the war as well as the inflationary experiences of the final two years of the 1940s made the private sector unwilling to invest in projects with long lead times.

10. In addition, protection of the industrial sector from foreign competition created an anti-export bias in the economy, with the result that the only market available to enterprises in the domestic industrial sector was the domestic market.

Because this market was relatively small (considering the levels of per-capita income and the uneven distribution thereof), the potential expansion of the industrial sector was extremely limited and, therefore, so was its capacity for growth and job creation. For a more thorough analysis of the impact of the import substitution policy on sectoral development and the use of factors of production, see *Mexico's Path from Stability to Inflation*, by Francisco Gil Díaz (1984) and *El sistema financiero mexicano, motor de desarrollo económico*, by Isaac Katz (1993).

11. Gil Díaz 1984.

12. Remarks of Miguel Mancera, Director of the Bank of Mexico, on receiving the King Juan Carlos Prize in Madrid, Spain, November 30, 1992.

13. All dollar figures in the text refer to US dollars.

14. Calculations based on information from the *Annual Report of the Bank of Mexico*.

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CHAPTER 3

Profile of Mexico's Public Enterprises Before Privatization

The historical framework in which the Mexican state evolved helps to explain the development of its public sector. After reviewing that framework, this chapter analyzes the economic performance of the public enterprise sector in the period preceding the start of structural changes and macroeconomic adjustment in the Mexican economy. The analysis emphasizes both microeconomic aspects (efficiency in resource allocation and the comparative productivity of public and private enterprises) and macroeconomic aspects. The latter include, in particular, the fiscal pressure that public sector operations exerted on government finance and, consequently, on macroeconomic variables such as primary credit of the Bank of Mexico, inflation, and the exchange rate.

Throughout Mexico's economic history, regulations governing the productive sector have allowed the state to intervene in markets not only as a regulatory agent, but also as a direct participant in producing goods and services. These regulations granted certain privileges to public enterprises at the expense of private enterprises in those sectors where both were active. In many cases, government involvement in the provision of goods and services was unregulated; in other cases, regulations were adapted to ensure compatibility with government participation in the economy. The substantial growth in public agencies expanded the state's responsibilities, while the assimilation of private enterprises with financial problems, especially in the 1970s, entailed both administrative and financial costs, with no guarantee as to economic viability or efficient operation.

In order to regain the path of economic growth and increase the welfare of the population, in a context of efficient resource allocation and price stability, it became necessary to change the direction of the economy and modernize the state. The aim of modernization was to promote more efficient market regulation and restore the government's function of overseeing national development, by rationalizing its participation in the country's economic activity. Thus, the main objective of state participation in the economy remains unchanged from the purpose assigned to it by the 1917 Constitution. However, the form such participation should take has been the subject of debate.

One measure taken to rationalize state participation in economic activi-

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ties was to divest those agencies and enterprises that no longer served the purposes for which they were created. There were also public enterprises which, in the new scheme of things, had objectives inconsistent with those of a regulating state. The central thesis of resizing the public sector was that the divestiture of agencies and enterprises engaged in production of nonstrategic goods and services would free up public resources and allow government to focus on activities of true strategic importance to national development. Divestiture also helped boost the operational efficiency of the privatized enterprises and of the economy as a whole.

The steps taken in this direction limited the state's direct involvement in the production of goods and services in order to give greater emphasis to its regulatory activities and the promotion of economic activity. The resizing of the state was reinforced through the use of such economic policy instruments as trade liberalization and the deregulation of economic activity.

Understanding Mexico's reasons for initiating a divestiture program, as well as its evolution, requires some knowledge of the situation of the public enterprise sector in the period before the start of privatization. It is therefore essential to analyze the objectives of the public enterprise sector prior to divestiture, as well as its organization and activities.

The importance of the divestiture process can be perceived only by assessing the economic performance of the public enterprise sector—its deficit, its share of GDP and employment, and the relevant productivity indicators. Lastly, the macroeconomic impact of the public enterprise sector will be examined, chiefly in respect of government subsidies and transfers and their repercussions on public finance, as the public enterprise sector was also used to transfer resources to the private sector through various subsidies.

Overall Objectives of Public Enterprises

Mexico's political constitution gives the state various powers to direct and promote national development in both the economic and social spheres. The public sector is expected and even required to intervene in areas of strategic importance to the country's economic and social development. Nevertheless, the state's role gradually became distorted as the established development model gave rise to growing state participation in the economy.

From 1976 to 1982, the public enterprise sector expanded significantly. Numerous government plans set forth a national development strategy and various sectoral policies. These sectoral programs, drawn up between 1976 and 1979, were then modified to be consistent with the *Plan Global de Desarrollo* 1980–82 (Comprehensive Development Plan), the principle guidelines of the government's planning policy.

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This plan defined the role of public enterprises as "efficient catalysts of the country's development process."[1] Public enterprises were considered an essential economic policy instrument, as they allowed the state not only to fulfill its regulatory function, but also to participate actively in the production of goods and services. This growth in state participation was seen as a fundamental mechanism for managing the country's economic development. The nationalization or creation of public enterprises was to fulfill the following objectives:

- Ensure the supply of basic inputs for national industry.
- Ensure the availability of energy resources.
- Ensure the supply of primary products by reducing "excessive" profit margins.
- Expand the country's infrastructure.
- Create external economies of scale.
- Promote competition on the national and international markets.
- Promote technological advances.
- Allow for a proper distribution of profits.
- Undertake investment projects that are necessary for the country but whose lead times, profitability, and risk make them unattractive to the private sector.
- Save jobs that are in the public interest.

Most of these objectives stem from the state's responsibility as regulatory agent and promoter of national development, and are consistent with its assigned role. However, instead of attempting to achieve the established objectives through a more efficient regulatory and institutional framework or by promoting certain specific activities, the government chose to increase its direct participation through the public enterprise sector. The largest and most important public enterprises were created prior to 1970 (to ensure the supply of basic industrial inputs and provide the necessary infrastructure for both regional and national development), concurrently with the development and industrialization of the country and the dwindling effectiveness of the import substitution model. However, the state's direct involvement continued to grow both in size and in the various activities it undertook to correct the economy's structural defects. Government participation took various forms, depending on the specific characteristics and objectives of each sector of the economy.

Moreover, as the state expanded its direct involvement in the production of goods and services, some public enterprises became monopolies or gained a very substantial share of the markets in which they operated. This was considered necessary to give these enterprises greater control over the market and facilitate the attainment of their objectives. In fact, the rules and

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regulations governing the various sectors were modified to be consistent with this structure.[2]

Specific Sectoral Objectives

Agriculture and Forestry

The agriculture and forestry sector has always received significant support from the state. From the very earliest stages of its involvement in the economy in the 1920s, the government has sought to take full advantage of the productive potential of rural areas and to achieve food self-sufficiency in Mexico.

This approach led to promoting the production of foods (such as corn, wheat and rice) in which the Mexican economy did not enjoy comparative advantages. At the same time it penalized the production of other foods (fruits and vegetables) that are labor-intensive, in addition to having high added value at international prices. Meanwhile, public sector participation through direct subsidies (support prices) and indirect subsidies (input prices) was aimed at redistributing income, in an effort to improve the welfare of the rural population.[3]

Many development policies in agriculture and forestry have materialized through public enterprises, agencies and trusts. The Secretariat of Agriculture and Water Resources (SARH) has served as sectoral authority, coordinating the activities of the various government entities, enterprises and decentralized agencies related to rural productive activities. Prominent among the agencies existing in 1982 were *Productora Nacional de Semillas* (PRONASE) (seeds), *Promotora Nacional para la Producción de Granos Alimenticios* (food grains), *Forestal Vicente Guerrero, Productos Forestales Mexicanos* (forestry products) and the *Instituto Mexicano del Café* (INMECAFÉ) (coffee), as well as 48 sugar refineries.

Over the course of several decades beginning with the 1920s, numerous enterprises and agencies, particularly trusts, were created to improve rural living standards. This was one of the main objectives of agricultural policy, the attainment of which was attempted by increasing employment opportunities and channeling resources to boost rural productivity. Social aspects have also played a part, as evidenced by the creation of trusts such as the *Fideicomiso para Obras Sociales a Campesinos de Escasos Recursos* (FIOCER) (social projects for low-income rural workers).

In the agricultural sector, training, technical assistance and technological development were considered essential for boosting productivity and optimizing the use of available resources. To attain these objectives, the public sector participated actively with public enterprises and agencies such as *Centro*

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Nacional de Investigaciones Agrarias (National Agricultural Research Center), the *Instituto Nacional de Investigaciones Forestales y Agropecuarias* (National Forestry and Agricultural Research Institute) (INI–FAP) and the *Fideicomiso de Capacitación Nacional Campesina* (National Rural Training Trust), among others. It should be noted that the state, anxious to be the main promoter, sometimes blocked private sector participation.[4]

Some public enterprises tried to expand and intensify their use of modern inputs for agricultural and forestry production (fertilizers, improved seeds, machinery and equipment), which were produced by the public industrial sector with a view to promoting their use.[5] Other public agencies were engaged in the production and promotion of specific crops such as tobacco, maguey, prickly pear cactus, agave fiber and coffee.

Another primary objective of public sector participation was to promote various activities in the sector (from the production to the export of agricultural products). This resulted in the establishment of various trusts for the construction of rural infrastructure works, the promotion of livestock exports, the granting of scholarships and loans and other activities related to the sector. In particular, the purpose of the trusts for irrigation projects, infrastructure works and public services was to increase the productivity of land and increase the security of rural workers.

Despite all of the government's efforts, none of the objectives was achieved satisfactorily, owing to the lack of continuity in policies, the existence of a legal framework that made land tenure uncertain, the wasting of cultivable land, the inefficient management of development funds and the distortion of relative prices by a protectionist policy that favored the industrial sector and penalized the primary production sectors. These were some of the major problems that faced the sector and that prevented the attainment of public sector objectives.

The large quantity of government resources pumped into Mexico's rural areas through public enterprises did not yield the expected results because the existing legal framework prevented the productive use of resources; consequently, rural poverty was only temporarily alleviated.

Fisheries

Within the *Sistema Alimentario Mexicano* (Mexican Food System), 1979–1982, development of the fisheries sector was considered essential to achieving self-sufficiency in basic food products. With the establishment of the Department of Fisheries (currently the Secretariat of Fisheries) as the sectoral authority and the introduction of the *Plan Nacional de Desarrollo Pesquero* 1977–1982 (National Fisheries Development Plan), efforts were made to correct the sector's major problems, including the nonintegration of activities,

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insufficient infrastructure and equipment, obsolete technology and regulatory problems.

The public sector's active involvement in this activity was extensive, inasmuch as the state was a majority shareholder in a substantial number of large-scale fishing enterprises. As in other sectors of the economy, development trusts and state enterprises were created to provide inputs for the sector. Some of these were: *Productora Nacional de Redes* (National Net Manufacturer), the *Fondo Nacional para el Desarrollo Pesquero* (FONDEPESCA) (National Fisheries Development Fund) and the *Fondo Nacional de Fomento Cooperativo Pesquero* (National Fisheries Cooperative Development Fund), among others.

Traditionally, the Mexican fisheries sector has focused on catching various species for export, a situation attributable in part to the characteristics of the Mexican market, where there is little demand for seafood. Despite this sector's enormous potential and the promotional efforts of the public sector through trusts and public enterprises (particularly Ocean Garden and *Productos Pesqueros Mexicanos* [Mexican Seafood Products]), its development has been slow compared with other sectors of the Mexican economy. As in the case of agricultural cooperatives, regulations reserving certain species for fishing cooperatives, together with the consequent nondefinition of ownership rights and the elimination of private sector participation, meant that activities in this sector were inefficient and slowed its growth.

Industry

The greatest impact of government participation in economic activity occurs in the industrial sector. This is because the primary aims of the government's industrial policy prior to 1970 were to ensure the supply of basic industrial inputs and to undertake investment projects that were necessary for the country, but whose lead times, profitability and level of risk made them unattractive to the private sector. From then on, and up to 1982, the focus of industrial policy, apart from seeking to further this objective, gradually shifted as the structural problems caused by the import substitution policy became increasingly apparent. Thus, the public industrial sector grew largely as a result of the creation of enterprises that replaced the private sector, as well as through the absorption of private enterprises that were experiencing financial problems and whose failure would have led to increased unemployment.

The *Plan Global de Desarrollo* 1980–82 assigned a dual role to government-controlled industry: "... on the one hand, guaranteeing the supply of strategic inputs and, on the other, ensuring demand for the capital goods necessary to create and develop an efficient capacity for the domestic manufacture of such goods."[6]

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One of the main objectives of public sector economic policy was to promote the production of capital goods and inputs of strategic importance to the private industrial sector. In particular, the objective of public enterprises was to contribute to capital formation in strategic sectors such as energy, petrochemicals, iron and steel, cement and fertilizers.

Moreover, as these enterprises were major consumers of inputs, it was assumed they would generate sufficient demand to encourage other enterprises to invest in various priority sectors, particularly machinery and equipment. The procurement policies of public enterprises and the public sector in general were to be oriented toward national industry, especially with regard to the procurement of capital goods.[7]

The SEMIP[8] made it clear that certain sectors were accorded high priority because of their importance to the country's economic and social development. Thus the state would continue or increase its participation in the following areas:

- Basic consumer goods such as textiles, pharmaceutical products and sugar.
- Capital goods and basic industrial inputs, such as fertilizers, steel, cellulose, paper, and certain secondary minerals and petrochemical products. State production of these inputs was expected to guarantee a smoothly functioning productive sector, by eliminating the risk of shortages. Capital goods included, in particular, farm machinery and equipment, rail and transportation equipment, and equipment for the shipping industry.
- Leading-edge technological industries, such as biotechnology and industrial electronics.

Similarly, in some industries, the state maintained—if not a monopoly—certainly a very substantial share of sectoral production, as in the case of basic and secondary petrochemicals, fertilizers, cement, iron and steel, and sugar.

In 1982, major public enterprises in the industrial sector included the following: PEMEX (crude oil extraction and natural gas, refining and production of primary and secondary petrochemical products), *Minera Carbonífera Rio Escondido* (coal mining), *Exportadora de Sal* (salt), *Roca Fosfórica Mexicana* (phosphates), *Compañía Real del Monte y Pachuca*, *Compañía Minera Cananea* (mining), *Sidermex* (iron and steel), *Fertimex* (fertilizer), *Dina* (bus and truck manufacturer), *Tereftalatos Mexicanos* (producers of purified terephtalic acid and dimethyl-terephtalate), AHMSA (steel) and *Tubacero* (manufacturer of welded carbon steel line pipe). Public enterprises were operating in 41 of the 49 branches of manufacturing, and generating nearly 85 percent of industrial sector output in the petroleum, basic petrochemical, electricity, paper, fertilizer, iron and steel, sugar and transportation equipment industries.

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While public enterprises in these sectors were denied monopoly power (in accordance with Article 28 of the Constitution), they were dominant in the production of certain products, and the high level of protectionism meant that most output was national.

The rest of government-controlled industry was spread among other activities where participation was not a high priority or strategically important; most of the enterprises in question had been taken over by the public enterprise sector to prevent their failure. Compared to the national total, government participation in these activities was very small, but the public sector competed with private enterprises in a wide range of activities, including the manufacture of bicycles, textiles, bottled beverages, packaging, thread, electrical appliances and cement.

Production decisions, investment, technological modernization and prices in strategic sectors all depended on careful government planning and management.[9] However, owing to the government's size and its lack of coherent micro- and macroeconomic policies, investment decisions were often delayed or were not optimal from a technological viewpoint. Adequate resources were rarely available; even worse, poor decisions often led to inefficient resource allocation in projects that were neither socially nor economically profitable.

Moreover, subsidized price policies distorted investment decisions in the rest of the economy. Considering the scale of public sector production and its central role (basic inputs and capital for the rest of industry), all these problems had a significant impact on the efficiency of the other economic sectors.

In the electrical sector, the focus of the state's energy policy had been to achieve national security and the growth of Mexican industry. To accomplish this, the federal government assumed responsibility for providing electric power to end-consumers and national industry. Accordingly, the *Comisión Federal de Electricidad* (Federal Electricity Commission) was one of the first public enterprises (1937) created for the purpose of ensuring the supply of basic inputs for the country's industrial sector. From its creation and up to the present, this sector and the petroleum industry have received the largest capital investments. As in the petroleum sector, where research and technological development are also necessary, the *Instituto de Investigaciones Eléctricas* (Institute for Electrical Research) was established in the electrical sector to perform those same functions.

Finally, promoting technological development, where the industrial sector was considered the engine of economic growth, required creating state agencies for that purpose, such as the *Consejo Nacional de Ciencia y Tecnología* (National Science and Technology Council), the *Instituto Nacional de Investigaciones Nucleares* (National Nuclear Research Institute), and the *Instituto Méxicano del Petróleo* (Mexican Oil Institute). The latter two are major research centers in Mexico.

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Communications and Transportation

Public sector participation in communications and transportation has aimed primarily to expand the country's infrastructure. The reason is that a growing economy requires an advanced transportation system to provide for the interaction of other sectors, without bottlenecks and/or high costs. The state has participated actively in the highway, railway, air transportation and port systems in order to provide the country with a transportation system that facilitates regional development and promotes industrial and commercial growth, while at the same time lowering the costs of transporting both inputs and end-products. Likewise, an efficient communications system is vital to facilitating economic and social relations between the various sectors and regions of Mexico and the rest of the world.

In many cases, the lead times, profitability and risk of investment projects needed for development have made such projects unattractive to the private sector, so that, initially, the state intervened to ensure the availability of these services. This is true of railway transportation, with the exclusive participation of *Ferrocarriles Nacionales de México*, the telephone system, with *Teléfonos de México S.A.* (1950), and television channels 11 and 13, as well as various radio stations.

The state has played a major role in air transportation since 1959 through *Aeronaves de México, S.A. (Aeroméxico),* which has sometimes operated unprofitable routes for small numbers of passengers, simply to keep the country connected. Establishing connections within the country was obviously important, but did not require such expensive equipment. Later, the public sector became a major shareholder in Mexico's other national airline, *Mexicana de Aviación.*

The management of this sector suffered major distortions that affected the economy, and none of the distortions was corrected until the late 1980s. On the one hand, the government promoted highway transportation by granting continuous, large subsidies for fuel (primarily diesel fuel) and the rates charged on toll roads, but in doing so generated so little revenue as to prevent the proper maintenance and expansion of the highway infrastructure. On the other hand, regulations were formulated that spawned regional freight monopolies on some routes, driving up transportation costs significantly.[10]

The decision to connect the various regions of the country with roads, in addition to having a substantial fiscal impact through the subsidies granted, also entailed additional costs for both the government and the economy. The reason is that supporting the highway system implicitly penalized railway transportation (with the result that investment in that sector ceased),[11] for although the railroad was considered a strategic sector for national development, the waning demand for railway service and the fact that the schedule of fares did

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not reflect the marginal cost of providing the service (not to mention the excessive benefits granted to unionized labor) made it an inefficient operation that was costly for users.[12] Just to keep the railway system operating, the government was constantly forced to transfer resources, with the expected negative fiscal impact.

Commerce

The main objective of public enterprises and agencies in the commercial sector was to ensure the supply of commodities and reduce marketing margins. Thus, the purpose of entities such as CONASUPO and *Azúcar, S.A.*, which were responsible for administering the support prices of agricultural products and helping to market products at low prices by reducing intermediation margins, was to serve as the conduit for subsidizing producers (through support prices) and consumers (through lower prices), in an effort to improve the situation of low-income groups.

The aim of direct involvement in buying and selling, warehousing, distribution and industrial processing was to regulate the commodities market. In some cases, the objective of state participation in commercial activities was to supply regions of the country where the private sector lacked the capacity to participate or had no interest, but where the basic needs of the population nevertheless had to be satisfied.

To support trade in general, and certain products in particular, special agencies were created such as the *Instituto Mexicano del Comercio Exterior* (Mexican Foreign Trade Institute), *Tabacos Mexicanos*, the *Instituto Mexicano del Café* (Mexican Coffee Institute) and the *Comisión Nacional del Cacao* (National Cocoa Commission). Again, far from fulfilling their original purposes, these agencies became an artificial source of job creation without providing any benefits to producers. In fact, the agricultural sectors currently facing the most serious problems, some 20–25 years after these agencies were created, are the very ones the government tried to help.

Tourism

Concerning the tourism sector, where the state had no social justification for becoming involved, the *Plan Global de Desarrollo* 1980–82 stated that government intervention in this sector should be essentially of a regulatory and promotional nature. Accordingly, the state assumed responsibility for providing financing (primarily through *Fonatur*) and supporting infrastructure, as for the tourist facilities of Ixtapa and Cancún.

Nevertheless, the state invested in various hotels—primarily the *Hoteles Presidente* chain, as well as the Club Meds in Ixtapa and Cancún and the

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Villas Arqueológicas through *Profotur* and *Fonatur*. The government was also a majority shareholder in various tour operators, since the purpose of the existing public trusts was to finance the development and creation of tourist center infrastructure and to expand middle-class tourism services, as in the case of the *Fideicomiso de Turismo Obrero* (Worker's Tourism Trust).

Finance

Government participation in the financial system began with the creation of the Bank of Mexico in 1925. Until 1982, the government's objective was to create and operate entities to provide financial support (usually at subsidized interest rates) for various activities. To accomplish this, various development banks were created, including BANOBRAS, NAFINSA, BANRURAL, BANCOMEXT, and BANCI.

Unfortunately, the Bank of Mexico began acting as a "first tier" bank, competing directly with private commercial banks, instead of acting as a "second-tier" bank, solely responsible for mobilizing funds and providing advisory assistance to credit applicants. In addition, the state participated actively in the insurance sector through ASEMEX and *Aseguradora Hidalgo.*[13]

As a result of the crisis of 1982, in September of that year the last stage in the growth of public agencies began with the expropriation of the commercial banking system. The government attempted to deal with the crisis by imposing exchange controls and containing capital flight. It should be noted, however, that the logic of this action was doubtful, because the expropriation of banks did not attack root causes of the crisis, such as the large and growing public sector deficit.

Moreover, the expansionary fiscal policy, especially in the second half of 1981 and throughout most of 1982 (which significantly increased the public sector financial deficit) was perceived by the saving public as inconsistent with the exchange policy then pursued, which kept the exchange rate virtually fixed.

Thus, expecting a currency devaluation, some savers changed the composition of their financial assets by increasing the foreign currency component of their financial wealth. This rational approach on the part of the public led to a growing outflow of private capital and increasing pressure on the Bank of Mexico's international reserves and the exchange rate.

To suppose that the expropriation of banking and the imposition of exchange controls would solve the foreign exchange problem was completely unrealistic as well as erroneous.[14] Indeed, reducing the fiscal deficit and achieving macroeconomic stabilization was the only solution.

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Organization and Principal Activities of Public Enterprises

The *Plan Global de Desarrollo* 1980–82 and other sectoral plans constituted a national development program based on comprehensive planning. Thus, the Organic Law of the Federal Government *(Ley Orgánica de la Administración Pública Federal)* of 1976 delegated to the Secretariat of Planning and the Budget the task of formulating national, regional and sectoral economic development plans, as well as the overall planning of public expenditure policy. However, Article 49 of the law stated that coordination of the various public agencies and enterprises would be the responsibility of the secretariats of state and administrative departments, taking care to ensure that public sector activities and programs were consistent with the *Plan Global de Desarrollo* 1980–82.

Accordingly, development plans were classified by sector and public entities were grouped according to the nature of their functions, as provided for by Article 48 of the Organic Law of the Federal Government, in accordance with the presidential resolution of January 17, 1977. Thus, the secretariats of state (known as "sectoral authorities") were the coordinators of these agencies and enterprises, and each secretariat was responsible for the enterprises within its sphere of competence.

Table 3.1 shows the sectoral distribution of public enterprises in 1982 by type of enterprise. As indicated in the table, 65.3 percent of public sector enterprises were entities in which the government was a majority shareholder and 19.3 percent were public trusts, while 8.95 percent were decentralized agencies and 6.5 percent were enterprises in which the government was a minority shareholder. Control over most of these entities was exercised by only three secretariats. Of the total number of enterprises, 58.2 percent were under the direction of the Secretariat of Energy, Mines and Public Industry, the Secretariat of Finance and Public Credit, or the Secretariat of Agriculture and Water Resources.

The composition of the universe of public enterprises, which initially responded to economic and social policy objectives, was significantly altered in the 1970s when the state began creating trusts and development funds to support innumerable activities as well as acquiring enterprises in financial trouble, primarily for the purpose of preserving sources of employment.

These acquisitions significantly increased the number of public enterprises. In fact, a study by Casar and Péres (1988) revealed that close to a third of the enterprises divested up to that point had originated in the public sector, and that most of the remaining two-thirds had initially been a part of the private sector, but were taken over by the state for various reasons.

The same study shows that 80 percent of the enterprises sold to the private sector up to that time had originally been part of the private sector,

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Table 3.1 Organization of Mexico's Public Enterprises, 1982
(Number of enterprises by sector)

Sector	Decentralized agencies	Enterprises with state as a shareholder		Trusts	Total
		Majority	Minority		
SEMIP	11	337	40	10	398
SHCP	6	100	3	71	180
SARH	12	53	6	23	94
SEDESOL	1	42	0	36	79
SEGOB	1	57	4	7	69
SCT	5	45	9	7	66
SEP	18	18	0	17	53
SECTUR	0	33	5	11	49
SEPESCA	0	25	3	5	33
SECOFI	8	21	0	4	33
SPP	5	15	0	3	23
SSA	18	1	0	0	19
DDF	6	4	0	3	13
STPS	5	0	0	4	9
SRA	1	1	0	5	7
SEDENA	1	1	1	4	7
SRE	0	0	0	1	1
PGR	1	0	0	0	1
NONE SECTOR	4	1	4	12	21
TOTAL	103	754	75	223	1155

Source: Fourth Government Report 1992, Statistical Annex.

although their share of sector output was small. This becomes obvious if we consider that in 1982 the public enterprise sector comprised 1,155 entities, and only 235 of them generated 90 percent of public sector GDP. In 1988, 81.5 percent of public manufacturing GDP was derived from three branches of industry: petroleum refining, basic petrochemicals, and the basic iron and steel industry.

Clearly, then, the state was involved in numerous areas of economic activity in Mexico, both strategic and nonstrategic. In nonstrategic areas, its objective was to serve the public interest, as the situation of the enterprises was such that it was erroneously thought necessary to incorporate them into the public sector to preserve sources of employment, ensure the supply of goods and prevent regional imbalances.

Even when government participation in these areas resulted in marginal output, the number of public enterprises increased significantly, diverting resources from priority activities with no guarantee of increasing the efficiency or profitability of the newly assimilated enterprises. The result was increased pressure on public finances.

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As for the organizational aspects of the public enterprise sector, certain secretariats of state exercised greater control over the public enterprise sector. Such was the true of the Secretariat of Programming and the Budget, responsible for administration and control of operating expenditure; and the Secretariat of Finance and Public Credit, which authorized and monitored the fulfillment of commitments generated by public indebtedness.

In matters relating to expenditure and debt, these two secretariats controlled the other sectoral authorities, as well as any agencies and enterprises that reported directly to them. In particular, the Secretariat of Programming and the Budget coordinated programming and budgeting activities with sectoral authorities and various public agencies and enterprises in order to maintain a certain level of consistency in the programs and activities of the different secretariats. However, in some sectors it was thought that one of the main problems with this arrangement was precisely the fragmentation of policies and the fact that the functions of the sectoral authorities were not defined.[15]

Economic Performance of Public Enterprises, 1975–1983

Share of Public Enterprises in GDP

The state's growing involvement in the economy expanded the share of the public enterprise sector in the generation of overall GDP. In 1975, the public enterprise sector contributed 6.5 percent of GDP, gradually increasing its share to a maximum of 17.4 percent in 1983. This significant increase in the contribution of the public enterprise sector is explained primarily by the growth of the national petroleum industry, for while in 1975 PEMEX generated 2.6 percent of GDP, its share rose to 12.5 percent in 1983. Thus, while the petroleum industry produced 40 percent of public enterprise sector GDP in 1975, by 1983 this had expanded to 71.8 percent. A separate analysis of the share of the public enterprise sector in manufacturing reveals an increase from 3.9 to 5.9 percent between 1975 and 1982, illustrating the importance of the public sector in industry (see Table 3.2).

The public enterprise sector's share of both GDP and sectoral employment changed significantly. Table 3.3 presents that sector's share of GDP and employment (by sector) for 1975, 1982 and 1990. The foregoing illustrates how the petroleum sector came to represent 9.6 percent of overall GDP in 1982 and 0.6 percent of employment, only to fall to 7.3 percent as a result of the decline in oil prices in 1981 and 1986.

Among the other major categories of economic activity, financial services, insurance and real estate were most affected by the increase in public sector participation in the late 1970s, in respect of both GDP and sectoral

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Table 3.2 Share of Public Enterprises in GDP and Employment
(Percentage of the total)

Year	Overall GDP	Overall GDP (excluding PEMEX)	Total employment
1975	6.5	3.9	3.4
1976	6.5	4.3	3.6
1977	7.8	4.7	3.7
1978	7.7	4.5	3.7
1979	8.3	4.3	3.8
1980	10.0	3.8	3.6
1981	10.0	3.9	3.7
1982	13.5	3.9	4.0
1983	17.4	4.9	4.8
1984	16.6	5.3	4.9
1985	14.8	5.1	4.8
1986	14.0	6.4	4.8
1987	15.6	6.5	4.7
1988	13.1	5.9	4.6
1989	12.7	5.3	4.2
1990	13.9	5.2	3.7
1991	10.4	3.7	3.3

Source: System of National Accounts, public sector production account, INEGI.

employment. The former rose from 4 percent (1975) to 10.6 percent (1982) as a result of the expropriation of banking, and then to 23.2 percent in 1990, at which point the reprivatization of banking had not yet begun. Sectoral employment increased from 9.8 percent (1975) to 26.5 percent (1982), and reached 41.8 percent in 1990.

The share of the public enterprise sector in manufacturing GDP is especially interesting, as it expanded 51 percent between 1975 and 1982. This very substantial change is explained chiefly by the increase in the number of public enterprises created or taken over by the state during the period 1976–1982.

As for the sectoral distribution of GDP generated by the public enterprise sector in 1982, the negative share of the agriculture, forestry and fisheries sector stands out, owing to the sizable subsidies granted to the private sector (primarily to consumers through the price of food products), so that the value of inputs used in the production process (intermediate consumption) was greater than that sector's contribution to added value at market prices. Also of note was the 9.1 percent share of the manufacturing sector and, above all, the contribution of the petroleum industry, which amounted to 71.2 percent of the total (see Table 3.4).

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Table 3.3 Share of Public Enterprises in GDP and Sectoral Employment
(Percentage)

	Sectoral GDP			Public enterprise sector employment		
	1975	1982	1990	1975	1982	1990
Agriculture, forestry and fisheries	0.1	–0.6	0.0	0.7	1.3	NA
Mining*	4.5	4.6	5.0	5.6	6.7	NA
Manufacturing*	3.9	5.9	1.78	6.0	9.7	3.6
Construction	0.0	0.0	0.0	0.0	0.0	0.0
Electricity, gas and water	100.0	87.5	94.8	100.0	95.4	94.8
Trade, restaurants and hotels	1.2	–0.9	–0.7	0.4	1.2	1.0
Transportation, warehousing and communications	21.8	18.0	29.1	33.8	19.9	22.1
Financial services, insurance and real estate	4.0	10.6	23.2	9.8	26.5	41.8
Community, social and personal services	0.2	0.6	0.4	0.2	0.1	0.3
Petroleum industry**	2.6	9.6	7.3	0.5	0.4	0.6
TOTAL	6.5	13.5	14.1	3.4	4.0	4.0

NA: not available.
* Excluding the petroleum industry.
** The share of the petroleum industry is shown as a percentage of GDP and total employment.
Source: System of National Accounts, INEGI.

Table 3.4 Sectoral Distribution of GDP and Employment in Public Enterprises, 1982
(Percentage of the total)

Public enterprise sector	GDP	Employment
Agriculture, forestry and fisheries	–0.4	7.2
Mining*	1.0	1.8
Manufacturing*	9.1	27.5
Construction	0.0	0.0
Electricity, gas and water	5.9	9.7
Trade, restaurants and hotels	–1.9	4.4
Transportation, warehousing and communications	8.3	23.4
Financial services, insurance and real estate	6.6	12.7
Community, personal and social services	0.3	2.6
Petroleum industry	71.2	10.7
TOTAL	100.0	100.0

* Excluding the petroleum industry and basic petrochemicals.

Growth of Productivity Prior to Divestiture

Much has been said about the low productivity of labor in public enterprises. In the last few years prior to the start of the divestiture process, and most importantly in 1979–1982, average productivity in the public enterprise sec-

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Table 3.5 Productivity per Employee, 1975–1982*
(In millions of 1980 pesos)

Year	Total		Manufacturing		Petroleum industry
	Public enterprise**	Private	Public enterprise**	Private	
1975	0.383	0.201	0.227	0.355	1.118
1976	0.374	0.208	0.243	0.365	0.917
1977	0.443	0.203	0.219	0.380	1.292
1978	0.440	0.214	0.269	0.399	1.355
1979	0.486	0.222	0.301	0.409	1.669
1980	0.608	0.214	0.294	0.414	2.751
1981	0.606	0.218	0.303	0.421	2.627
1982	0.751	0.211	0.280	0.421	3.821
Average	0.511	0.213	0.267	0.396	1.940

* Real added value/number of employees.
** Excluding petroleum refining and basic petrochemicals.
Source: Prepared by the author using data from National Accounts, INEGI.

tor increased significantly. Thus, considering that in 1982 the public enterprise sector accounted for 4 percent of total employment and generated 13.5 percent of GDP, it can be concluded that, on average, employees in that sector were more productive than the rest of the economy, since public sector employees generated more added value than did employees in the private sector.

However, this figure is skewed by the earnings of the petroleum industry (derived primarily from crude oil exports), so that once the impact of the petroleum industry is excluded, productivity per employee in the public enterprise sector is actually inferior to private sector productivity.

Table 3.5 shows the growth of the average productivity of labor in the public enterprise sector and in the private sector for the economy as a whole, as well as in the manufacturing industry. As indicated in the table, during the period 1975–1982, average productivity per employee in the public enterprise sector was 139.9 percent higher than productivity in the private sector, due in large part to the performance of the petroleum industry.

However, analysis of the manufacturing industry in particular reveals that the productivity of labor employed in private industry was on average 48.3 percent higher than in the public manufacturing sector, which means that efficiency in the use of resources is greater in the private sector than in the public enterprise sector.

The significant difference in productivity between the private sector and the public sector was one of the reasons why the state initiated the divestiture process, as a means of increasing allocative efficiency in the economy and thereby achieving a higher level of economic growth.

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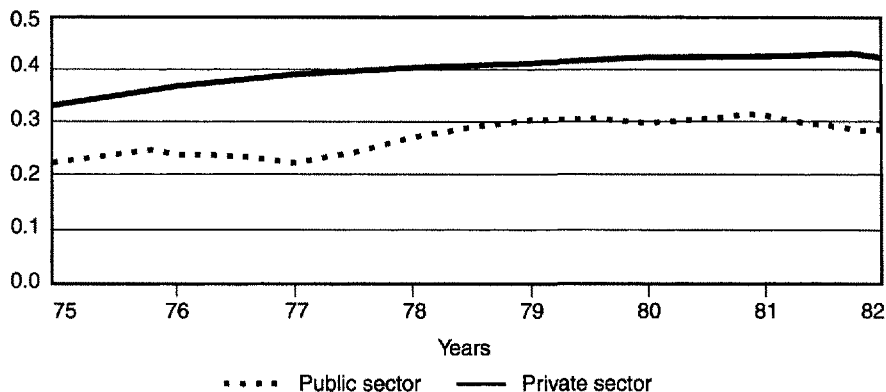
Figure 3.1 Manufacturing Industry Productivity per Employee
(In millions of 1980 pesos)



Public Enterprise Sector Deficit

One of the main factors leading to reconsideration of the state's involvement in economic activity as a producer of goods and services (in addition to the difference in the productivity levels of public and private enterprises) was the share of the public enterprise sector deficit in the overall public sector deficit, which had become so large in the early 1980s as to affect the country's macroeconomic equilibrium.

At the end of the 1970s, the public enterprise sector deficit (before transfers) represented on average half of the overall public sector financial deficit, especially in 1980 when it accounted for 53 percent, or the equivalent of 4 percent of that year's GDP.

If total interest payments on the debt of public enterprises and agencies is also included, the share of the public enterprise sector deficit in the overall financial deficit increases to 73 percent for that same year (1980). Even after transfers, public enterprises ran a constant deficit, so that various financing sources had to be tapped to keep them solvent. Thus, federal government transfers to public agencies and enterprises represented on average 14 percent of their total income (including financing) in 1975–1982 (see Table 3.6).

It should be pointed out that most of the deficit was generated by these enterprises' investment expenditure in the period in question, as well as by the excessive current expenditure they incurred as a result of maintaining a large payroll or other sources of inefficiency.

In 1977–1980, public enterprises as a whole[16] operated with surpluses (even considering the interest payments on their debt), while the balance of their capital account invariably showed a deficit, owing primarily to the large quantity of resources used for capital formation. Nevertheless, in many cases,

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Table 3.6 Share of Public Enterprises in the Overall Public Sector Deficit
*(Percentage)**

	1975	1976	1977	1978	1979	1980	1981	1982
Deficit before transfers (excluding interest) as a percentage of the overall financial deficit	63.8	38.0	46.1	53.9	44.4	53.0	47.1	10.0
Deficit before transfers, including interest, as a percentage of the overall financial deficit	71.6	48.3	60.23	68.6	60.8	73.0	60.1	26.0
Deficit after transfers as a percentage of the overall financial deficit	28.1	16.5	12.6	20.1	12.6	14.8	24.7	–11.0

* Includes only enterprises under budgetary control.
Source: Prepared by the author using data from SHCP, National Accounts, INEGI.

the investments that were made were not properly evaluated and social and economic profitability criteria were not applied. The result of this example of inefficient allocation was a sizable waste of resources.

It should also be noted that for several years the state pursued a policy of promoting various economic activities by subsidizing the prices and rates of public enterprises. As a result, the domestic savings of public enterprises did not expand sufficiently to cover their investment expenditure. These two factors were the main reasons for the growing public enterprise sector deficit (see Table 3.7).

Between 1980 and 1982, federal government transfers to entities subject to budgetary control represented on average 12 percent of public sector programmable expenditure and 27.3 percent of the federal government's programmable expenditure, or the equivalent of 3.6 percent of overall GDP. Taking into account transfers to entities not included in the budget, the share of

Table 3.7 Current and Capital Account Balances of Public Enterprises*
(As percentage of GDP)

	1977	1978	1979	1980	1981
Current account balance	0.7	1.4	2.0	1.9	–0.2**
Capital account balance	–2.5	–3.7	–4.1	-4.5	–5.1

*Includes only enterprises under budgetary control.
** The negative sign indicates a deficit.
Source: Prepared by the author using data from SHCP, National Accounts, INEGI.

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Table 3.8 Fiscal Deficit and Net Primary Credit of the Bank of Mexico, 1975–1982
(As percentage of GDP)

Year	Public sector financing gap	Public enterprise sector deficit	Net Bank of Mexico credit to the govt.**
1975	9.3	6.7	3.0
1976	9.1	4.4	1.8
1977	6.3	3.8	12.8
1978	6.2	4.3	3.7
1979	7.1	4.3	5.1
1980	7.5	5.5	6.0
1981	14.1	8.5	5.9
1982	16.9	4.2	17.5

* Before transfers.
** Including the financial public sector.
Source: Bank of Mexico.

such transfers rises to 28.9 percent of public sector programmable expenditure, and 66 percent of the federal government's programmable expenditure.

The fiscal pressure created by the public enterprise sector deficit (especially in 1981 when the international price of petroleum fell) contributed significantly to the growth of Bank of Mexico primary credit and to the acceleration of inflation, as well as the growing domestic and external indebtedness of the public sector. This situation was not sustainable and, as mentioned above, it was one of the main reasons why the government initiated the process of divesting public enterprises (see Table 3.8).

Emergence of a New Economic Strategy

After the state's participation in the economy had increased for several decades (primarily from the 1930s on under the influence of Keynes), the opposite trend was observed in a number of countries, in some cases in the 1970s and in others, such as Mexico, in the 1980s.

The Great Depression in the late 1920s and early 1930s, together with the interpretation of phenomena generated by the Depression,[17] led various governments to become more actively involved in their economies, although in different ways and to varying degrees.

Thus, in some countries, economic policy was oriented toward greater expenditure by the central government (e.g., the "New Deal" in the United States), as was also true of certain fascist governments such as Germany and Italy and, for different reasons, the USSR. This phenomenon, because it was unfamiliar, led many statesmen to believe that the way to achieve economic

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development was through statism, without foreseeing the high costs of that system.[18]

In the Latin American countries—Mexico included—governments tended to increase their involvement in the economy, a situation that became generalized as Keynesian theory gained acceptance. This approach, endorsed by the United Nation's Economic Commission for Latin America and the Caribbean (ECLAC), ascribed great importance to government expenditure as the source of economic growth.

Thus, the idea that it was necessary to support the growth of the domestic industrial sector as the engine of economic growth, together with the perception of constant erosion in the developing countries' terms of trade[19] and their heavy reliance on the primary sector as a source of foreign exchange, were the arguments that Raúl Prebisch advanced in recommending the import substitution policy to the United Nations Conference on Trade and Development in 1964.[20]

As indicated above, this policy of trade protectionism in the domestic industrial sector, although it facilitated industrial development, invariably entailed significant inefficiencies in resource allocation and set the stage (before it became unworkable) for growing state intervention in the economy, so that it tended to magnify the inefficiencies and distortions generated by the import substitution policy.

In this context of clear evidence of internal inefficiencies coupled with lower economic growth rates, a process of economic policy reform aimed at the elimination of distortions was initiated worldwide, in an effort to create the incentives necessary for efficient resource allocation and thus achieve higher economic growth rates. This reform was based essentially on two concepts: the deregulation of economic activity (domestic and external, the latter through trade liberalization) and reform of the state itself through the divestiture of public enterprises.

The country considered the pioneer in the process of privatizing public enterprises was the United Kingdom, which undertook government reform in 1979. In that year, government-controlled industry dominated the sectors considered key in any economy: transportation, communications, energy, and iron and steel. The lower productivity of state enterprises compared with that of private enterprises led the British government to initiate a large-scale privatization process, which began with the partial sale (5 percent) of British Petroleum, followed in subsequent years by the sale of enterprises in various sectors, including British Aerospace, British Telecom, British Gas and British Steel.

Another country considered a pioneer in the privatization of public enterprises is Chile, where the process was carried out in two phases, the first running from 1974 to 1979 and the second from 1984 to 1989. Before the start

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of the privatization process in 1973, and as a result of the policy of expropriating private enterprises pursued by the government of Salvador Allende, the public enterprise sector grew significantly, reaching a total of 596 enterprises, which, as a group, produced 39 percent of GDP.[21]

Chile's privatization experience was in many ways unique because of its scope and diversity. State enterprises that were not considered strategic or high priority were privatized in the first phase (1974–79). However, as an outgrowth of the financial crisis of 1981-82, several of these enterprises, including commercial banks, were again taken over by the government, only to be privatized once more in 1984 and 1985. Large enterprises traditionally owned by the government (such as the electric power and copper mining companies) were privatized in the second phase, so that by 1989 the Chilean public enterprise sector comprised only 45 enterprises, 23 fewer than in 1970 when the Allende government took office.[22]

Since the Latin American external debt crisis, which erupted in 1982 when Mexico announced that it was unable to service its external debt, Latin America has viewed the state's role in the economy (said view having spread to other countries) in terms of smaller, more efficient governments. Consequently, intensive privatization processes were launched in various countries in the 1980s and 1990s. Leading the way with this "new"economic policy were countries such as Mexico, Argentina, Chile, Colombia, Bolivia, Venezuela, Poland, Hungary, the Czech Republic, Russia and Malaysia.

Privatization and Mexico's Economic Environment

Although privatization processes in various countries have some common characteristics, they differ in respect of the types of enterprises privatized, the methods used, the selection of buyers, and the pace of privatization. Given Mexico's specific characteristics, the process of privatizing state enterprises—while taking account of some other countries' experience—has been designed almost entirely within the country, to facilitate the attainment of Mexico's own individual objectives. From the outset, privatization in Mexico was considered an important part of the overall macroeconomic adjustment and structural reform of the economy, inasmuch as the general objective of economic policy is to establish the bases for sustainable economic growth and thus increase the welfare of the population. Therefore, in addition to the privatization of a large segment of the Mexican public enterprise sector, economic policy has focused on permanently adjusting public finances to bring domestic inflation rates into line with those recorded elsewhere in the world (an adjustment in which privatization has played a key role), as well as deregulating domestic markets and opening up the economy, always with a view to promoting efficient resource allocation.

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Endnotes

1. *Plan Global de Desarrollo 1980–82*, Presidency of the Republic, Mexico City, 1980.

2. Later it became necessary to change both constitutional provisions and more specific regulatory laws, in order to implement divestitures. For example, Article 28 of the Political Constitution was amended to reauthorize private sector participation in banking activities; and "primary" petrochemical products were redefined as secondary, to allow private sector participation in the production of secondary petrochemicals.

3. The use of subsidies, whether for inputs or prices of goods, is an inefficient mechanism for redistributing income, primarily because it causes distortions in resource allocation. For example, if the domestic price of corn is set above the international price, that encourages the use of land for the production of that crop, even though its added value is less than that of another good that would be produced absent support prices. Another example is the price of water in the agricultural sector, where subsidized water prices do not reflect the marginal cost of extraction and distribution. This has encouraged production of rice, a product that offers no comparative advantages and uses water resources intensively. Likewise, subsidization of electrical power has encouraged overuse of aquifers, through the extraction of water for irrigation. Moreover, granting subsidies to agricultural producers and consumers led to increased public sector expenditure, which had to be financed with higher taxes, a larger volume of debt, and higher inflation, with the consequent direct costs to society.

4. Because the former Seed Law (repealed in 1990) reserved research and development of new seed varieties exclusively for the state, private research in this field was prohibited. This monopoly caused the relative lag in agricultural research and new production technologies.

5. The government planned to introduce technological changes in agriculture to encourage the adoption of modern production techniques, utilizing intermediate inputs produced by the public industrial sector (such as machinery and equipment, fertilizers, and improved seeds). Yet the policy of protecting the national industrial sector (including public sector enterprises) made these goods more expensive on the domestic market relative to international prices, which destroyed the incentive to use the new production techniques.

6. *Plan Global de Desarrollo* 1980–82.

7. Owing to inefficiencies in the public industrial sector and the protection these enterprises received both domestically and vis-à-vis imports, the expected additional demand did not materialize. On the contrary, there was less private sector investment than would have been without these inefficiencies and relative price distortions.

8. Secretariat of Energy, Mines, and Public Industry (formerly the Secretariat of National Patrimony), Industrial Development Plan, 1980–82.

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9. The idea that the state would be able to carefully plan production, procure inputs, and manage sales had no empirical basis.

10. For a detailed analysis of regulations governing highway transportation and their effects, see Enrique Dávila, "La reglamentación del autotransporte de carga en México," in Gil Díaz and Fernández 1991.

11. In the 1970s, kilometers of railroad track were the same as in 1911, at the end of the *porfiriato*.

12. Railway transportation is more efficient over long distances (250 kilometers or more), especially when large volumes are involved with relatively small added value per unit. But the inefficient operation of the railroad, together with subsidies granted for using highways, encouraged users to choose highways, thereby decreasing the demand for railway transportation.

13 . As public sector enterprises were required to ensure their assets with ASEMEX, and *Aseguradora Hidalgo* became the insurer of government employees, the public insurance sector grew and both enterprises obtained monopolistic power.

14. Miguel Mancera, *Consideraciones sobre el control de cambios.* Banco de México, April 20, 1982.

15. For a more detailed analysis, see Ruiz Dueñas 1988.

16. Including PEMEX.

17. Friedman and Schwartz 1963.

18. One exception was Frederick A. Hayek; his 1944 book, *The Road to Serfdom,* explains the dangers that state intervention in the economy entails for political and economic freedom.

19. The terms of trade relate to the ratio of export prices and import prices.

20. Johnson 1968.

21. Hachette and Lüders 1993.

22. *Ibid.*

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CHAPTER 4

Mexico's Privatization Program

Privatization has been one of the most important instruments of structural change in the Mexican economy since 1983. The basic premise of the privatization program has been modernization of the state, replacing the obsolescent growth model based on extensive state participation in economic activity and the protection of national industry. By the early 1980s, Mexico's scarce resources were being drained to support more than a thousand public enterprises—enterprises that required substantial funding to maintain their inefficient operations and were neither high-priority nor constitutionally strategic. The iron and steel sector, for example, was employing outdated technologies to produce steel in a protected industrial sector. Over the course of a decade, the steel industry consumed a total of $10 billion. In 1991 alone, approximately $200 million was needed to cover the steel industry's operating expenses, but this outlay did not benefit the public through lower steel prices.

Mexico's economic crisis during the early 1980s required focusing the government's financial and human resources on satisfying the population's basic needs. The sale of public enterprises was to free up resources and generate income that could be used to support the permanent rehabilitation of government finances, in addition to making room in the budget for increased social spending. Although privatization alone may not directly benefit the population, the proper implementation of each phase of the process can generate fresh resources for allocation to high-priority social projects, boost the efficiency of the economy and improve the prospects for the privatized enterprise's medium-term survival (which would then become the responsibility of the private sector).

What follows is a description and analysis of the most relevant aspects of the privatization process in Mexico. First we determine the general situation of the privatized enterprises when they were sold, in order to take stock of the universe of privatized enterprises and of its context, importance, specific problems and performance. Next, the general objectives of privatization are examined, and the various stages of the process, to deepen the analysis of measures taken prior to the sale of enterprises. Some of these measures, such as definition of the legal and regulatory framework of the process, are of a general nature, while others, such as the financial rehabilitation of the enterprises,

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Table 4.1 Mechanisms for the Divestiture of Public Entities

Characteristics of the enterprise	Mechanism
• Failure to attain the objectives for which it was created • Not profitable and no economic potential • Exists only on paper	Dissolution or liquidation
• High-priority and linked to regional development programs	Transfer to state governments
• Efficiency will be increased by combining two or more public entities	Merger
• Enterprise not strategic or high-priority, but economically viable	Sale or transfer to private sector

are more specific. This chapter also summarizes the factors taken into consideration by agent banks in estimating the minimum price to expect for an enterprise slated for privatization.

Sales mechanisms and strategies will also be mentioned, as they are specific to each enterprise, or at least to each sector of activity. The aim in this case will be to identify the relationship between the selection of a sales strategy and the entities' problems. The chapter closes with an analysis of the information taken into account in the preselection and selection of buyers, including an examination of the specific characteristics of each case, in order to identify the factors that influenced the selection of the buyer.

General Characteristics of the Privatization Process

Mexican law defines public enterprises as decentralized government agencies, public trusts and enterprises in which the state is a majority shareholder.[1] Although enterprises in which the state is a *minority* shareholder are not public entities under law, some were also included in the divestiture process. From the outset, the divestiture program excluded those public entities considered strategic or of high priority to the public. Strategic entities are those related to the nation's sovereignty and reserved exclusively for the state. High-priority activities, while not reserved for the state, are those with substantial social benefit; they are not defined in the Constitution, because their function can change with time, depending on the population's needs.

The Mexican government used four mechanisms for divestitures. The appropriate means of divestiture in each case was selected according to factors listed in Table 4.1.

Privatizations carried out under the responsibility of the Secretariat of Finance and Public Credit included the sale or transfer of government-owned enterprises, fixed assets, and industrial units to social and private sectors, both domestic and foreign.

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Table 4.2 Public Sector Entities, December 1982–June 1994

Year	Decentralized agencies	State a majority shareholder	Trusts	State a minority shareholder	Total
1982	102	744	231	78	1,155
1983	97	700	199	78	1,074
1984	95	703	173	78	1,049
1985	96	629	147	69	941
1986	94	528	108	7	737
1987	94	437	83	3	617
1988	89	252	71	0	412
1989	88	229	62	0	379
1990	82	147	51	0	280
1991	78	120	43	0	241
1992	82	100	35	0	217
1993	82	98	30	0	210
1994	82	107	30	0	219*

* Nine entities were added due to the creation of *Administraciones Portuarias Integrales* (API) (Integral Port Administrations), which was to modernize the port system.

Source: Secretariat of Finance and Public Credit.

Two stages can be identified in the divestiture process implemented in Mexico, the first running from December 1982 to November 1988, during which the size of the state was significantly reduced, particularly through privatization mechanisms, and the public sector's shareholding interests in small enterprises were sold. In the second stage, from December 1988 to June 1994, privatization was more significant in terms of the number of enterprises sold, their complexity, and the amount of resources involved.

Within twelve years, from December 1982 to June 1994, Mexico reduced the number of its public sector entities from 1,155 to 219. Of the number divested, 314 enterprises in which the state was a majority shareholder were privatized, while the remainder were divested through dissolution, liquidation, merger or transfer. Table 4.2 illustrates changes in the composition of the public enterprise sector.

According to the industrial classification of the System of National Accounts of the INEGI in use in 1982, public enterprises were involved in 63 industries. The divested enterprises participated in many different activities and their relative importance varied greatly, as they ranged from enterprises engaged in food preparation, the mining and processing of mineral products, and the production of various goods in different branches of the manufacturing industry, such as steel, fertilizers, petrochemicals and bicycles, to providers of basic telephone services, air transportation and banking services.

The most general aspects of the divestiture process having been explained, the following analysis concerns only the privatization program.

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During the period December 1982–June 1994, the Mexican government concluded 416 sales[2] to the social and private sectors, which, on an accrual basis, represented approximately 76 billion new pesos of revenue for the public sector, not including the assumption of liabilities or committed investment. Of these sales, 155 were carried out during the 1982–1988 administration, and 261 in the period 1988–1994 (see Appendix 1).

In the first stage of the divestiture program, privatization earnings represented nearly 2 percent of the total obtained during the entire process, which included the privatization of small enterprises in sectors where public sector participation was clearly not justified for political or economic reasons, or else because the sectors concerned were nonstrategic or not considered a high priority for national development. Thus, in this first stage, public sector participation came to an end in at least 15 industries, particularly the hotel and secondary petrochemicals industries. The largest privatization operation in this stage occurred in November 1988 with the sale of *Tereftalatos Mexicanos,* a producer of secondary petrochemicals, for 242,700 new pesos.

The second stage included the formalization of 261 sales operations that generated revenue amounting to 74.6 billion new pesos. This stage was characterized by the privatization of larger enterprises with more important intersectoral ties than the enterprises divested in the first stage. The most important enterprises privatized in the mining sector were *Minera Real de Ángeles, Compañía Real del Monte y Pachuca*, and *Compañía Minera de Cananea.* The largest privatization operations in the manufacturing sector were those involving sugar refineries, which represented the country's largest agribusiness, the units of *Fertilizantes Mexicanos* and *Industrias Conasupo,* as well as the iron and steel enterprises. Lastly, the most significant enterprises privatized in the services sector were *Compañía Mexicana de Aviación*, which, under the regulations in force in the sector until 1990, shared with *Aeronaves de México* practically the entire domestic market; as well as *Teléfonos de México* and the 18 commercial banks.

From an economic point of view, the objective of promoting private participation in government-owned enterprises slated for sale was fully justified, as the goods and services they produced had the characteristics of *rivalry* in consumption and *excludability*.[3] That is, they could not be defined as intrinsically public, thus there were economic incentives for the private sector to participate in their production.

Therefore, since both the public and the private sector could supply the population with the goods and services of the enterprises to be privatized, a relevant aspect to be considered in the sales decision was the impact on social welfare.[4] It should be remembered, among other things, that productive efficiency improves social welfare through higher wages and lower prices. This aspect becomes even more apparent if the public enterprises considered hold

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Table 4.3 Privatized Enterprises by Category, December 1982–June 1994

Sector	1982–88	1989–94
Agriculture, forestry and fisheries	0	0
Mining	5	16
Manufacturing	104	88
Construction	0	4
Electricity, gas and water	0	0
Trade, restaurants and hotels	27	27
Transportation, warehousing and communications	5	6
Financial services	7	29
Community services	7	10

Note: Only those enterprises in which the state was a major shareholder are included.

a major share of their market or produce a good, service or input that is essential for the proper functioning of the economy as a whole.

The analysis in the preceding chapters reveals that the productive efficiency of public enterprises was generally far below private sector standards and the international levels.[5] This phenomenon is largely explained by the regulation of the sector, particularly the rigidity imposed by Mexican labor legislation and the lack of competition, as well as by the conflicting aims of the manager of the enterprise and its owner, the lack of effective control mechanisms and the fact that the government served as the enterprises' guarantor.

An example of the above is *Teléfonos de México* (TELMEX), which, despite being profitable from an accounting standpoint, operated prior to its privatization with twice the personnel per line than was standard elsewhere in the world. This situation is explained by the lack of investment in the sector, surplus personnel and a collective contract that prevented the reassignment of workers or the shuffling of responsibilities. Also at fault were the regulations, which, by granting the enterprise a monopoly in all basic telephone services, enabled it to keep long-distance rates far above the international levels, which was necessary to cover its high operating costs, particularly those involved in providing local telephone services at low rates (cross subsidies).

The regulatory framework for the universe of privatized enterprises allowed for broad discretion in implementation, and erected barriers to private participation where public enterprises operated in a monopolistic market structure. This regulatory framework deteriorated over time, driving up transaction costs for every individual or industrial consumer that traded with public enterprises. It also created an environment of inefficiency for public sector enterprises, which affected businesses in the private sector.[6]

To correct this, a deregulation program was launched in 1989 to cover the entire economy. New regulations were formulated that made rules explicit, beginning with the deregulation of activities with major intersectoral

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ties, such as transportation. Moreover, an effort was made to promote a competitive market structure, to allow the entry of a larger number of participants and significantly reduce the barriers to trade with the rest of the world.

In this context, the Secretariat of Trade and Industrial Promotion, responsible for the economic deregulation program, had to fulfill the specific objective of stimulating productive activity without inhibiting productivity, promote competition and, at the same time, increase the overall benefit to society. Thus, coordination of the deregulation process with other economic policy instruments, particularly privatization, was stepped up. Experience had shown that it was better to deregulate a sector before privatizing the public enterprises it comprised. This also expedited deregulation, as it was understood that the privatization process could not wait until regulatory modifications went through lengthy bureaucratic and/or legal processes.

Certain measures implemented in the deregulation program were specifically related to privatization. Among these were the new telecommunications regulations and the amendment to the TELMEX Certificate of Concession; the liberalization of national air transportation routes and fares; the elimination of sowing and export permits for fruits and vegetables; removal of obstacles to the marketing of cocoa, sugar and coffee, and the repeal of provisions concerning packaging and containers.

Despite the fact that the deregulation and privatization policies were closely related and, more importantly, required extensive coordination to maximize the benefits of selling public enterprises, they were the responsibility of separate government agencies. This was appropriate since, in this way, changes in the regulations were adapted not to the privatization program but rather to the needs of the sector in question.

Nevertheless, the Unit for the Divestiture of Public Enterprises and the Economic Deregulation Unit tried to work together, and, on some occasions, the Secretariat of Finance and Public Credit itself asked the responsible office to make the change in the regulatory framework prior to the sale. Specifically in the case of TELMEX and the iron and steel enterprises, the Secretariat of Finance and Public Credit asked the responsible entities to determine how changes in the regulatory framework could be oriented to ensure that the terms of sale would be consistent with that framework and would maximize the probability of the enterprises' future survival, in addition to promoting competition in the sectors in which they operated.

Air transportation, the sugar industry and enterprises engaged primarily in the processing of seafood products (chiefly sardines, tuna and shrimp) were governed by a regulatory framework that supported monopolistic market structures, at least at the regional level. In almost all cases, the protection of these sectors led to declines in the productive efficiency of the enterprises and the underutilization of their installed capacity. During the period 1989–

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1991, this situation was corrected by deregulating airline fares and routes, tying the price of sugar to the price of sugar cane, and revoking the exclusive right of cooperatives to grow reserved species.

In strategic sectors such as banking, regulation became crucial when the management of banks was returned to the private sector. Privatization of the financial system occurred in the context of a more comprehensive reform of the entire sector. Prior to the sale of the banks, a series of measures was implemented aimed at modernizing the financial sector, including, in particular, the liberalization of interest rates, elimination of the legal reserve requirement, abolition of the traditional system of involuntary credit granted through preferential rates for priority activities, and the development and strengthening of financial groups. In addition, Articles 23 and 128 of the Constitution, which govern banking and credit services, were amended. Later, in May 1990, the *Ley de Instituciones de Crédito* (Law on Credit Institutions) was promulgated, a new *Ley de Agrupaciones Financieras* (Law on Financial Groups) was established and, at the same time, the *Ley del Mercado de Valores* (Law on the Securities Market) was reformed, bringing Mexico's financial legislation into line with international standards.

As a result of these reforms, banking and credit services were no longer considered public services, which meant that they could be provided by private entities who obtained authorization to do so, and not by concession. Thus, the banks went from being national credit companies to corporations.

Generally, the deregulation process contributed to a clearer and more authoritative regulatory framework. Progress in these two areas was fundamental to maximizing the benefits of efficiently implementing the privatization program, since the sales price offered by those interested in a public enterprise, because it was equivalent to the present value of the future income of the operation, more accurately reflected the entrepreneurial ability of the offering groups.

Finally, and in connection with the above, mention should be made of the regulations in the telecommunications sector, specifically those applicable to *Teléfonos de México*. The transfer of this enterprise to the private sector required the formulation of a regulatory framework that provided for state supervision and would ensure attainment of the objectives of growth, service and technological development. Accordingly, TELMEX's certificate of concession was modified and signed in August 1990. In October of that same year, Telecommunications Regulations were published in the *Diario Oficial*.

The Certificate of Concession set forth specific targets for growth and quality of service, as well as regulations pertaining to rates. Concerning this latter aspect, it should be mentioned that although telephone rates were adjusted in 1990 to bring prices into line with costs, there was still a cross subsidy between long-distance and local rates.

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The Certificate of Concession allotted a period of six years to bring rates into line with costs. This adjustment was essential not only to stimulate growth but also to prepare TELMEX for competing in the long-distance market. Accordingly, long distance service was not thrown open to competition until 1997. This aspect is particularly important, for if long-distance service had not been protected from competition, most investors would have decided to enter the market, which would have created serious problems for TELMEX, as a sufficient length of time was required to make the necessary investments in local telephone service. In fact, although local telephone rates have increased significantly over the last five years and long-distance rates have gone down, 40 investor groups have expressed interest in competing in the long-distance market.[7]

At the international level (Table 4.4), the market for local telephone services and national and international long-distance services is monopolistic in most of the member countries of the Organization for Economic Cooperation and Development (OECD). However, this trend appears to be in the process of quickly reversing itself.

Competition in local telephone service will intensify once new technologies currently in the experimental stage can be introduced, as they will greatly simplify the method and the costs of providing this service. These technologies (wireless and television systems) do not require the laying of underground cables in cities, which, in addition to taking a considerable amount of time and being extremely costly, duplicate the existing infrastructure (Baumol and Sidak 1994). This is the main reason for the virtual lack of competition in local telephone services at present (see Table 4.4).

The new system for regulating TELMEX has yielded the following advantages: ensuring efficient allocation of the enterprise's resources for the provision of various services; promoting a higher level of investment; encouraging productivity gains; transferring some of these gains to benefit consumers and projecting the trend of user rates.[8] Table 4.5 shows the growth of the major indicators of *Teléfonos de México*.

Specific Objectives of Privatization

As mentioned above, structural change occurred in response to the obsolescence of the former growth models and a change in philosophy. Up to 1982, the objective was to preserve employment and thereby prevent deterioration in income distribution by rescuing enterprises with financial problems; however, this approach ignored the opportunity cost of using scarce financial resources to rescue enterprises in difficulty. Moreover, by using public resources to rescue enterprises which, for some technical reason or because of demand,

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Table 4.4 International Comparisons of Telephone Service, 1991

Country	Density[a]	International long-distance access	National long-distance access	Local service access
Australia	47.1	Duopoly	Duopoly	Duopoly
Austria	41.8	Monopoly	Monopoly	Monopoly
Belgium	39.3	Monopoly	Monopoly	Monopoly
Canada	57.5	Monopoly	Monopoly	Monopoly
Denmark	56.6	Monopoly	Monopoly	Monopoly
France	49.8	Monopoly	Monopoly	Monopoly
Germany	47.4	Monopoly	Monopoly	Monopoly
Greece	38.9	Monopoly	Monopoly	Monopoly
Iceland	51.4	Monopoly	Monopoly	Monopoly
Ireland	28.1	Monopoly	Monopoly	Monopoly
Italy	38.8	Monopoly	Monopoly	Monopoly
Japan[b]	43.5	Competition	Competition	Competition
Luxembourg	48.2	Monopoly	Monopoly	Monopoly
New Zealand	43.6	Competition[c]	Competition[c]	Competition[d]
Netherlands	46.4	Monopoly	Monopoly	Monopoly
Norway	50.3	Monopoly	Monopoly	Monopoly
Portugal	24.1	Duopoly	Monopoly	Duopoly
Spain	53.5	Monopoly	Monopoly	Monopoly
Switzerland	58.0	Monopoly	Monopoly	Monopoly
Turkey	12.4	Monopoly	Monopoly	Monopoly
United Kingdom[e]	44.2	Duopoly	Competition	Competition
United States[f]	45.3	Competition[f]	Competition[f]	Partial competition[g]

[a] Data for 1991, based on information from OECD, ITU, NTIA and FCC.

[b] In practice a duopoly exists, consisting of Nippon Telegraph and Telephone Public Corporation and Kokusai Denshin Denwa.

[c] Although competition is permitted in long-distance service, in practice a duopoly exists, consisting of Telecom Corporation. of New Zealand, Ltd. and Clear Communications, Ltd.

[d] In practice Telecom Corporation of New Zealand, Ltd holds a monopoly.

[e] In practice a duopoly exists, consisting of British Telecom and Mercury.

[f] *In 1991, three companies were providing 93% of long-distance service: American Telephone & Telegraph Company (63%), MCI* (20%) and SPRINT (10%).

[g] There are seven telephone companies ("Baby Bells"), which provide local telephone services in their respective areas.

were not viable under private ownership, the most the government could do was to maintain the same level of efficiency or inefficiency.

The operation of inefficient public enterprises was possible because of a soft budget constraint that allowed for constant transfers of resources from the federal government to such entities (see Chapter 1). This situation pointed up the necessity of a change in the method of public sector participation in promoting economic growth and boosting employment. Therefore, privatization (along with other economic policy instruments such as deregulation and trade liberalization) was aimed, first of all, at improving efficiency in resource allocation and, by that means, increasing the productivity of inputs; stimulating

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Table 4.5 Teléfonos de México, 1989–1994
(Consolidated figures) [a]

Item	1989	1990	1991	1992	1993	1994[a]
Lines in service (thousands)	4,848	5,355	6,025	6,754	7,621	7,990
Rural populations	4,759	7,660	10,308	13,177	15,675	16,541
Populations with service	7,320	10,221	12,869	15,738	18,361	19,360
Public telephones in operation	54,936	82,638	107,176	131,724	183,155	207,170
Public telephone density (per 1,000 residents)	0.7	1.0	1.3	1.5	2.1	2.4
Telephone density (lines per 100 residents)	5.9	6.6	7.2	7.9	8.8	9.1
Investment [b] (thousands of new pesos)	2,389,430	4,224,655	6,761,167	7,326,922	7,162,000	5,303,309
Percentage investment to improve service	—	12.9	27.0	41.1	43.0	NA[3]
Fiber-optic network (kms. installed)	72.0	75.0	415.0	3,594.0	9,150.0	12,187.0

a) Third-quarter figures.
b) Total investment in plant and equipment.
Source: Telmex, Acciones y Logros 1988-1994.

investment and economic growth; and generating a higher level of social welfare.

Second, given the state's new role, privatization was key to effecting structural change, as the state would cease being an "owner" and would become a "regulator." Third, it was hoped that the privatization of public enterprises would facilitate the adjustment of public finances, which would help stabilize the economy by eliminating a major source of expenditure.

Some countries have viewed the "democratization of capital" as a means of improving the distribution of wealth and, consequently, have also considered it a privatization objective. What this involves is making a large number of citizens shareholders in the privatized enterprise. Accordingly, various schemes have been devised whereby the shares of public enterprises are sold at low prices or distributed free of charge to a large segment of society. The most important of such experiments occurred in Chile and England in the 1980s. More recently, this type of privatization has been proposed in most Eastern European countries.

Capital democratization schemes are intended to encourage a large number of new shareholders to participate in the privatization of public enterprises. Therefore, these programs include major reductions in the share prices of enterprises to be privatized or even the direct transfer of their shares, as occurred under the voucher systems proposed in several Eastern European countries (see Estrin 1994).

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In principle, privatization through capital democratization schemes seems to offer a unique opportunity to improve the distribution of wealth. In practice, however, the democratization of capital is not necessarily the best way of achieving this objective, since it may also jeopardize another of the major objectives of privatization: increasing the efficiency of the divested enterprises.

In many cases, the introduction of capital democratization programs responded to specific situations in each country and a more equitable redistribution of wealth was not necessarily the main objective. In Eastern European countries, for example, there is no entrepreneurial culture and no private sector with sufficient resources to purchase the enterprises to be privatized. In such cases, the democratization of capital is one of the few options available for divesting state enterprises.

The main problem with capital democratization schemes is that ownership of the shares does not extend to the most disadvantaged social groups. Although the shares are sold at very low prices or are transferred directly, it is not easy to involve the lowest income groups in privatization processes. Anyone who proposes to own shares must possess at least two characteristics: they must have a basic understanding of the privatization process and the institutions responsible for carrying it out, and they must be willing to maintain a minimum level of savings. Obviously, the most disadvantaged social groups do not, as a rule, fulfill these requirements.

For example, if shares are distributed free of charge in a community where the people are in great need, it is very likely that they will try to sell the shares as quickly as possible to satisfy their more urgent personal needs. If this happens, the democratization of capital will have been illusory and its distributive effects, in the best of cases, would be equivalent to a simple transfer of resources. The situation will be even worse if investors interested in the shares are able to take advantage of the new owners' lack of information and purchase the shares at a price far below their market value. The same problem occurs when the shares are sold at a discount, since shareholders with liquidity requirements will sell them as quickly as possible. It goes without saying that if the shares are sold, even at reduced prices, individuals with few resources are definitively excluded because their savings are small or nonexistent.

What this means is that wherever the democratization of capital has been attempted, the middle and upper classes have benefitted, not the lowest income groups. In Chile, for example, under the "people's capitalism" program, taxpayers who were current in the payment of their taxes were able to purchase shares using highly concessional loans (Ale 1990). It goes without saying that the neediest social groups were not included on most countries' tax rolls, and, therefore, they were unable to purchase shares.

Several Eastern European countries have implemented programs in which all of the countries' residents will be given vouchers (exchangeable for

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shares of state enterprises). In the first place, programs of this type cause serious equity problems of an intergenerational and distributive nature. Moreover, as mentioned above, there is a very real risk that the democratization of capital will be temporary, as has already begun to occur in Russia, so that those with the most resources and the most extensive knowledge of the financial markets will buy shares from the neediest groups.

The second problem with the democratization of capital is that the exposure of new small shareholders is greater than that of investors with more resources. The reason is simple: anyone who owns the shares of only one company or of a few companies cannot spread the risk. Large investors, on the other hand, have the resources and the knowledge necessary to diversify their portfolio in such a way as to achieve the proper mix of income and risk. For example, in the United Kingdom between 1986 and 1991, earnings on the shares of privatized enterprises were on the whole greater than on other shares. However, three out of ten of the privatized enterprises caused investors to sustain losses.[9] Anyone who owned a carefully chosen "package" of shares won, but anyone who had only a few shares of less profitable companies sustained heavy losses. This leads to two significant conclusions. The first is that in order for people to be willing to "take a chance" on one or only a few shares, the price will have to be very low, and the second is that the democratization of capital can lead to a very inequitable distribution of risk in the economy.

Moreover, under voucher schemes, investors can spread their risk only among the shares of privatized enterprises, so that even in this case, the new shareholders are less able to diversify than large investors, who are able to spread their capital among a wider variety of domestic and foreign assets. One possible solution to this problem is for small investors to use their vouchers to purchase shares of mutual funds, which make technical decisions about the proper mix of stocks. This option has the drawback of placing an additional intermediary (mutual fund manager) between shareholders and the management of the enterprises. This brings us to the third problem with the democratization of capital.

The democratization of capital can hinder the attainment of economic efficiency in privatized enterprises, which, as mentioned above, is another of the basic objectives of privatization in Mexico. For an enterprise to operate efficiently, a group of owners with managerial skills must exercise control over the enterprise and supervise the performance of its managers. The democratization of capital can lead to an excessive dispersion of shareholding, in which case no shareholder or group of shareholders will exercise control and the management of the enterprise will not necessarily act in the interest of the enterprise, but in its own interest (see Chapter 1). Moreover, the dispersion of capital makes it difficult to replace the former management with another, more qualified management team. Most countries that have implemented capital

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democratization programs have solved this problem simply by limiting the percentage of capital subject to "democratization." This restriction obviously limits its effectiveness as a means of redistributing wealth, as its reduces the amount of capital that can be distributed.

An example of this is the voucher system Russia adopted in Russia, placing limits on the percentage of shares distributed free of charge to the general population. Each man, woman and child in Russia received a voucher worth 10,000 rubles, which in 1993 was the equivalent of about $40. Obviously, shareholding on such a scale cannot represent significant progress toward a better distribution of wealth.

This does not mean that privatization is an economic policy instrument of little value in redistributing wealth, but rather that the democratization of capital is not the best way to achieve that end. The Mexican government decided to use different privatization methods, not just to ensure the future efficiency of enterprises, but also to fulfil an important and lasting redistributive function.

Thus, the redistributive strategy of privatization in Mexico consisted of using privatization earnings to repay public debt, permanently reduce interest payments, rehabilitate public finances and increase the budget for social spending.

The general objectives of the privatization process in Mexico can be summarized as follows:

- Strengthen public finances.
- Channel scarce public sector resources to strategic or high-priority areas.
- Eliminate expenditure and subsidies with no social or economic justification.
- Promote the productivity of the economy by transferring part of this task to the private sector.
- Improve public sector efficiency by reducing the size of the government.

Moreover, because of the importance of the financial system to a properly functioning economy, in addition to the above, the process of privatizing banks was aimed specifically at the following objectives:

- Creating a more efficient and more competitive financial system,
- Ensuring diversified equity investment by many people, to encourage investment in the sector and prevent undesirable concentration effects,
- Establishing a connection between the moral aptitude and quality of bank management and an appropriate level of capitalization,

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- Promoting decentralization and regional support of the institutions,
- Obtaining a fair price for institutions, consistent with an appraisal based on general, uniform and objective criteria for all banks,
- Working toward the establishment of a balanced financial system, and
- Promoting sound financial and banking practices.

The characteristics of the enterprises sold were such that, over the course of 12 years, the privatization process has been both complex and varied. Although the general objectives remained the same throughout both phases of privatization, the aim in the first phase was to launch the privatization program and win public confidence and acceptance. Therefore, the program began with the smallest enterprises, which provided an opportunity to learn how to privatize and to increase awareness of what the process meant, as it was preferable to make mistakes with smaller enterprises with an insignificant share of gross domestic product, employment and public finances.

Unlike other countries, Mexico took a gradual approach to privatization: enterprises were promoted, the social and private sectors were encouraged to participate, and the public was made aware of the importance and urgency of the process.

In the second phase of privatization, as the program gained credibility, the objectives related to the medium-term survival of the enterprises (without the need for subsidies and higher levels of fiscal revenue) became increasingly important, since despite some gains in social welfare (through increases in productivity), they could have justified the sale of some enterprises at very low prices. It must be remembered that the government purchased these enterprises with public resources and, therefore, was under obligation to try to recover those resources by selling its shares to the private sector at a fair price.

The transparency of the process could not be overlooked either, and it was necessary to continue emphasizing the rehabilitation of public finances as a central objective. In this way, the investment options of potential buyers were increased. For example, the enterprises' unionized workers participated as buyers in 10 percent of the sales operations, and in other cases the government itself negotiated collective agreements with more favorable terms, which facilitated productive efficiency gains through greater discretion in the allocation of productive resources.

However, the privatization program was not a panacea capable of solving all of the economy's problems, but rather an additional economic policy instrument that could be used in combination with other mechanisms. As it advanced in tandem with other measures, the privatization program gained viability because private sector planning was able to focus on the medium as well as the short term. For its part, the concurrent rehabilitation of public

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finances increased flexibility, by enabling the authorities to time each sale properly and avoid accepting a low price for the enterprises. Consequently, the value of these enterprises increased and it became more likely that the objective of rehabilitating public finances would be fulfilled.

For those enterprises without major intersectoral ties, the overall objectives of privatization increased their impact on public finances. Thus, in addition to the above, other specific objectives were established for enterprises that had more significance due to the basic service they provided, their regional importance, or the lack of a competitive market structure. For example, in the case of *Teléfonos de México*, the objectives were rapid growth, better service, and an end to cross-subsidies.[10] Capitalization was the goal in the case of *Compañía Mexicana de Aviación*, and the sales strategy clearly responded to that objective. *Compañía Real del Monte y Pachuca* was rescued from virtual bankruptcy and the objective was to preserve employment under private management, as the company employed 70 percent of the population in the area where the mine is located. The goal in the textile industry was to update technology and promote restructuring in favor of more efficient production techniques.

Teléfonos de México is an example of the simultaneous attainment of several different privatization objectives: transparency, worker participation, medium- and long-term survival of the enterprise, and the maximization of fiscal revenue. Other benefits were also derived from using the enterprise to spearhead the reopening of the international financial markets to Mexican enterprises, as well as significantly reducing domestic and external public debt with the proceeds of the sale. Moreover, the loss of allocative efficiency involved in maintaining the enterprise's long-distance monopoly was offset by the establishment of growth and social telephony objectives. Therefore, with the privatization of TELMEX, important social objectives were established and achieved, in addition to those aimed at improving the quality of telephone service.

A more thorough analysis of the objectives of privatization would require examining each of the enterprises sold to identify conflicting objectives. In such cases, significant growth in the availability of the good or service provided by the enterprise to be privatized was sometimes sacrificed in order to obtain a higher sales price.

Absolute rigidity in prioritizing the specific privatization objectives of each enterprise was impossible, because public welfare required maintaining a balance between worker participation and ensuring higher levels of employment and real wages. Thus, an efficient enterprise run by a group with managerial skills and access to capital was needed. One objective constantly maintained, however, was the transparency of the divestiture process.

The sale of public enterprises to unions with preferential rights might

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have lowered the probability of their survival, in cases where the enterprises to be sold required entrepreneurial capacity and access to capital markets to become competitive. This was experienced in other countries, especially where efficient capital markets were lacking, and where privatization did not succeed in diluting concentration of ownership. The government did not postpone its privatization program while waiting for the Mexican capital market to develop, or for public enterprises to satisfy the requirements established by the *Ley del Mercado de Valores* (Law on the Securities Market) for listing on the Mexican Securities Exchange. To do so would have led to far greater costs in fiscal terms and in economic efficiency.

Once the general objectives of the divestiture program were established, a series of stages was outlined, as follows:

1. Proposal of the coordinating agency.
2. Appointment of the *Comisión Intersecretarial de Gasto-Financiamiento* (CIGF) (Intersecretarial Commission on Expenditure-Financing).
3. Agreement on divestiture and reassignment of the enterprise to the Secretariat of Financing and Public Credit.
4. Designation of the agent bank.
5. Analysis of the enterprise, design of the sales strategy and approval by the Secretariat of Financing and Public Credit (SHCP).
6. Formulation and approval (SHCP) of the terms of sale.
7. Sales profile and prospectus.
8. Preparation and publication of the public notice of sale.
9. Delivery of terms of sale and information profile.
10. Receipt of deposits, signature of letters of confidentiality and delivery of prospectus.
11. Technical visits and interviews with officials of the enterprise.
12. Issuance of an opinion on the financial statements by the auditor appointed by the Secretariat of the Comptroller General of the Federation.
13. Technical and financial evaluation.
14. Receipt and official approval of bids.
15. Authorization and award.
16. Negotiation of the sales contract and legal execution of the operation.
17. Deposit of proceeds with the Treasury of the Federation.
18. Delivery and receipt of the enterprise.
19. Purchase audit.
20. Settlement of claims.
21. Preparation and distribution of the government report (*libro blanco*).

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The initial stages are common to any divestiture process. After the coordinating secretariat for the sector completes its analysis of the enterprise, it forwards a proposal to the CIGF,[11] describing the entity and the reasons for its sale; if the proposal is approved, the commission determines the method of divestiture. If the method selected is transfer by sale, the enterprise is officially reassigned to the Secretariat of Finance and Public Credit, which assumes responsibility for the sale. In the next section, the most relevant aspects of the process are listed and analyzed.

Relevant Aspects of the Privatization Process

Legal and Regulatory Framework

To achieve transparency in each stage of privatization, it was necessary to comply strictly with the legal and regulatory framework established for that purpose. This did not, however, rule out flexibility and creativity in the sale of enterprises. Special care was taken at all times to inform the public about the enterprises being privatized, the agent banks in charge of the sale, the new buyers, and the use to be made of the sale proceeds.

The legal and regulatory framework for privatization is based on the *Constitución Política de los Estados Unidos Mexicanos* (Political Constitution), which defines those areas that are to be considered strategic and reserved exclusively for the public sector, as well as priority activities that the state must promote and which are open to participation by the private sector. In addition, the Constitution states that the sale of public sector entities must be carried out in such a way as to ensure the best terms of sale for the state. The *Ley Orgánica de la Administración Pública Federal* establishes the rules governing the organization of public agencies. Subsequently, and for purposes of establishing regulations governing the organization of such entities, their operation and the control of public sector entities, in May 1986 the *Ley Federal de Entidades Paraestatales*[12] was published.

The Regulations of the *Ley Federal de las Entidades Paraestatales* were published in January 1990.[13] The most important provisions related to privatization are as follows:

22. The Secretariat of Programming and the Budget[14] is authorized to propose the establishment or divestiture of public sector entities.

23. The Secretariat of Finance and Public Credit is authorized to designate the national credit institution[15] responsible for performing the technical and financial evaluation and carrying out the sale.

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Under this legal framework, the CIGF determines the procedure (Appendix 2) to be followed for the sale of enterprises in which the state is a majority shareholder.[16] In addition to the above, the following points should be noted:

1. The Secretariat of Finance and Public Credit (SHCP) is authorized to coordinate, supervise and carry out the sale of the enterprises.
2. Reassignment of enterprises to be privatized to the SHCP, which must appoint a new manager or retain the current one, in addition to assuming general responsibility for the performance of the enterprise until it is privatized.
3. The SHCP must ensure that the agent bank is not a creditor of the enterprise whose shares are to be sold.
4. The Secretariat of the Comptroller General of the Federation[17] will appoint an auditor, who will issue an opinion on the financial statements.
5. The agent bank will propose a sales strategy, prepare the prospectus, determine the minimum reference price, specify the margins for the purchase audit and the penalties to be applied if the buyer reneges.
6. Workers' preferential rights.[18]
7. Official approval of the bids presented by the agent bank and recommendation of the prospective purchaser.
8. As a general rule, payment for an enterprise's shares must be made in cash within a period of not more than 180 days, with interest accruing after the first 30 days.
9. The agent bank will present to the SHCP its recommendation on the bid that ensures the best terms of sale for the state. If the bids are above the minimum reference price, the SHCP will make the decision to sell the shares. Otherwise, the CIGF will define the course of action to be taken.
10. The agent bank must indicate in the sales agreement the guarantees, terms and conditions, and the reasonable margins to be included in the purchase audit carried out by the purchaser.
11. Once the sales operation has been formalized and the costs incurred in the process have been deducted and approved by the SHCP, the agent bank will deposit the proceeds of the sale with the Treasury of the Federation.

Between December 1982 and November 1988, the Advisory Coordination Unit *(Coordinación de Asesores)* of the Secretariat of Finance and Public Credit was responsible for the privatization process. Later, in the next administration, with a view to accelerating and deepening the program, it was deemed necessary to assign these activities to a single entity that would centralize decisionmaking and—to prevent bureaucratization of the process—would be small in size.[19]

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Accordingly, the Unit for the Divestiture of Public Enterprises was created within the Secretariat of Finance and Public Credit.[20] Under this arrangement, the support of an agent bank made it possible to privatize several enterprises at once. Thus, the two stages of the privatization program were carried out by different individuals and under the responsibility of agencies other than the Secretariat of Finance itself.

Generally speaking, the regulatory and legal framework governing the first stage of privatization was similar to the framework established in the second. Significant changes in the second stage included the following:

1. Reassignment of the entity to be privatized to the SHCP, which assumed responsibility not only for its divestiture but also for operational control of the entity during the divestiture process.
2. Formulation of a specific sales strategy for each entity, based on its financial and material conditions, as well as its operational or labor problems, among other factors.
3. Promotion of competition in the industry to which the enterprises belonged, to prevent privatization from creating monopolies (close participation of the Federal Commission on Competition, 1992).
4. Audit of financial statements by an external auditor appointed by SECOGEF. This measure significantly reduced the claims purchasers filed following completion of the purchase audit.
5. Preselection of buyers in the case of large enterprises.
6. Participation of notaries public in the receipt of bids.
7. Constant and timely provision of information to the public concerning the progress of the sale of each enterprise, the buyers and the amount of the operations.
8. Final opinion on the execution of the sale of each enterprise, prepared by SECOGEF.
9. Audit of compliance with the regulatory and legal framework of the sales process under the direction of the *Contaduría Mayor de Hacienda* (accounting unit) of the Chamber of Deputies and the Office of Internal Audits of the SHCP.

Owing to the particular importance of the financial system, its contribution to the growth of various economic activities and the importance of the participation of various government agencies, the Banking Divestiture Committee *(Comité de Desincorporación)* was created in September 1990, with duties and responsibilities in the area of privatization of the national banking sector.

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Agent Bank and Timing

In each case, the Secretariat of Finance and Public Credit selected one of the country's 18 commercial banks for the financial evaluation, announcement and sale of public enterprises. The specific criteria used to select the agent banks were as follows:

- Staff with sufficient knowledge to evaluate the enterprises and experience in the sector, as evidenced by its client portfolio.
- Workload in other privatization operations must not prevent it from efficiently carrying out the process.
- Satisfactory results obtained in prior privatization operations.
- No interest in the enterprises to be privatized deriving from its position as a creditor bank or a bank providing financing for one of the buyers.

Generally, an effort was made to use the same bank as agent for all of the enterprises sold in a given industry, in order to take advantage of the experience acquired in previous privatization operations and of economies of scale in the market studies performed to assess the overall situation and future prospects of each sector.

As for timing the sales, after the enterprises were assigned to the Unit for the Divestiture of Public Enterprises, their financial problems were analyzed and an effort was made to sell them as quickly as possible. The sales process was prolonged by the necessity of updating legal documents related to the assets and operation of the enterprise. In some cases, it was even necessary to settle issues concerning the ownership of land or to remedy the tax situation of enterprises with tax liabilities.

Because privatization is a dynamic process, experience was gained constantly, with the result that each sale in a given sector was carried out more rapidly than the last, but always in compliance with the original guidelines and strictly in accordance with each step of the process. Such was the case of the enterprises in the mining sector, where the first enterprise offered for sale was *Compañía Minera de Cananea.* The privatization process began in January 1988 and ended in September 1990, after two rounds of bidding, a declaration of bankruptcy and a third and final round, in which the enterprise was sold. The second mining company offered for sale was *Macocozac,* and in this instance the process lasted a year. The third and final enterprise was *Compañía Real del Monte y Pachuca,* which was offered for sale in September 1989 and sold in February 1990.

The speed of the privatization process was important for three main reasons. The first was that privatization was one of the key elements of state reform; consequently, economic reform, the rehabilitation of public finances

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and economic stabilization could hardly have been achieved in Mexico without selling public enterprises. The second reason was that privatization enabled the government to limit its involvement in the economy, achieve greater rationality and devote more time to encouraging and expanding private sector participation, thereby promoting higher levels of productive investment. Finally, if the process were unduly prolonged, the physical condition of the enterprise and the efficiency, productivity and motivation of its employees would deteriorate significantly.

Throughout the privatization process no complaints of noncompliance with the established schedule of activities were registered, indicating that the process always adhered to the bidding conditions and that the expected price was never made public; nor was the sale of the enterprise guaranteed to occur in the first round. Furthermore, as the participants generally belonged to the same industry as the enterprise to be privatized, they were familiar with the characteristics and behavior of the sector. This gave the process greater flexibility, for when a sale took too long, the participants were aware of the reasons and the process never lost credibility or transparency.

Moreover, evaluating the effectiveness of the process of selling an enterprise cannot be based solely on whether the process was short, since the focus should be on fulfillment of the general objectives of privatization, even if it means prolonging the process.

The participation of the agent bank throughout the process is essential, as it is responsible—under the coordination and authorization of the SHCP—for a number of activities, including: collecting information on the enterprise; preparing and publishing the notice of sale; defining the terms of sale; preparing a descriptive profile of the entity for use in initiating the sale disclosure process; preparing the prospectus to be used by potential buyers in presenting their bids; determining the amount of the deposit to be made by interested parties to obtain specialized information; performing the technical and financial evaluation and participating in the drafting and negotiation of the sales agreement, as well as analyzing any claims submitted by the buyer following the purchase audit.

Corporate Structure and Financial Rehabilitation

The preparatory measures were aimed at improving the efficiency of the enterprises and promoting their operation in accordance with the same sort of profitability and efficiency criteria that are generally applied to the performance of privately managed enterprises. As mentioned above, as soon as the Intersecretarial Expenditure–Financing Committee decided to privatize an enterprise and control of it was transferred to the SHCP, the latter became responsible both for promoting the sale of the enterprise and for its day-to-

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day operations. As a result of this change of sector, the SHCP chaired the enterprises' board of directors meetings, which had a positive impact on the divestiture mechanism and on the sales price obtained, because it increased flexibility and responsiveness in the taking of operational, investment and management decisions.

The SHCP representative, as chairman of the board, evaluated the performance of the general manager of the public enterprise and decided whether to retain or dismiss him. If he was not retained, the Secretariat looked for someone else with experience in the sector to fill the position, including former managers of other public enterprises. One of the advantages of having the SHCP run the enterprise in the period prior to its sale was that the Secretariat had more direct access to information, which prevented delays and expedited the process of rehabilitation and preparation for the sale. The fact that the original managers may have had no interest in privatizing the enterprise makes this advantage even more obvious. Moreover, centralizing the sales decision was one way of fulfilling the objective of maximizing the probability of the enterprise's medium-term survival, as necessary changes could be made to prepare for efficient operation of the enterprise under private ownership.

It should be emphasized, however, that subsequent responsibility for the enterprise's success and survival did not fall on the agency responsible for the sale, but depended instead on the managerial skill of the new owners, how resources were used, and conditions in the market.

Although the first stage of the privatization program rarely included the restructuring and reactivation of enterprises to be sold, this process was intensified in the second stage through the implementation of measures aimed at financial rehabilitation and successful negotiations with workers, which helped in obtaining a higher sales price. It should be emphasized, however, that while the depth of restructuring was relatively the same in both phases, in the first stage the federal government assumed the liabilities of various enterprises slated for privatization (without changing the administrative and operational aspects), and in the second stage it restructured the enterprises and, in some cases, reactivated their financial and commercial operations. Moreover, in the initial privatization operations, there was no need to enter into the details of collective labor agreements or operations, owing to the type of enterprises involved, their size or the sector to which they belonged.

Sales Mechanisms and Strategies

The sales mechanism and its implementation were designed in such a way as to minimize discretionary power, which kept the sales procedure as transparent and as simple as possible and ensured the strict observance of all legal requirements. It should be pointed out that a specific sales method was de-

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vised for each enterprise, which, in all cases, reflected the objectives of privatization.[21]

The sales mechanism selected was public bidding, as it was not possible to use the stock market, either because the enterprise was not listed on the market or because of the restrictions set forth in the *Ley del Mercado de Valores* (Law on the Securities Market). Moreover, public bidding contributed to the transparency of the process, and, if the bidding conditions were carefully formulated, facilitated attainment of the specific objectives established for each privatization operation. Public bidding also increased the likelihood of obtaining an attractive bid and ensured that all participants interested in acquiring the enterprise would compete in the same conditions, which is why the direct sales mechanism was never used.

The sales mechanism was designed to give the new owner effective control over the management of the privatized enterprise, thereby facilitating efficient resource allocation, the maximization of profits and the medium- and long-term survival of the enterprise on the respective market.

As pointed out in Chapter 1, enterprises require a system of incentives to ensure that managers maximize the interests of shareholders. In a competitive system, this arrangement also responds to the interests of consumers, so that privatization entails not only a change of ownership, but also a restructuring that transforms the incentives of economic agents and enterprises, making them more efficient.

Likewise, and to avoid affecting productivity prior to the sale of an enterprise, part of the sales strategy was to take care not to make the divestiture plan known to workers until the Unit for the Divestiture of Public Enterprises was ready to initiate simultaneously all of the preparatory measures, for if this were done far in advance, a drop in labor productivity would most likely have occurred.

In addition to adhering strictly to the aforementioned stages, one of the distinctive features of privatization in Mexico was the design of a specific sales strategy for each enterprise, taking account of the enterprise's financial position, conditions in the sector in which it operated, the structure of demand, the relevant legislation, the macroeconomic context, and, when necessary, the international environment as well. Thus, the bidding conditions were prepared in accordance with the specific objectives of privatization (see Appendix 3).

In implementing the sales mechanism and the various sales strategies, the main problem encountered in the first phase was lack of confidence in the process and in the country's economic situation in general; the result was a lack of participants in the bidding processes. Therefore, bids were received for only a small number of enterprises in the early years, and the first part of the process came to an end in the third year (1985).

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Achieving the established objectives was always considered more important than adhering to a specific timetable or accelerating sales. The prevailing view was that privatization should be properly timed, and if conditions were not right, it was possible to wait for circumstances to improve before again offering an enterprise for sale, as in the case of the sugar refineries and *Compañía Mexicana de Aviación*, for example.

Valuation

Obviously, privatization requires valuation of the enterprise to be privatized. The purpose of the sale, as mentioned above, is not only to transfer ownership, but also to begin the process of restructuring the enterprise itself and the economy in general. For this to happen, someone must evaluate the potential of each enterprise and then establish a minimum reference price, which must be bettered if the enterprise is to be sold. Moreover, valuation of the enterprise is necessary to maximize the government's earnings, and to avoid losing public support for divestiture as a result of transferring government assets to private groups at unrealistic prices.

The agent bank appointed by the Unit for the Divestiture of Public Enterprises was responsible for performing the technical and financial evaluation, based on information provided by the enterprise itself and by the responsible government agency, prior to the decision to sell. In cases where large amounts were involved or the sector's problems were complex, the advice of international experts (primarily investment banks) was obtained, as a means of reinforcing the valuation process. Such was the case in determining the reference prices of *Compañía Mexicana de Aviación, Compañía Minera de Cananea, Altos Hornos de México* and *Siderúrgica Lázaro Cárdenas, Teléfonos de México* and the commercial banks, among others.

The valuation techniques used by all of the agent banks were similar: the liquidation and replacement value, the net present value and the internal rate of return were determined, using the profit flows of the enterprises and discount rates consistent with the overall situation and the outlook for the economy and for each sector. The factors usually taken into consideration were the enterprise's financial performance in recent years, the average prices of similar enterprises operating in the market, the enterprise's assets, its level of indebtedness, its net worth and its competitive standing in the sector to which it belonged. Estimation of the minimum reference price also included consideration of the enterprises' state of technological advancement and the investments that would be needed to increase their efficiency and enhance their prospects for growth and survival in the market.

It was very important that the valuation be realistic and that all elements of the market and of the overall economic context be considered, not just

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those specific to the enterprise. Thus, it was sometimes necessary to use different methods simultaneously. Based on the valuation, the agent bank proposed a minimum reference price, which then served as the basis for evaluating and weighing the purchase offers.

Preselection and Selection of Buyers

Selecting buyers was one of the most important aspects of the privatization of public enterprises; consequently, in the case of larger enterprises, the selection was made in two stages. In the first, participants not satisfying the requirements for achieving greater productivity and competitiveness in the sector were eliminated. As a result of preselection, it was possible in the second stage to make price the variable that would determine the purchaser making the best offer. Therefore, the requirements established in the bidding conditions for each of the privatization processes were, in general terms: financial solvency, experience in the sector and investment commitments.

In particular, the buyer's experience in the sector to which the entity belonged was very important as a criterion for increasing the productivity of privatized enterprises and maximizing the probability of their medium-term survival. However, if potential investors lacked experience in the sector to which the enterprise belonged, their experience in other sectors was evaluated. Thus, a change of ownership was not enough, for if structural changes were not made, the advantages afforded by the lack of political objectives, the elimination of red tape and effective supervision by the owner would be lost.

Evaluating investment commitments inspired confidence in the possibility of the enterprise's survival beyond the short term. This aspect was fundamental in the case of TELMEX since, as mentioned above, it would hold a long-distance monopoly for six years, subject to compliance with the certificate of concession.

In addition to the above, one of the factors considered in selecting the winning bid was the possibility of exploiting synergies through the merger of enterprises in the same sector, resulting in productive efficiency gains. The fact that this phenomenon was not a problem in terms of allocative efficiency was due to the process of trade liberalization, which helped promote competitive market structures. It should be mentioned in this regard that in the second stage, price was the final criterion for selecting the winning bid for the privatization of both public enterprises and financial institutions. Fully 98 percent of the enterprises were sold for amounts above the minimum reference price calculated by the agent banks.

To ensure transparency, bids were received in sealed envelopes in the presence of notaries public, who attested to the legality of the process. The procedure was witnessed by representatives of the Secretariat of Finance and

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Public Credit, the Secretariat of the Comptroller General of the Federation, and the Divestiture Unit and by the bank officials responsible for this process.

Under Mexican legislation, foreign investors were allowed to participate in the sale of some public sector enterprises for up to 49 percent of their capital stock. Other mechanisms were also established for foreign participation in sectors where it was important to benefit from technology transfers.

In the case of banks, the law restricted the participation of foreign investors to the ownership of A and B shares, although this restriction was later relaxed to allow foreign participation through neutral trusts *(fideicomisos neutros)*.

One of the most positive results of the privatization of banking was the increased stock dilution compared with the situation existing prior to expropriation. At present, 130,000 investors own bank shares, not counting mutual funds, whereas in 1982 there were only 8,000 shareholders. It should be noted that the equity holdings of individual investors do not exceed 5 percent of the banks' capital stock.

Workers participated in the purchase of enterprises in both stages of the process. In the first stage, they acquired almost 100 percent of the state textile industry. This focused attention on the possibility of acting jointly with labor and facilitated the restructuring of enterprises, which in turn helped increase their sales price. In connection with the latter, the privatization of TELMEX in 1991 is a case in point. Workers accepted modifications in the collective labor agreement, making the enterprise more attractive to investors and placing the government in a relatively favorable position. In the second stage, unionized workers participated as buyers in 10 percent of the sales operations.

Costs of Implementing the Privatization Process

The costs of privatizing an enterprise stem from two sources: the first is associated with payment of the agent bank's commercial commission, equivalent to a fixed rate of 1 percent of the price the buyer paid for the shares. Beginning in June 1992, this commission was calculated at a rate varying from 0.25 to 3.0 percent, again depending on the amount paid for the shares.

The second source derives from the expenses incurred during the sales process, which consist basically of fees to outside consultants and notaries public, travel allowances, and promotional expenses, among others. In terms of the total operation, those expenses were relatively low, approximately one percent.

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Table 4.6 Contingency Fund's Cumulative Flows, June 30, 1994
(In millions of new pesos)

Item	Inflows	Outflows	Balance
Privatization process			
a) Inflows (I + II)	66,455.7		
I. Privatization	63,890.5		
Banks	39,167.8		
TELMEX	17,704.6		
Enterprises	7,018.1		
II. Interest generated by the Fund	2,565.2		
b) Repayment of public debt		58,432.6	
Government securities		54,414.1	
Savings Protection and Asset Revaluation Fund		2,403.8	
Debt of privatized enterprises		1,614.7	
Partial balance (a – b)			8,023.1

Source: Report on the Economic Situation, Public Finances and Public Debt, SHCP.

Use of the Proceeds

Another characteristic of the privatization process in Mexico is the way in which the resources generated by this program were used. Clearly, this aspect is fundamental, as any improper use of the proceeds could have hindered attainment of the objective of strengthening public finances.

The fact that the proceeds from the sale of public enterprises was nonrecurrent required that they be handled with extreme caution. Using them directly to increase public sector current expenditure would have been unsustainable once there were no more enterprises to sell. This meant that the resources would have to be used for something of a permanent nature. A decision was therefore made to deposit them in a special fund known as the *Fondo de Contingencia Económica* (Economic Contingency Fund), which was used to repay public debt.

As indicated in Table 4.6, from the establishment of the Contingency Fund in 1990 through the first quarter of 1994, the total amount of privatization earnings deposited was 63,890.5 million new pesos, of which 58,432.6 million new pesos were used to repay public debt.

It should also be mentioned that the proceeds from liquidating the *Fideicomiso de Riesgos Cambiarios (FICORA)* (Foreign Exchange Risk Trust), amounting to 7,401 million new pesos, were also deposited in this fund. Of that amount, 5,213 million new pesos were used to purchase financial cover

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and to make financial investments in development banks and development funds.

Thus, the use of privatization earnings to repay public debt, the permanent reduction of interest payments, fiscal savings by eliminating subsidies to divested enterprises, and increased tax revenue from privatized enterprises, all expanded the government's capacity to reallocate public expenditure to social priorities. In fact, while social spending represented 33.2 percent of programmable expenditure in 1988, by 1994 it represented 53.9 percent.[22] By 1995, as a result of this sizable increase, 14 million more Mexicans had gained access to potable water service, 12 million more had sewage services, and another 16 million had electrical power.

Endnotes

1. See the *Ley Federal de las Entidades Paraestatales* (Federal Law on Public Entities), Chapter 1, Article 2, and the *Ley Orgánica de la Administración Pública Federal* (Organic Law of the Federal Government), Title Three, Articles 45–50.

2. The sale of assets, industrial units and enterprises in which the state was a minority shareholder was also considered in quantifying the privatized enterprises.

3. *Rivalry* occurs when the available quantity of a good diminishes due to consumption. *Excludability* exists when economic agents who have not paid for a good can be excluded from consuming it. Neither of these pertains to public goods such as street lighting, national defense, and parks. Conversely, a private good (even if produced by a public enterprise) is subject to rivalry and exclusion.

4. The government's decision to protect sources of employment by maintaining certain unproductive public enterprises, prevented resources from being used in priority areas that would have required more additional workers.

5. See Table 3.3 in Chapter 3.

6. A clear example of this was the Mexican textile industry.

7. Infraestructura de Telecomunicaciones, S.A. de C.V.; Grupo Iusacell, S.A. de C.V.; Pulsar Internacional, S.A. de C.V.; Allnet Communication Services; Radio Beep & Associates/Westel/CTGI/Radio Beep; Grupo Domos Internacional, S.A. de C.V.; Comunicaciones Personales, S.A. de C.V.; Comred, S.A. de C.V.; Alfa, S.A. de C.V.; Grupo Financiero Bancomer, Celular de Telefonía, S.A. de C.V.; Telefonía Celular del Norte, S.A. de C.V.; Servicios Espectro Radioeléctricos, S.A. de C.V.; Movitel del Noreste, S.A. de C.V.; Sistemas de Comunicaciones Troncales, S.A. de C.V.; Promoción de Servicios de Telecomunicación, S.A. de C.V.; Nacional de Telecomunicaciones, S.A. de C.V.; Servicios de Radiocomunicación de México, S.A. de C.V.; Telecomunicación Radial, S.A. de C.V.; Fonotransportes Nacionales, S.A. de C.V.; Asociación Mexicana de Concesionarios de Trunking; Corporación Interamericana de Desarrollo, S.A. de C.V.;

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Diez, Garza-Morales y Prida, S.C.; Optel Telecomunicaciones, S.A. de C.V.; Teléfonos del Sureste, S.A. de C.V.; AT&T de México, S.A. de C.V.; Delta Comunicaciones Digitales, S.A. de C.V.; Baja Celular Mexicana, S.A. de C.V.; Radio Laser, S.A. de C.V.; Gálvez International, Inc.; GTE; Sprint; CTGI; Marubeni; Telefonía Española, Rafael Chávez Torres; Grupo Telektra; Motorola de México; Telinor; Servicios Teleinformática y Consultoría (*Época*, No. 181, November 21, 1994).

8. The rate schedule allows the enterprise to set prices for each of the services it provides, subject to the restriction of observing a maximum value for the weighted price of the range of telephone services covered by the regulations.

9. "To buy, to sell, perchance to profit," *The Economist* (December 7, 1991), p. 98.

10. See the growth of TELMEX indicators in Table 4.5.

11. Collegial body permanently established in August 1979, currently comprising the Secretariats of Finance and Public Credit, Comptroller General of the Federation, Social Development, Commerce and Industrial Promotion, Labor and Social Security, and by the Bank of Mexico.

12. *Diario Oficial de la Federación*, May 1986.

13. *Diario Oficial de la Federación*, January 1990.

14. When the Secretariat of Programming and the Budget was eliminated, its several powers were transferred to the Secretariat of Finance and Public Credit.

15. Following the privatization of banking, banks, as private institutions, may also be given responsibility for the evaluation, disclosure and sale.

16. Procedures for the sale to the social or private sectors of securities representing the capital stock or the interest that the federal government or any public sector entity holds in such stock, in the case of enterprises in which the state is a majority shareholder.

17. Based on Article 12 of the Regulations of the *Ley Federal de las Entidades Paraestatales*.

18. Based on Article 32 of the *Ley Federal de las Entidades Paraestatales.*

19. The Divestiture Unit had a staff of 40, including support personnel.

20. *Diario Oficial de la Federación*, October 1990.

21. See example in Appendix 3.

22. *Criterios generales de política económica,* SHCP, 1994.

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CHAPTER 5

Private Infrastructure Concessions: Mexico's National Highway Program, 1989–94

In the past two decades Mexico, like other emerging countries, embarked upon an accelerated expansion of its toll highway system. Given the resource requirements of such a program, most countries have encouraged private sector participation in the growth of road infrastructure. Since the mid 1980s, countries such as Indonesia, Malaysia, Thailand and Mexico have implemented plans for private participation in the construction and operation of toll highways.

In Mexico, expanding road infrastructure did not involve the sale of assets; instead, we amended laws and created institutions to facilitate the investment of private capital. To encourage private sector participation, the government included clauses in concession contracts to guarantee minimum traffic and growth rates, linked to the objective of offering investors a certain measure of security.

The results fell short of expectations, however, owing to substantive errors in the concession program. When these errors were compounded by an economic crisis in early 1995, the federal government established a support program for concession highways, to overcome financial problems related to the national road program.

Road Infrastructure in Mexico

In 1925, Mexico had a road infrastructure of 28,000 km (including informal roads and paths) for the approximately 40,000 vehicles then in use. A gasoline tax was introduced, and the revenue went for constructing, preserving and maintaining roads, tasks entrusted to the newly created National Road Commission. In 1926, Plutarco Elías Calles promulgated the Law on Roads and Bridges, and the Secretariat of Communications and Public Works (later Communications and Transportation) was created to formulate policies pertaining to national roads and bridges.

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Between 1925 and 1930, the National Road Commission built 1,420 km of highways. In December 1932, Pascual Ortiz Rubio established for constructing and preserving new roads with both federal and state monies. This program was the precursor of the National Road Commission of the National Directorate of Roads, an agency of the Secretariat of Communications and Public Works (SCOP).

By the late 1930s, 9,500 km of roads had been built; in the next decade, another 12,500 km were added, bringing the total to 22,000 km by the end of the 1940s. The construction of high specification roads began in 1949 with the Mexico City–Cuernavaca highway, completed in 1952. Between 1950 and 1960, 22,500 km were built, raising the total to 44,500 km, which represented 90 percent of the country's basic trunk system. In 1958, the decentralized Federal Toll Roads Agency was made responsible for preserving and operating federal toll roads (in 1963, bridges and related services were added). By the end of the 1970s, Mexico had a road system of approximately 71,000 km, and in the early 1980s the system was expanded to 213,000 km.[1]

In 1983, the Subsecretariat of Infrastructure was created within the Secretariat of Communications and Transportation (SCT) with responsibility for planning the country's road, port, airport and railway infrastructure. Over the next five years, the road system grew only 8 percent, due to the economic crisis. By late 1986, the entire system comprised only 230,991 km (about 143,538 miles), broken down as follows: 45,661 km of federal roads (including 940 km of toll roads) 58,429 km of state roads, 94,421 km of rural roads and 32,480 km of improved informal roads.

In 1987, a new plan was developed for high-specification toll roads. A private trust was structured with 25 percent state participation (equity holdings), 25 percent contractors, and 50 percent development bank financing through BANOBRAS, a financial institution specializing in infrastructure investment. In early 1989, the National Concession Highways Program was launched, to build and place in operation 4,000 km of highways. President Carlos Salinas de Gortari negotiated a public–private sector agreement for constructing and operating high-specification roads and bridges. The SCT provided the legal basis for the construction of roads, encouraging private investment through concessions granted by public bids and regulated by law.[2]

National Highways Concession Program

In Mexico, highways financed with user tolls date from the 1950s. Prior to 1988, there were 940 km (584 miles) of toll highways, built and operated entirely by public entities. Mexico's plan to build an additional 5,300 km (about 3,300 miles) of toll highways during 1989–1994 was the most ambitious pro-

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gram for expansion through private concessions undertaken in the first half of the 1990s. The projected costs of this expansion were equivalent to $5 billion: compared with the recent past, a threefold increase in the rate of highway investment. Initial results were dramatic: in 1990–91, 500 km were added to the system, representing an infrastructure growth rate similar to the highest rates recorded in France and Spain, with similar private participation programs.

The national road system currently comprises 303,262 km, the federal highway system 7,163 km. Five concessions were granted to financial institutions and are operated by *Caminos y Puentes Federales* (CAPUFE) (total length: 584 km), and 19 concessions were granted to state governments (total length: 1,087 km).

The highway concession program doubled the length of existing highways (from 4,500 km in 1989 to 9,900 km in 1994) and 53 concessions were granted for the construction of 5,348 km. By early 1995, 44 concessions were already in full or partial operation. Investment in this program totaled approximately $13 billion, financed with loans from domestic banks, concessions to private organizations, and contributions from the federal government or state governments.

Plan for Implementation and Administration

The public entity responsible for the program was the SCT, which planned and designed the highway sections and routes to be operated as concessions, in addition to preparing estimates for road transport operations. The SCT not only selected the road sections to be operated as private concessions but also determined the rates that operators were to charge users. Under the plan, the only possible change in the tolls would be adjustments to keep them constant in real terms. Interested parties were given preliminary designs, cost estimates and traffic projections prepared by the Secretariat for each project. The determining factor in selecting the winning proposal was the shortest concession period, which could not in any case exceed 20 years.

The concessions were awarded to consortiums formed by contractors and financial institutions; in some cases, state governments involved in construction also participated. Through a predetermined discount of the costs incurred during construction, contractors held an equity interest of up to 30 percent, based on the valuation of the equipment and machinery used in each project.[3] To avoid conflicts of interest, each concession holder set up a trust so that contractor costs could be audited, bank financing allocated, and possible earnings distributed among the investors.

Regarding the contingencies associated with each project, the authority provided a partial guarantee of minimum traffic volume, as well as cost esti-

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mates. If the traffic volume turned out to be less than the estimate, the concession holder could request an extension of the concession period. As for costs, the concession holder was responsible for absorbing up to 15 percent of costs above the estimates during construction. Cost overruns exceeding 15 percent of the estimated base, and/or any design changes the authority made, were sufficient grounds for extending the concession period.

Indeed, under this plan, the only criterion for selecting concession holders was the term of the concession, since both income and level of costs were virtually guaranteed and could be adjusted by lengthening the concession period. In principle, assuming an effective system of incentives, the criterion for awarding concessions was not necessarily flawed. The shortest concession period implicitly identified those potential concession holders who hoped to obtain a positive net present value in a relatively short period. Given that all of the participants shared the same potential profits, based on the SCT estimates, the only way of obtaining a positive net present value in the shortest time possible was through a reduction in costs (efficiency) or a lower opportunity cost (discount factor). This selection criterion is only partially effective, however, because it ignores demand behavior, which has the effect of minimizing or even limiting the potential social welfare.

Financing Plan

During the construction phase, financing was obtained by issuing commercial paper backed by a national credit institution. Once the highways were placed in operation, the commercial paper was liquidated and exchanged for ordinary certificates of participation with a trust guarantee *(garantía fiduciaria)*. This guarantee consisted of the income obtained through the collection of tolls.

Assessment of the Road Program

The program was not a success. Owing to design flaws, costs were higher both during construction of the original design and in the post-construction phase. Fares and traffic volume were merely rough estimates or were determined at discretion. Adjustments were based on each project's actual costs (both variables were fixed centrally by the SCT). In 1994, a number of projects were restructured due to such problems. Where traffic volume fell short of expectations, for example, the term of concessions was extended to the legal maximum of 30 years. In fact, terms of 26 of the 52 concessions granted were extended, and the average term following restructuring rose from 16.5 to 23 years.

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With the devaluation in late 1994 and the increase in capital costs in 1995, financial problems worsened. In response to the macroeconomic crisis, a "road recovery program" extended the term of concessions to the legal maximum and restructured loan balances in investment units (UDIs).[4] In December 1995, the concession holders and the fiscal authorities agreed to reduce the tolls on 28 highways with relatively high rates. Due to the reduced toll and a tax credit equivalent to 40 percent of the corresponding rate, the reduction represented, on average, roughly 60 percent of the savings over the former rates.

Deficiencies in Program Performance

Traffic volume and cost projections. The flow of earnings fell short of minimum expectations, because actual traffic was less than projected and operating and maintenance costs were higher. On average, the income earned was 30 percent less than originally projected.

The most serious deficiency was the use of estimated traffic volume and fares as adjustment variables in dealing with the high costs incurred in the majority of cases. This ignored certain basic principles regarding user behavior, when rates exceed willingness to pay and are disproportionate to frequency of use.[5] The concession holder could not adjust rates without SCT approval, which discouraged concession holders from being flexible about the toll level, and minimized the relative importance of operation (rather than construction) as a source of profits. Costs of the program were underestimated due to insufficient information, problems involving land rights, and unforeseen changes in road design. As a result, the average cost per kilometer of new road climbed to approximately $2.6 million, whereas the estimated cost had been $1.7 million.[6]

The cause most often cited for such errors was the speed of awarding projects in the selection process and/or lack of foresight as to basic principles governing user behavior. The road sections to be awarded were determined arbitrarily, and entire main arteries were split up into separate sections to be operated as concessions. These decisions had a similar effect, as the criteria bore no relation whatever to the project's profitability, and even less to regional development objectives.[7]

Determination of rates and concession periods. As mentioned above, the determining factor in selecting potential concession holders was the concession period. Moreover, instead of using objective demand criteria to determine rate levels, criteria were chosen to minimize the term of each concession. Relatively short concession periods were obtained by charging high fares to the users, disregarding the principles of economic efficiency. The average

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length of the 22 concessions granted during the program's first stage was about 12 years, although there were extreme cases with terms of only five years.

Growing public intervention. At the start, the authorities granted concessions for the more profitable road sections, so that over time, the expected return of subsequent projects declined. Potential concession holders gained a favorable strategic position when they realized that the government was politically obligated to carry out the road program it had announced. Consequently, concession holders came to expect not the return of each project *per se*, but the potential returns from renegotiation strategies employed in each case.

The federal government's increasing investment in these projects turned the construction subsidy into a shareholding interest, which in some cases amounted to 40 percent of the total investment (Ruster 1997). Clearly, this sequence of events resulted in a growing subsidy to private investors, especially contractors, whose strategically privileged position enabled them to transfer risk to the other project participants, the federal government and financial institutions. Like the federal government, the financial institutions changed their terms of involvement in financing this type of road project. At first, their participation had been in the form of commercial credits, subsequently refinanced through the issuance of medium-term commercial paper—guaranteed not by income from the tolls, but by the financial intermediaries themselves. In some cases, certificates of participation were issued at a fixed real interest rate and were backed by the income from operating the respective road sections.

Highway Recovery Program. In August 1997, the federal government launched a program to transfer 23 of the 52 road concessions operated in the 1990-94 period (see Table 5.1). Under this program, the government assumed roughly $4.8 billion in debt (two-thirds owed to commercial banks and one-third to construction firms), and acquired approximately $1.0 billion of the equity of consortiums operating the concessions.

Analysis of the Concession Program

Highway expansion projects are capital-intensive and have a long useful life. Many costs are concentrated in a relatively short period (compared with useful life), while the flow of profits is distributed over a much longer period—an extreme intertemporal imbalance between costs and profits. In theory, private sector participation in capital investment was to eliminate pressure on the fiscal deficit generated by implementing macroeconomic adjustment pro-

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Table 5.1 Size of the 1997 Highway Recovery Program

Category	Length (km)	Length recovered	Percent recovered
Road under private concessions	3,485	2,393	68.7
Road operated as state government concessions	1,626	1,158	71.2
Total*	5,111	3,551	69.5

*Does not include 237 km granted as a concession to Banobras.

grams. It would also internalize the cost of maintaining and possibly expanding the road infrastructure, and yield a more efficient use of resources.

Private sector participation was made possible through a model often used by the public sector to encourage private participation without transferring property rights over infrastructure. The Build-Operate-Transfer (BOT) plan has been used in constructing large-scale infrastructure works such as roads, ports, and power plants in both developed and less developed countries.[8]

Under a BOT plan, a private entity builds the infrastructure and operates it for a specified period. Once the private entity has recovered its investment and obtained a certain return, the infrastructure reverts to the public sector. This model has gained wide acceptance because it makes substantial long-term investments possible without exerting pressure on available fiscal resources. Not many projects have completed the BOT cycle, however, due to the length of concession periods. Consequently, there is not much empirical evidence of the model's success; indeed, preliminary results have not demonstrated its effectiveness in creating infrastructure at a minimal social cost.[9]

Efficiency Criteria

The BOT model assumes that a private economic agent considers the possibility of competing with one or more free-access road sections through the construction, maintenance and operation of a separate parallel route. This infrastructure is characterized by substantial sunk costs and can often give rise to monopolistic situations. In the National Highway Program, each project aimed at constructing a toll route as an alternative to existing federal routes between particular destinations.

The ideal level of efficiency for these projects could be achieved under certain conditions. Where users had the same time cost, the rate would make the average cost of the pre-existing route equal to the average cost of the improved route plus the toll. Otherwise, users would migrate from one route

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to the other. Where time costs differed, users would be distributed according to their estimation of such costs on the improved route.

Given an existing alternative toll-free route, the concession operator must offer sufficient incentives for choosing the toll route over a free-access route. Such incentives typically consist of shorter travel time, larger capacity, greater safety, and less vehicle wear and tear. Various groups of users value these characteristics differently and, consequently, differ in their willingness to pay. This presupposes that the operator knows the residual demand and acts with a view to maximizing his income. As a general condition to ensure that traffic on the projected route is positive, the reduction in cost[10] per vehicle/km (profit) of using the alternative route must be greater than the cost per vehicle/km of using the new route.

The basis for determining the amount of the toll is the level of traffic and the capital costs. The traffic cost (congestion[11]) of a user (vehicle) on the road is a function of space occupied, design of the road, and traffic conditions. In addition, the wear and tear on the road each vehicle causes is a function of its load.

Maintenance cost therefore depends on the cumulative load and strength properties of the road, while congestion cost depends on the capacity and the flow of traffic. The larger the capacity, the longer the average useful life, as a given volume of traffic is spread out over a larger area. However, a longer useful life entails higher construction costs, and thus a higher toll, keyed to the traffic per unit of time (congestion). Consequently, both investment and maintenance costs are allocated in the form of a toll, varying with relative levels of traffic.

Mexican authorities did not adopt these efficiency criteria for the operation of road projects, owing both to the lack of adequate incentives and to the failure to properly identify the relevant variables. Indeed, adopting these criteria would not have been a rational response to the incentives already established among participating concession holders.

Program Incentives and Performance

The highway concession program is a clear example of an "agency" relationship. A contract (concession) is awarded, whereby an economic agent (principal) delegates the execution of a certain project to others (agents) through the transfer of certain rights. The principal limits the agent's deviation from its interests through a system of incentives and monitoring, inasmuch as the principal's interests do not always coincide with those of the agent.

The procedure for selecting concession holders does not necessarily lead to adverse selection or the granting of concessions to inefficient economic agents, as noted. However, independently of its effect on a possible adverse

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selection, the contractual nature of the concession arrangement was what provided negative incentives for the subsequent behavior of the concession holders selected.

Under the plan adopted, regulated agents have the incentive to incur excessive costs or to not reveal their cost savings, depending on whether such costs are observable to the regulator. In the case in question, the size of the investment is observable to the regulator, and, given the promise of a certain return on invested capital, the incentive to renegotiate certain terms of the contractual arrangement influences the contractor, whose investment becomes a guarantee of better terms.[12]

The BOT model poses the typical problems of asymmetrical information and moral hazard[13] between the agent (contractor) and the principal (banks and federal and/or state government). Because the agent knows more about the risk involved in each project, the principal must try to encourage the agent to reveal all of the relevant information.

The incentive to obtain information depends on the nature of the contractual agreement between agent and principal. Agent/principal relationships can be categorized as "strong" or "weak" contracts, in terms of agent incentives.[14] "Strong" contracts imply that every cost savings generates income equal to the decrease in costs, so that the agent's income is sensitive to the structure of costs incurred. Under "weak" contracts, the agent is compensated in full for every cost he incurs and, therefore, any change in costs will be borne by the principal.[15]

In Mexico's case, high costs in the early stages of construction led to renegotiating the terms of concession agreements. This required establishing a system to regulate the rates of return on capital invested in each project. The government's response to cost overruns strengthened the concession holder's incentive to overcapitalize costs in the construction phase. Under the concession program adopted, profits depend on the investment made in the project. This creates an incentive to make larger investments without regard for efficiency, since the larger the investment (given a guaranteed rate of return), the larger will be the profit obtained from the operation.

Moreover, the leverage allowed to concession holders strengthened such incentives. Asymmetrical information enabled the concession holder to project a relatively low-variance scenario (risk) and thus to place bonds on the market and obtain significant margins. Any change in the promised variance shifted the concession holder's risk to the bondholder. The effect was magnified when the infrastructure was "marketed" on the basis of inflated costs. *Thus, the risk is transferred to bondholders, regardless of how the operating agent performs, since the profit margin programmed by the concession holder is obtained when the bonds are placed.*

The more a project is leveraged, the more incentives there are to spread

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the programmed risk, because doing so increases the transfer to the contractor. As the concession holder's equity interest decreases, so does his interest in participating in the profits or residual value of the operation.[16]

On the whole, opportunistic renegotiation and a high degree of leveraging meant that the Highway Program created incentives inconsistent with its initial performance targets:

a) Cost overruns were detrimental to the operational phase, but benefited the contractor, given the possibility of transferring the project risk to third parties. Although the contractor held an interest in the capital of the agent operating each highway, it was often a minority interest. Consequently, the transition from the construction to the operational phase severed the link between the contracting agent and the operating agent. Even when a contractor's affiliate or subsidiary was responsible for the operational phase, it had no incentive to generate net income, because such income had already been obtained from the other investors in the project.

b) The concession arrangement implied a "weak" contractual relationship: any potential efficiency gain (cost reduction) entailed an opportunity cost, since the marginal savings to be realized during construction were always greater than the marginal profit to be obtained during operation. Therefore, realizing savings could only shorten the concession period, and possibly decrease the size of the base used to estimate returns on the investment.

c) The contractual concession arrangement provided no incentives for the contractor to obtain information about the project's operating profits. That explains why the demand estimates were not more meaningful and why the indicative data provided to the SCT were excessively weighted, leading to the errors described above.

The concession program created an opportunity for private parties interested in participating in these projects to try to obtain net transfers through guarantees, capital contributions, and even policies that prevented the emergence of competing projects.

Consequently, the program generated distortions and inefficiencies, which, in principle, the authorities had hoped to eliminate in the investment in road infrastructure expansion. Well before the concession period had expired, the stage was set for the transfer of liability to the authority granting the concession—liability that exceeded the value of the asset in question.

Implications for Other Projects Involving Private Participation

The road concession program in particular, and BOT projects in general, have given rise to various circumstances that adversely affect incentives among the

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participating economic agents, contrary to the objectives of efficiency in infrastructure investment.

a) Replacing a policy of assigning full ownership rights to concession holders[17] with a contractual arrangement between the authority and the concession holder, and making this possible between a concession holder and contractor in projects involving substantial sunk costs, means that such contracts become contingent on a large number of variables. The contracts are therefore potentially imperfect and necessarily lead to renegotiation, which gives the concession holder an advantage. Furthermore, considering the political circumstances in which decisions concerning infrastructure projects are made, the above-described effects are magnified.

b) Given the difficulty of monitoring every action of the agent and the ever-present possibility of renegotiation, the incentive to overestimate the task of executing the project and to avoid cost-cutting behavior is inevitable, as any deviation from the projected net income becomes a net transfer to the contractor.

c) The program alters the basic principles governing investment incentives. In theory, when contingencies arise in the performance of the project, the owner/operator has the right to decide what changes will be made in the use of the asset, which presupposes that during the life of the project, the operator has full ownership rights to any income flow not allocated *ex ante* through a contractual arrangement. Conversely, in programs such as the one under consideration, ownership rights are assigned differently, giving rise to profit-seeking in which tighter control is exercised, typically over the costs of the project. Consequently, a form of opportunistic behavior emerges that facilitates the realization of profits in the net costs stage and transfers risks to the other parties to the contract.

In conclusion, the results of the 1989–1994 National Highway Program reveal deficiencies resulting not only from the failure to properly assess or value basic variables, but also from errors in the program's very design. The program's effects were merely the foreseeable consequences of a lack of proper incentives, which could spread to other sectors that have adopted programs similar to the BOT model.

Toward a Concessioning Model

As mentioned above, concession holders had incentives to earn maximum profits in the construction phase instead of throughout the term of the concession. Several problems arose, related to the failure to give the agent/principal

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relationship the proper weight in the design of the program: the conclusion of imperfect contracts, opportunistic behavior, excessive leveraging and asymmetry of information between the concession holder and the contractor, as well as between the latter and creditors and other investors. Generally speaking, incentives were created to obtain profits from the other participants in the financing of the project by running up excessively high costs in the construction phase. Consequently, there was no incentive to weigh basic parameters in operating each project, as profitability was not a function of performance in the operational phase.

The basic components of the incentives generated having been identified, it is now possible to propose changes in the current concession programs in particular and in BOT projects in general:

- *Guaranteed income*. Given the technical nature of the infrastructure, as well as the country risk (often considerable), the projects in these concession programs have certain basic characteristics. These are 1) high fixed and sunk costs incurred over a very short period of time, and 2) a prolonged useful life in imperfectly competitive markets. The projects are not immune to uncertainties about conditions in the market and its regulatory framework. *Because of this, guaranteed income should be used as a motivational tool to reward cost efficiency throughout the life of the project, instead of serving merely as a means of indiscriminate compensation.*
- *Elimination of opportunities for renegotiation*. Although a perfect contract that anticipates every contingency is impossible, one must still establish prior conditions for each concession project and reinforce the appropriate performance incentives through well-defined regulations that leave no room for discretionary actions. Thus the incentives provided will not be undermined by the prospect of larger returns through opportunistic behavior.
- *Minimizing risk to the concessioning authority*. The implicit transfer of the concession holder's risk to the concessioning authority and/or to creditors should be limited, either by market mechanisms or by regulations. *If, as a result of the incentives provided, the concession holder is able to realize a profit by performing well during the operational phase of the project, he should also bear the cost of performing poorly; otherwise, optimal behavior cannot be expected.*

An alternative example (with a maximum guarantee equivalent to zero net present value) might include the following:

- *Guarantee*. The authority only guarantees income during the term of the concession in a periodic amount, the total of which is equal in present value to the cost of the project. Assuming that all of the costs are concen-

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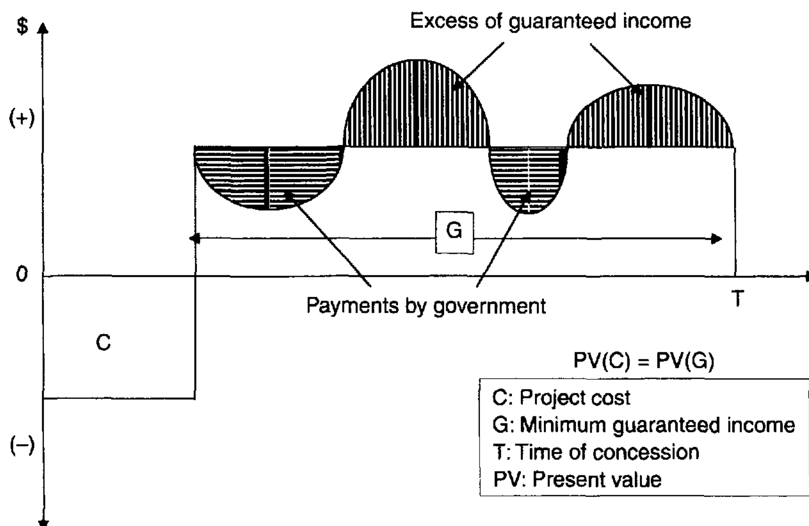
trated in the construction phase, the guarantee arrangement works similarly to a price cap plan, wherein the flow of maximum income is kept equal to the costs, so that the only way to increase the income is by maximizing net income during the operation. Under this arrangement, the guarantee would consist of a minimum income, which, during the term of the concession would equal the *fixed and sunk cost*[18] of the project. Any additional income would come to the concession holder in the form of net profits, obtained by performing well during the operational phase of the project and/or reducing costs relative to the amounts programmed in the initial phase.[19]

- *Ex-ante determination of the guarantee cost.* The concession holder will have incentives to quote high costs, to guarantee a flow of income that will secure a positive net present value. The authority, on the other hand, will have incentives to underestimate the project costs, to minimize the cost of the guarantee provided. However, in determining the amount of the initial investment and, therefore, the flow of guaranteed income, any cost overrun will be chargeable to income in excess of the guaranteed income. Moreover, any reduction in cost can change the guaranteed flow from zero net present value to a flow with positive net present value, while the potential fiscal cost of each project remains fixed and immune to renegotiation, which prevents opportunistic behavior.
- *Compensation mechanism.* The concession holder may earn more or less income than the amount programmed for each period. In the event of a shortfall, the compensation mechanism supplements the actual income, bringing it up to the level of the guaranteed income. If the income exceeds the guaranteed level, the difference represents the concession holder's net income (see Figure 5-1 below).

Figure 5.1 Concession Scheme with Zero Net Present Value



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- *Criteria for selecting potential concession holders.* If the concession period is fixed, the potential concession holder with the lowest initial cost will determine the minimum cost to the concessioning authority of the flow of guaranteed income during the term of the concession. Therefore, a smaller amount of guaranteed periodic income indicates that lower initial costs have been programmed, including the discount rate or opportunity cost of the resources. Such a criterion would prevent adverse selection, since those with the lowest costs would be benefitted by this approach to awarding the concession. Moreover, competition among potential concession holders could minimize the effect of overestimating costs to obtain a larger guaranteed periodic flow.

If the concession period is not fixed, merely shortening the term of the concession (as in the program under consideration) would be insufficient, as it does not ensure that the guarantee cost will be minimized. Regardless of discount rates, the potential concession holder with the lowest guaranteed income (lowest initial cost) would entail the lowest cost to the authority and ensure greater relative efficiency.

In the case of identical costs, however, selection is based on the difference in the discount rate. The potential concession holder with the lowest rate would have an advantage over the others, as there would be a tendency to underestimate the opportunity cost of the capital. A lower limit must therefore be placed on the rate used by the potential concession holders as well as technical justification of the rate used. Concerning this lower limit, it should be pointed out that the discount rate to be applied by private entities will generally be higher than the fiscal discount rate, given the risk factors involved; therefore, the fiscal rate can be used as the lower limit.[20]

The above suggests two basic variables for private concession programs: a thorough assessment of the size of the initial investment, and the establishment of contractual terms that prevent opportunistic behavior. These variables make private concession programs an option with net social benefits, when a full transfer of ownership rights to the assets of an infrastructure project is not feasible.

Endnotes

1. Figures from various sources: National Institute of Statistics, Geography, and Data Processing (INEGI), Government Reports 1989–1994, and Secretariat of Communications and Transportation (SCT).

2. Law on General Lines of Communications (December 13, 1993).

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3. One example was the "Tierra Colorado–Acapulco" road section. The concessionaire/contractor held only 25 percent of the total investment and its partner in the project was the State of Guerrero government.

4. Unit of account whose value increases with the index of recorded inflation.

5. It was expected that 20 to 45 percent of the traffic would be buses or heavy-load trucks, but the actual figure was less than 5 percent.

6. On the Cuernavaca–Acapulco highway, where costs increased 200 percent, the construction phase lasted an additional 30 months.

7. One such example was the "Plan de Barrancas" project, the design of which called for 4 lanes and a length of only 16 km.

8. A number of large-scale projects have been carried out under this plan, including the Sydney Harbour Tunnel, Australia ($550 million), the Channel Tunnel ($9.2 billion), the Coal-Based Power Plant of Shajio, China ($517 million) and the North-South Highway in Malaysia ($1.8 billion).

9. Other international cases can be found in Toll Road Case Studies, a Price Waterhouse document.

10. *Cost* is broadly defined as the aggregation of the monetary and nonmonetary costs associated with the use of the infrastructure in question.

11. *Congestion* is defined as the marginal cost that a user imposes on other users and on the infrastructure, which has physical limitations related to strength and capacity. Even on four-lane highways like those in this program, the congestion factor as defined is not zero.

12. According to the theory of imperfect contracts, the incentive to renegotiate rests with the party that has not incurred sunk costs.

13. *Moral hazard* is defined as the circumstance in which the agent behaves in such a way as to maximize his own interests but not necessarily those of the principal.

14. For a formal analysis of such contracts, see Laffont and Tirole 1993.

15. Assuming that the contractor incurs costs varying with the amount of capital used $c(k)$ and is guaranteed a rate of return on the capital $s > 1$, so that he is led to set a price $p = c(k) + sk$ covering his costs plus a "fair" return, his profits are determined by: $\pi(k) = -k + p - c(k) = k(s-1)$, where s is fixed *ex ante*.

16. Adam Smith described the effect of such incentives: "The directors of such companies being managers rather of other people's money than of their own, it cannot well be expected that they should watch over it with the same anxious vigilance [as] ... over their own. ... Negligence and profusion, therefore, must always prevail in the management of the affairs of such a company." *The Wealth of Nations* (1776).

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17. Roman law defines property rights as the combination of *usus* (right to use the good), *fructus* (right to earn income from the good) and *abusus* (right to sell the good). Awarding the concession for an extensive period of time and making such rights transferable can double the incentives of full ownership.

18. Fixed assets that involve a sunk cost are those which, owing to their specificity, have no other use and, consequently, no alternative market.

19. Given that both income and marginal costs relative to the fixed base level are absorbed by the concession holder, such an arrangement is "strong" in terms of incentives.

20. The fiscal discount rate in Mexico, which is a small and open economy, has been estimated at 12.5 percent (Isaac Katz B. and Ramiro Tovar L. ITAM, 1997).

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CHAPTER 6

General Evaluation of Results

Mexico's privatization program pursued various objectives. Three of the most important aims were to eliminate a major source of fiscal deficits, to adjust and rehabilitate public finances, and to stabilize the economy. A fourth aim was to free the public sector from the excessive burden represented by more than a thousand public enterprises, so that it could focus on strategic, high-priority concerns. Finally, privatization was to increase the divested enterprises' productivity through more efficient resource allocation. In the medium and long terms, the effects of privatization would increase Mexico's rate of economic growth, overall employment, and real wages, and, consequently, improve the living conditions of the population.

A little over a decade has elapsed since the start of privatization, and new owners have needed time to restructure their enterprises and improve allocative efficiency. Nonetheless, it is possible to review whether Mexico's privatization program is achieving its goals.

Regarding the macroeconomic impact, there is ample evidence that privatization has been a key element in the adjustment of public finances. The government has spent less on subsidies and transfers, because it owns fewer enterprises. Analysis of its microeconomic effects cannot be comprehensive, because of the short period since the start of privatization, and because other measures implemented at the same time, such as trade liberalization and economic deregulation, produced similar effects. Still, based on a sample of privatized enterprises, certain short-term effects can be studied—particularly the changes in employment, productivity and profits.

Macroeconomic Impact

The macroeconomic effects of divestiture programs have contributed substantially to stabilizing the Mexican economy. This stability, combined with other measures, will make it possible to attain higher, sustained economic growth rates and higher levels of public welfare. Below, we analyze the major effects of divestiture of public enterprises on the macroeconomic environment. In particular, we emphasize the impact on public finances and the balance of

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payments, especially the capital account and international reserves. Regarding the financial system, the analysis will focus on the capital market, the monetary aggregates and interest rates, and the impact of these factors on public welfare overall.

Divestiture of Public Enterprises and Public Finances

Public enterprises were high on the list of government spending priorities in the 1970s and early 1980s. They thus became a primary source of the deficit, requiring increased transfers of resources to finance their operating deficits and expand their productive capacity. The government financed the escalating deficit of the consolidated public sector (due largely to the public enterprise sector deficit) with an expanding flow of domestic and external debt, as well as increased inflationary financing by the Bank of Mexico. This expansionary fiscal policy resulted in the external debt crisis of 1982. Inflation accelerated, rising to nearly 100 percent that year, which marked the beginning of the period known as the "the lost decade."

By early 1983, the Mexican economy obviously could not continue in the same direction. The outflow of resources caused by public enterprise deficits resulted in higher levels of debt and inflation, and a consequent deterioration in the living standards of the population. This situation defeated a fundamental purpose of the government—using its scarce resources to satisfy society's most pressing needs. Therefore, beginning in the 1980s through the early 1990s, Mexico restructured its public enterprise sector, by divesting many enterprises and adjusting the prices of goods and services provided by public entities. Federal government transfers and subsidies to the public enterprise sector decreased significantly, in terms of both GDP and total federal government expenditure. The consequent savings lowered the public sector financial deficit and, therefore, reduced the demand for financial resources.[1]

Table 6.1 shows the trend of government transfers and subsidies to the public enterprise sector as a percent of GDP and of public sector expenditure of the overall government budget. Before 1983, the government's policy of granting generalized subsidies to various economic agents through the public enterprise sector, together with that sector's inefficiency, had required increased transfers from the federal government. These transfers and subsidies peaked in 1982, when they accounted for 75.2 percent of the overall public sector financial deficit. Between 1983 and 1991, the trend of such transfers was clearly downward,[2] because of reductions in the public enterprise sector and the policy of adjusting the prices of goods and services produced by state enterprises.

Of particular note, however, was the upturn in transfers to the public enterprise sector in 1992 and 1993. This development was largely the result of

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Table 6.1 Federal Government Transfers and Subsidies to Public Enterprise Sector, 1982–1993

Year	Percent of GDP	Percent of public sector expenditure
1982	12.71	26.91
1983	8.89	21.94
1984	6.96	17.93
1985	5.11	13.23
1986	3.31	7.53
1987	5.94	13.30
1988	3.42	8.54
1989	3.09	8.99
1990	2.51	8.80
1991	2.50	9.29
1992	3.60	13.30
1993	4.50	16.56

Source: Secretariat of Finance and Public Credit.

the reclassification of the States' Contributions to Basic Education, a federal government expenditure item formerly recorded under personal services. Also of note were the larger transfers received by CONASUPO in 1993 (owing to the extraordinary harvest in the fall and winter of that year), which represented a significant increase not included in the expenditure of that public entity. The IMSS and the ISSSTE also received major transfers, which increased their real programmable expenditure by 10.4 percent and 8.4 percent, respectively.

After 1983, the reduction in transfers to the public enterprise sector contributed significantly to an adjustment in public finances. Starting from a financial deficit of 16.0 percent of GDP in 1986 and 1987 (primarily due to smaller petroleum revenues and the high interest paid on domestic and external debt), the government budget had a surplus equivalent to 0.7 percent of GDP in 1993.[3] This adjustment in public finances facilitated implementation of the macroeconomic stabilization program, which in turn significantly reduced inflation, as indicated in Table 6.2.

In 1989, transfers to the public enterprise sector contracted significantly, and consequently the public sector financial deficit decreased by 7.4 points of GDP. Reduced financing requirements made it possible to eliminate Bank of Mexico primary credit, and together with other monetary and exchange policy measures, this lowered inflation. Figure 6.1 shows the growth of three key variables of the stabilization process between 1980 and 1993, each as a percent of GDP: the public sector financial deficit; transfers and subsidies to the public enterprise sector; and Bank of Mexico primary credit to the government.

Besides reducing the government deficit, the divestiture program brought

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Table 6.2 Public Sector Financial Balance and Inflation, 1982–1993

Year	Financial balance (percent)	Inflation (annual rate)
1982	–16.9	98.9
1983	–8.6	80.8
1984	–8.5	59.2
1985	–9.6	63.7
1986	–15.9	105.8
1987	–16.0	159.2
1988	–12.5	51.5
1989	–5.6	19.7
1990	–4.0	29.9
1991	–1.5	18.8
1992[a]	1.6	11.9
1993[a]	0.7	8.0
1994[b]	0.0	5.0

[a] Does not include the results of financial intermediation by the development bank.

[b] Estimates.

Sources: Secretariat of Finance and Public Credit, Annual Report of the Bank of Mexico.

income to the government from the sale of public enterprises, which also had macroeconomic effects. Between December 1988 and June 1994, privatization earnings totaled 74.5 billion new pesos, which were used primarily to repay debt and, consequently, increase social spending. The strategy of using nonrecurrent income to repay debt permanently reduced public sector financial expenditure. This freed resources to meet the minimum welfare requirements of the population, such as expenditure under the Solidarity Program and the outlays for infrastructure works. Thus in 1994 expenditures on social development represented about 53.9 percent of the public sector's programmable budget and 10.2 percent of GDP. (By comparison, in 1988 such expenditures had represented only 33.2 percent of the programmable budget and 6.3 percent of GDP.)

To repay debt with earnings from the sale of public enterprises also means that the government will pay less interest on such debt in future. On the one hand, the debt balance is smaller and, on the other, the government requires fewer financial resources, so that the interest rate on outstanding debt is lower. Table 6.3 shows the income received from the sale of public enterprises, as well as the growth of public sector domestic debt.

The divestiture of public enterprises made it possible to reduce the transfers and subsidies granted to sustain such enterprises, which had positive effects on the adjustment of public finances. This should be a permanent adjustment that will create a climate of confidence and macroeconomic stability, enabling economic agents to achieve more efficient resource allocation, which will promote higher rates of economic growth.

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Figure 6.1 Growth of Key Economic Variables of the Stabilization Process
(As percent of GDP)

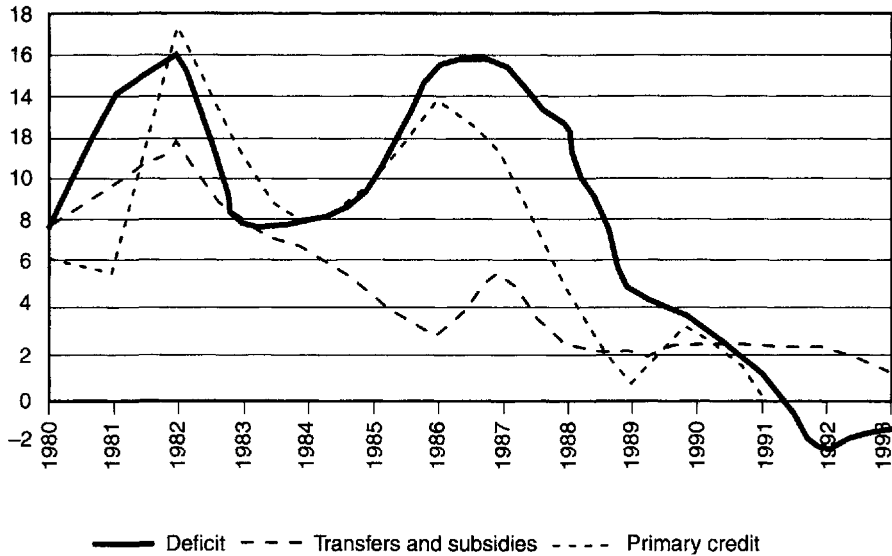

Table 6.3 Privatization Income and Public Sector Domestic Debt, 1985–1994
(Billions of new pesos)

Year	Income[a]	Percent of GDP	Domestic debt[b]	Percent of GDP
1985	0.03	0.01	9.0	19.0
1986	0.06	0.01	15.0	18.9
1987	0.23	0.10	29.5	15.3
1988	1.18	0.20	66.6	17.0
1989	1.87	0.19	99.4	19.6
1990	9.12	1.19	128.1	18.7
1991[3]	32.73	3.83	131.1	15.2
1992[c]	21.18	2.09	89.6	8.8
1993	7.82	0.69	61.8	5.5
1994	1.82	NA	NA	NA

[a] Total income at the prices stipulated in sales contracts. Does not include committed investment or the assumption of liabilities.

[b] Net domestic debt of the public sector. Includes net liabilities of the federal government and of the public enterprise sector, as well as the debts, financial assets and earnings of official financial intermediaries (development banks and official development trusts). Does not include consolidation with the Bank of Mexico.

[c] Includes income from the privatization of banks, amounting to 22.63 and 15.22 billion new pesos in 1991 and 1992, respectively.

NA=Not available.

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Divestiture of Public Enterprises and Balance Payments

The process of divesting public enterprises was rapid, and was achieved primarily through the sale of enterprises to the private sector, especially from 1989 on. Moreover, the economic agents who purchased these enterprises had few domestic financial resources. Consequently those agents needed to rely wholly on external financing, which they obtained from three sources: repatriation of private capital, private external borrowing; and partnership with foreign investors.

Due to this process, the private sector capital account has shown a significant surplus in recent years. Not all capital flows entering the Mexican economy were intended for the purchase of state enterprises, of course. Nonetheless, this surplus reflects the perception of private economic agents, both in Mexico and abroad, that macroeconomic and microeconomic conditions are such as to encourage greater investment in the economy.

The permanent adjustment of public finances, economic liberalization, and the deregulation of domestic markets in Mexico have contributed to that perception. Table 6.4 shows the growth of the public and private sector capital accounts, as well as that of the banking system (commercial and development banks).

In the late 1980s and early 1990s, the private capital account showed a significant and growing surplus, owing to the repatriation of Mexican capital and a sizable increase in foreign investment, both productive and financial. In 1983–1993, the cumulative balance of the private capital account was US$85,710.6 million.

Similar in significance to the surplus in the private sector capital account was the positive balance of the banking sector account. The financial resources obtained by banks on the international financial markets are an important source of financing for private sector investment, supplementing the resources generated domestically and those contributed directly by the private sector.

Besides financing the external current account deficit, the capital account surpluses recorded in recent years have been used to increase the Bank of Mexico's gross international reserves, which rose from $6,588.0 million in 1988 to $17,242.0 million in 1994.

The climate of certainty fostered by the privatization program and other economic reforms led to increased investment by various economic agents, mostly private. In this context, the relative scarcity of domestic savings available to finance this additional investment has made external savings essential, as mentioned above, since the current account deficit clearly shows that investment has outpaced domestic savings.[4]

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Table 6.4 Capital Account, 1983–1993
(Millions of US$)

Year	Public sector	Private sector	Banking system*
1983	2,649.9	–1,848.7	1,651.2
1984	1,636.2	–1,370.0	561.6
1985	–8.4	752.3	23.2
1986	696.4	920.2	581.4
1987	4,230.5	33.3	366.6
1988	440.0	–437.0	2,641.5
1989	–43.2	2,518.0	582.7
1990	2,304.1	6,123.7	9,245.5
1991	–387.0	18,345.8	7,593.8
1992	–3,530.0	24,532.0	1,623.5
1993	–2,209.0	36,141.0	2,396.5

* Does not include the Bank of Mexico.
Source: Bank of Mexico.

Divestiture of Public Enterprises and the Financial Market

The financial market, including both banks and shareholders, is deeply affected by the divestiture of public enterprises. The contraction of demand for financial resources in the public sector had a strong impact on Mexico's financial market, owing to the reduction of transfers to the public enterprise sector and the repayment of domestic debt. Both of these improvements can be traced to the divestiture process, which freed up financial resources for use by the private sector. Thus, the contraction of public sector financing requirements has had the effect of promoting private investment.

Other factors that significantly affected the financial market were the method of financing the purchase of privatized public enterprises, and the sources of financing for investments to modernize those enterprises (debt and/or the issue of shares). A final, important fact is that the divestiture process also directly included the commercial banking sector, which had been expropriated in 1982.

Reduction of Financial Deficit and Lending to Private Sector

Beginning in 1983, and with greater emphasis from 1988 on, the public sector significantly reduced its financing requirements. This change was attributable to the adjustment of public sector finances, achieved by reducing expenditure and increasing revenue.

Most of this adjustment was due to restructuring the public enterprise sector, a process that occurred in two stages. The first called for the divesti-

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Table 6.5 Public Sector Financial Balance and Sectoral Lending of Domestic Financial System*

(Percent of the total)

Year	Public sector financial balance (percent of GDP)	Public sector lending	Private sector lending
1983	–8.6	77.3	22.7
1984	–8.5	71.8	28.2
1985	–9.6	74.5	25.5
1986	–15.9	79.6	20.4
1987	–16.0	77.0	23.0
1988	–12.5	70.6	29.4
1989	–5.6	60.3	39.7
1990	–4.0	50.3	49.7
1991	–1.5	34.9	65.1
1992	1.6	21.3	78.7
1993	0.7	14.8	85.2

* Does not include lending by the Bank of Mexico. Only financing granted to non-financial sectors is considered.

Sources: Secretary of Finance and Public Credit, Annual Report of the Bank of Mexico.

ture of non-strategic and non-priority enterprises, and the second for adjusting the prices and rates of goods and services provided by the public sector. These two steps led to a decrease in public expenditure (owing to smaller transfers) and an increase in revenue, not counting the resources obtained by the government through the sale of public enterprises. Another result was the effect that privatization earnings had on public finances, which made it possible to repay debt and reduce nominal and real interest payments on debt.

Together, these two stages of divestiture and adjustment freed financial resources for use by the private sector, as indicated in Table 6.5, which shows changes in the public sector financial balance and lending to the public and private sectors by the domestic banking system (as a percent of total financing).

Table 6.5 indicates that as the public sector financial deficit shrank, the amount of financial resources the government borrowed from domestic financial intermediaries also contracted significantly. This freed up bank resources, which were channeled to the private sector, constituting a major source of financing for private sector investment in recent years. Thus, between 1989 (when the financial system was deregulated) and 1992, the real balance of lending to the private sector grew at an average rate of 24.3 percent. The additional financing was used to boost private sector productive capacity, as evidenced by the fact that during the same period, private sector real investment grew 13.5 percent on average.

The effects of privatization on Mexico's capital markets were significant, particularly because new shareholders of the privatized enterprises found it necessary to undertake investment programs. During the 1980s, expenditures

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Table 6.6 Issuance of Shares of Privatized Enterprises by Year of Divestiture

Year	Enterprise	Year	Enterprise
1984	Cigarros La Tabacalera Mexicana	1991	Altos Hornos de México Banca Confía
1985	None		Banca Cremi Banco de Oriente
1986	Compañía Minera de Autlán* Compañía Minera de Cananea Transportación Marítima Mexicana		Banco Nacional de México Bancomer Multibanco Mercantil de México
1987	None	1992	Banca Promex Banca Serfín
1988	None		Banco Mercantil de México Banco Mexicano Somex
1989	Compañía Mexicana de Aviación Motores Perkins		Banco del Atlántico Banco del Centro Banco Internacional
1990	Teléfonos de México Tubacero		Banoro Multibanco Comermex

* Enterprise divested in 1986 by L.F.E.P. and sold (minority share) in 1993.
Source: Mexican Stock Exchange.

had been reduced for numerous public enterprises, and consequently their production technology had to be modernized for participation in more competitive markets. A large part of this investment was financed with credit granted directly by the banking system or with funds obtained from other sources, such as the issuance of nonbank paper (convertible bonds, for example) or the contracting of external loans. In addition, various privatized enterprises used other sources of financing (such as the issuance of shares on the capital market) in order to capitalize the enterprises and/or finance their investment projects. Table 6.6 lists the divested enterprises that obtained investment financing on the domestic stock market.

The total amount of shares issued signaled a sizable increase in the volume of negotiable securities on the market, which contributed to a higher level of capitalization.[5] It is noteworthy that the commercial banks already listed on the stock market (privatized beginning in 1991) issued the most new shares.

The reason for this is that the new regulations governing the Mexican banking system require financial institutions to have minimum capital equivalent to 8 percent of their total risk assets. Thus in order to increase their capital beyond the amount they had when privatized, banks issued convertible bonds. The capacity of other privatized enterprises to mobilize resources was limited by regulations governing the stock market, which established various

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requirements that many privatized enterprises could not satisfy (showing a profit for three years prior to listing on the market, audited financial balance sheets, and others).

It should be emphasized that privatization, along with the other elements of structural change and macroeconomic stabilization, had a positive impact on the value of the enterprises. A context of stability and positive business expectations increases the value of an enterprise (defined as the present value of future profits), since profits will be greater in the future and the rate used to discount profits at present value is lower, owing to the higher degree of uncertainty.

Moreover, economic reform has spurred competition in the markets. In the past, Mexican enterprises could retain their earnings without exerting any effort to modernize, as their income was ensured by the protection and regulation of the sector to which they belonged. Now, the circumstances are very different. Enterprises must modernize and reposition themselves to take advantage of better business opportunities in a competitive environment. Thus, their profits are the result of modernization and productivity, not discretionary regulations and controls. Because of this, their assets have greater value.

Modernization of the financial sector led to the development of many new ways of financing enterprises. Generally speaking, most enterprises had relied on a few investors or "family" groups. In 1992–1994, the necessity of competing—and, therefore, of making ever larger investments—, among other factors, drove an unprecedented number of enterprises to the domestic and international markets in search of resources.

Mexican enterprises therefore rely increasingly on the issuance of shares to obtain financing. As a result, more and more enterprises are owned by a larger number of investors, while the equity participation of "family" groups is less relevant.

Specifically, the privatization of TELMEX (the first Mexican enterprise listed on the New York Stock Exchange) and the placement of its series "L" shares on the international financial markets, opened the door to the possibility of many other enterprises issuing securities, for the first time since the economic crisis of 1982.

Another important aspect is the impact that the privatization process has had on the availability of resources to finance activities other than the purchase of enterprises.

Given the unstable macroeconomic conditions in the Mexican economy since the early 1970s and the relatively modest degree of economic development, both the proportion of total domestic savings channeled into the financial system (M_4 – banknotes and coins) and the depth of the Mexican financial system relative to gross domestic product (see Table 6.7) are relatively small for the level of per capita income in the Mexican economy.[6]

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Table 6.7 Depth of the Mexican Financial System,* 1983–1993
(Millions of new pesos)

Year	Deposit-taking	Percentage of GDP**
1983	5,417	30.3
1984	9,271	31.5
1985	14,057	29.7
1986	29,579	37.4
1987	77,211	39.9
1988	121,158	31.0
1989	184,547	36.4
1990	271,816	39.6
1991	355,566	41.1
1992	427,012	41.9
1993	548,989	48.9

* Total deposit-taking (M_4 – banknotes and coins) by the financial system.
** Balance of deposit-taking at the end of the period as a percent of GDP.
Source: Annual Report of the Bank of Mexico.

Since the divestiture process included the privatization of several fairly large enterprises, a certain precision could be exercised in respect of the few resources mediated by the financial system (especially in 1991, when nine banks were privatized, including the two largest). However, it can be inferred that a significant percent of the resources used to purchase public enterprises came from abroad. Table 6.8 shows the ratio of the government's total annual earnings from the sale of enterprises to total financial deposit-taking.

Although not all of the resources used to purchase privatized enterprises came from the domestic financial system, it should be pointed out that the total paid to purchase state enterprises in 1990–1992 represented a sizable proportion of financial deposit-taking.

Even if this could have exerted pressure on financial resources, crowding out the financing of other economic agents, it would have been temporary and would have been offset by the effect of the reduction of public sector domestic debt.

Divestiture of the Banking System

As the financial system intermediates between economic agents with surpluses and those with deficits, its effectiveness determines whether the economy allocates scarce resources efficiently. Therefore, divestiture of the banking system has important consequences for the entire economy.

From a macroeconomic viewpoint, reprivatization of banking and new regulations governing the financial system will enable the economy to grow in

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Table 6.8 Total Privatization Earnings and Financial Deposit-taking,* 1984–1993
(Millions of new pesos)

Year	Total earnings	Financial deposit-taking	Earnings/deposit-taking
1984	0.21	9,271	NA
1985	29.18	14,057	0.21
1986	61.59	29,579	0.21
1987	229.16	77,211	0.30
1988	1,183.31	121,158	0.98
1989	1,867.09	184,547	1.01
1990	9,120.92	271,816	3.36
1991	32,732.91	355,566	9.21
1992	21,178.72	427,012	4.96
1993	7,822.325	48,989	1.42

* M_4 – banknotes and coins (current balances at the end of each period).
Sources: Secretariat of Finance and Public Credit, Bank of Mexico.

a stable environment. By selling the banks, the government obtained cumulative, accruable revenue amounting to 38,074.2 million new pesos, representing 51 percent of the total revenue obtained by the government through the sale of public enterprises between 1989 and 1944. Table 6.9 shows the proceeds from the sale of each bank, as well as the ratio of the sales price to the book price (SP/BP). The nonrecurrent income obtained through privatizating the commercial banking system enabled the federal government to generate a financial surplus (including income from selling other enterprises) equivalent to 2.59 percent of GDP in 1992. This allowed for a significant reduction in domestic debt, which will lower government spending in the future.

Bank divestitures also affected the behavior of interest rates. When freely determined, both lending and deposit rates reflect the opportunity cost of financial resources, leading banks, enterprises and individuals to allocate resources efficiently. Thus, the differences between the objectives of state-controlled banking and private banking are such that each banking institution allocates resources more efficiently under private ownership than under state control.[7]

Privatization and Private Sector Investment

Due to Mexico's economic crisis in the 1980s, both public and private investment fell off significantly from the levels recorded in the 1970s. Among the causes of the crisis were the decline in the international price of oil in 1981, the significant external indebtedness incurred by the government to compensate for the decrease in its revenues, and the contraction in the flow of foreign

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Table 6.9 Income from Sales of Commercial Banks
(Millions of new pesos)

Bank	Income	SP/BP
Banamex	9,745.0	2.63
Bancomer	8,564.2	2.99
Serfín	2,827.8	2.69
Comermex	2,706.0	3.73
Mexicano (Somex)	1,876.5	3.31
Mercantil del Norte	1,775.8	4.25
Promex	1,074.5	4.23
Internacional	1,486.9	2.95
Atlántico	1,469.2	5.30
Banoro	1,137.8	3.95
Confía	892.3	3.73
BCH	878.4	2.68
Del Centro	869.4	4.65
Cremi	748.3	3.40
Mercantil de México	611.2	2.66
Banpaís	545.0	3.03
Bancreser	425.1	2.53
Banorie	223.2	4.04
Total*	37,856.5	3.09

* Not including the sale of 4.5 percent of Banca Serfín L shares.
Source: Secretary of Finance and Public Credit.

exchange. These factors led to rapid destabilization of the economy in 1982, the acceleration of inflation to levels close to 100 percent and cumulative devaluation during that year of 466 percent in the free exchange rate and 267.8 percent in the controlled exchange rate.

Thereafter, the transfer of enterprises to the private sector created new investment opportunities, and encouraged greater investment than would have occurred without privatization.[8] The assumption that the maximization of individual consumption over time depends on the intertemporal flow of income[9] allows us to assert that private savings theoretically depend on the existing investment opportunities, which are in turn a function of savings decisions (which can change with time) and available resources. Thus, the privatization of enterprises clearly generates new opportunities for private sector investment.

To finance these investments, the private sector can obtain external credit or crowd out other investment projects. However, as the privatization process advances, the new investment opportunities tend to be financed with greater private domestic savings, so that the total investment of that sector will tend to increase.[10]

In Mexico in the 1970s, private investment as a percent of GDP was relatively stable and its share of total investment (public and private) exhib-

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Table 6.10 Private and Public Investment, 1971–1972

Year	Private investment (% of GDP)	Private investment (% of total)	Public investment (% of GDP)	Public investment (% of total)
1971	15.6	77.2	4.6	22.8
1972	14.4	70.9	5.9	29.1
1973	14.2	66.4	7.2	33.6
1974	16.0	69.0	7.2	31.0
1975	15.0	63.3	8.7	36.7
1976	14.4	64.6	7.9	35.4
1977	15.2	66.7	7.6	33.3
1978	14.8	63.0	8.7	37.0
1979	16.2	62.3	9.8	37.7
1980	17.5	64.6	9.6	35.4
1981	14.4	52.8	12.9	47.2
1982	12.7	55.5	10.2	44.5
1983	13.3	63.9	7.5	36.1
1984	13.2	66.3	6.7	33.7
1985	11.4	71.2	6.5	36.1
1986	10.7	67.0	5.8	35.1
1987	11.2	71.4	4.9	30.5
1988	12.1	79.3	4.7	27.9
1989	12.7	83.0	4.7	27.2
1990	13.7	79.4	4.9	27.1
1991	14.9	73.9	4.6	24.0
1992	16.7	79.4	4.3	20.6
1993	16.6	80.1	4.1	19.9

Sources: Prepared using data on economic indicators, Bank of Mexico and Secretariat of Financing and Public Credit.

ited a downward trend (Table 6.10). In the 1980s, the decline in private investment relative to GDP slowed, although its share of the total increased. The reason for this is that the economic crisis during those years, together with the transfer of real resources abroad through debt payments, discouraged private investment. Its share of the total increased, however, because public investment fell even further, owing to the contraction in government expenditure resulting from the urgent necessity of making a fiscal adjustment to stabilize the economy.

In 1989, when the privatization process was intensified, the trend of private investment (as a percent of both GDP and the total) was relatively positive, owing to the new investment opportunities generated by the privatization process and made use of by the private sector.[11]

Another reason private investment increased is that investors had to allocate resources to replace the depreciated capital of privatized enterprises. The public sector had not done this in the 1980s because of spending cuts, mainly in the area of capital expenditure.

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Moreover, the new owners had to introduce new production technologies to make the enterprises efficient and competitive in the face of increased domestic and external competition. The enterprises had not encountered this situation under state ownership, where they were protected from external competition and often operating as monopolies or in oligopolistic markets.

In addition to the recovery of investment in 1989, the opening up of the economy, the deregulation of domestic markets and the privatization of public enterprises, the sectoral use of resources also changed. In this context, efforts to use comparative advantages on the international markets in a freer and more competitive domestic environment are evidenced by the fact that the structure of sectoral investment in recent years has differed greatly from what it was in previous decades, when protectionism, excessive regulations and growing state interventionism all impeded economic growth.

Privatization and Welfare

A central objective of any privatization process is to promote a higher level of public welfare. Several factors are involved, including the method of placing the enterprise's shares on the market, the origin of resources used to purchase public enterprises, the reduction of the fiscal deficit and of inflationary pressures, and the use made of resources from public enterprises.

The potential effect of the privatization process on the concentration of capital depends on the sales mechanism selected and the source of the funds used to finance the purchase of enterprises. As mentioned in the preceding chapter, the "democratization of capital" is not necessarily the best way of privatizing public enterprises and can, moreover, jeopardize other, more important objectives such as efficiency in resource allocation and the maximization of tax revenues.

Regarding the origin of the funds used to pay for public enterprises, there are three main sources: *a*) domestic financing; *b*) external financing, and *c*) partnership with foreign investors. The procedure and combination selected for the purchase can have a positive effect on public welfare, although this does not always happen. If all the funds came from the domestic financial system, the credit obtained by buyers of public enterprises would crowd out other applicants for financial system credit. In addition, the interest rates at which these buyers would be financed would tend to be lower than the rate obtained by most credit applicants. These effects could prevent some new, highly profitable investment projects from being carried out (due to lack of financial resources and/or higher interest rates). In this situation, a determination would have to be made as to whether the welfare gains made possible by privatization offset the negative effect of crowding out other investment projects.[12]

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On the other hand, suppose that a major portion of the funds come from abroad, through the repatriation of capital and/or partnerships with foreign investors. Repatriation of capital would benefit the economy, because the country's net debtor position would improve and available resources would increase. Partnerships with foreign investors would provide access to new production technologies, which, by promoting greater efficiency, would themselves generate increases in productivity and welfare. Moreover, partnerships with foreign investors would lead to inflows of foreign currencies, which the government could use to accumulate international reserves, finance its own purchases of goods abroad or repay external debt.

For the above reasons, the government tried to ensure that most of the resources used to pay for private enterprises (particularly medium and large enterprises) came from the repatriation of Mexican private capital and partnerships with foreign investors. Thus, the pressures on the domestic financial system were largely alleviated and, as a result, other investment projects were not crowded out.

Other outcomes directly related to privatization that tend to increase public welfare are reduction of the fiscal deficit, decreased inflationary pressure, and the release of resources for social spending. As indicated above, the reduction in federal government transfers and subsidies to the public enterprise sector greatly facilitated the fiscal adjustment needed to reduce inflation.

High and varying inflation rates have a negative impact on public welfare. First, inflation distorts relative prices, introduces a high degree of uncertainty and causes inefficient resource allocation in the economy. Second, the additional revenue that inflation represents for the government is generated at the cost of private economic agents reducing their consumption and investment expenditure. Third, because inflation is a regressive tax, it causes greater inequity in the distribution of income and wealth, as social groups with the least income are the hardest hit. Lower rates of inflation as a result of the fiscal adjustment have reduced the negative effects of inflation on income distribution, but this does not mean that income distribution becomes more equitable simply because inflation has decreased significantly.[13]

After the adjustment of public finances and the reduction of subsidies granted to public enterprises, with smaller transfers abroad to repay public sector external debt and lower interest payments on domestic debt, the government could appropriate growing amounts of resources to satisfy the population's basic needs (education and health care services, urban and transportation infrastructure, among others). The objective of this policy, in addition to satisfying minimum welfare requirements, is to ensure greater equality of opportunity in the economy in the future, and, as a result, a more equitable distribution of wealth.

Obviously, public welfare is increased more when government expendi-

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Table 6.11 Transfers and Subsidies to Public Sector and Federal Government Social Spending, 1982–1994
(Percent of GDP)

Year	Transfers and subsidies	Social spending[a]
1982	12.7	9.1
1983	8.9	6.7
1984	6.9	6.7
1985	5.1	5.0
1986	3.3	6.6
1987	5.9	6.2
1988	3.4	6.3
1989	3.1	6.6
1990	2.5	6.8
1991	2.5	7.7
1992	3.6	8.6
1993	4.5	9.5
1994[b]	NA	10.2

[a] Includes spending on education, health and regional development.
[b] Estimated.
NA = Not available.
Source: Secretariat of Finance and Public Credit.

ture is oriented toward developing both physical and human capital than when it is used for subsidies. Although subsidies can result in an improvement for consumers, they do not guarantee any increase in consumer welfare. To promote equal opportunity, government spending decisions must focus on the formation of social capital, rather than on granting generalized subsidies.

Table 6.11 shows the growth of social spending by the government, and transfers received by the public enterprise sector. While the government maintained an inefficient public enterprise sector that constantly needed transfers, social spending was continually depressed and the minimum needs of the population were not met.

Moreover, in the early 1980s, transfers to the public enterprise sector represented a larger percent of GDP than federal government social expenditure, and thus public welfare was not maximized. In the latter half of the 1980s and in the early 1990s, however, the government focused on devoting an increasing quantity of resources to social spending.

Microeconomic Impact

In the domestic economy, privatization had a significant impact on employment, profits earned before and after divestiture, labor productivity in privatized enterprises, and the economy's prevailing market structure. It is difficult

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to isolate the effects of privatization from those of other adjustments, such as deregulation and liberalization of the economy. These measures were part of a single policy aimed at the same objectives and were carried out simultaneously. Nevertheless, whenever possible, the specific impact of privatization is indicated.

Privatization and Employment, Profits and Productivity

The privatization process also affected employment, in that fewer workers were employed in the public enterprise sector as a result of the state owning a smaller number of enterprises. Moreover, when taken over by the private sector, most privatized enterprises underwent a restructuring process that resulted immediately in work force reductions, followed by a subsequent recovery stage.

There is no reason to suppose, however, that if the enterprises had not been privatized, employment would not have declined. Public finances needed to be adjusted in order to eliminate the deficit. Furthermore, deregulation and economic liberalization had created an environment in which only competitive enterprises could survive. Had they not been divested, most of the public enterprises would have been doomed to bankruptcy and, consequently, to the total loss of sources of employment.

Finally, employment in privatized enterprises is linked to overall employment in the Mexican economy, which declined in both public and private enterprises. This was due in large measure to low economic growth rates in recent years, as well as the increased competition brought about by trade liberalization.

The labor forces of state-run enterprises are generally too large. This is in part because a government manager's functional objectives include maximizing expenditure as a major tenet, unlike the functional objectives of a private manager, which focus primarily on maximization of profits.[14] Another reason staffing levels in public sector enterprises are higher than in private enterprises is that the former weigh the social value of labor in selecting production technologies, while the private sector considers market value. The result is a higher level of employment in public enterprises, and a drop in that level when the enterprises are privatized. Public enterprises also have overlarge work forces due to political pressure to reduce unemployment in the economy "artificially." Once again, when they are privatized, employment shrinks.

The trend of employment in privatized enterprises is also related to the regulatory framework in force prior to privatization, and whether it was uniformly applied. If the prior regulatory framework had promoted efficient resource allocation in a competitive environment, and regulations were applied to all enterprises regardless of the type of ownership, privatization would have

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no adverse effect on employment. If those regulations had not promoted efficient resource allocation, or the public enterprise sector was protected or differently regulated, levels of employment would likely drop after privatization.

This latter scenario describes approximately what happened in Mexico. First, as indicated by their increased expenditure and deficits, public enterprises sought to maximize expenditure and not profits, which encouraged them to maintain a larger workforce than necessary. Second, public enterprises were viewed, particularly in 1970–76, as a source of job creation and a means of reducing unemployment. Finally, deregulation of the domestic markets did not begin simultaneously with the privatization process, and many public enterprises enjoyed a special, protected status.

The above three reasons suggest that the new owners of privatized enterprises will adjust the workforce to boost operating efficiency and competitiveness. This naturally results in a lower level of employment in the economy, at least temporarily. Employment will recover when—due to more efficient operation of enterprises, trade liberalization, deregulation and macroeconomic stability—the economy begins to grow at sustainable rates.

Table 6.12 shows the growth of public enterprise sector employment in the manufacturing sector, clearly displaying the effect that the divestiture of public enterprises has had on that variable. As noted, in the early 1980s, public enterprise sector employment (as a percent of total manufacturing sector employment) increased, although not by much. The largest increases occurred in the years following the crisis of 1982, however, with public enterprise employment in manufacturing peaking in 1984 at 218,400 workers, which was 9.2 percent of total manufacturing sector employment.

These developments support the hypothesis that government will use state enterprises as a means of "artificially" reducing unemployment, especially when the economy is in a slump or experiencing zero growth, as occurred between 1983 and 1986. Moreover, the effect of divesting public enterprises began to appear in 1987, and by 1990, employment in the public manufacturing sector represented only 41.3 percent of the total in 1984.

As for employment in the privatized enterprises, a sample of 27 enterprises in various sectors indicates that the work force maintained under state ownership was indeed excessively large, so that an adjustment was necessary after privatization. Not all adjustments in employment were the result of enterprises changing hands, of course, since other significant factors were also involved, such as the low rate of economic growth in Mexico in recent years, changes in relative prices brought about by trade liberalization, and the deregulation of domestic markets.

Table 6.13, based on a survey carried out by the Unit for the Divestiture of Public Enterprises of the Secretariat of Finance and Public Credit, shows the growth of employment in various manufacturing sector enterprises and in

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Table 6.12 Share of Public Enterprises in Manufacturing Sector Employment, 1980–1990

Year	Total employees*	Employment in public enterprise sector	Percent of total
1980	2,441	207.5	8.5
1981	2,557	209.7	8.2
1982	2,505	215.4	8.6
1983	2,326	207.0	8.9
1984	2,374	218.4	9.2
1985	2,451	203.4	8.3
1986	2,404	216.4	9.0
1987	2,430	189.5	7.8
1988	2,432	160.5	6.6
1989	2,493	127.1	5.1
1990	2,510	90.5	3.6
1991	2,500	75.2	3.0

* Thousands of employees.

Sources: Public sector production accounts, INEGI, *La economía mexicana en cifras,* Nacional Financiera.

the services sector over the course of five years. For most of the enterprises in the sample, employment declined during the year in which they were privatized or the year after, reflecting the adjustment deemed necessary to increase productive efficiency.

In some cases the government restructured enterprises before offering them for sale, solving labor problems that would have lowered the sales price of the enterprise or even made its privatization impossible. Such was the case of *Aerovías de México*, an enterprise declared bankrupt before privatization and completely restructured (which alone explains nearly all of the drop in employment in the sample). Other examples are enterprises that are the largest sources of employment in the areas where they are located, such as *Compañía Real del Monte y Pachuca*, which, had it not been privatized, would have gone bankrupt, resulting in the loss of a major source of employment.

As noted in Table 6.13, employment declined the year after privatization. Two years later, however, employment began to show signs of recovery (the change would be even greater if *Aerovías de México* were excluded from the sample), indicating that privatized enterprises initially had to make an adjustment to increase efficiency, setting the stage for a subsequent expansive phase.

In some enterprises, employment did not recover due to factors unrelated to the divestiture process. This might happen to enterprises with a social mission (fishing cooperatives, for example), or to enterprises that could not succeed in a more competitive environment without the privileges and

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Table 6.13 Employment in Privatized Enterprises

Enterprise	Year privatized	Two years before	One year before	During the year	One year after	Two years after
Services:						
Aerovías de México	1989	12,524	3,819	4,552	5,236	6,097
Compañía Mexicana de Aviación	1989	13,660	12,615	12,538	11,171	10,858
Afianzadora Mexicana	1989	NA	139	116	78	149
Teléfonos de México	1990	49,995	49,203	49,912	49,912	49,893
Algodonera Comercializadora Mexicana	1989	NA	NA	59	46	43
Mining and manufacturing:						
Compañía Real del Monte y Pachuca	1990	2,590	2,496	2,263	1,655	1,516
Complejo Agroindustrial De Tizayuca	1991	NA	371	347	351	178
Fábrica de Tractores Agrícolas	1990	486	501	453	453	493
Dina Camiones	1989	1,762	1,682	1,674	1,675	1,843
Dina Autobuses	1989	567	849	873	1,069	1,112
Dina Motores	1989	686	615	592	579	497
Plásticos Automotrices Dina	1989	404	444	529	353	502
Anderson Clayton y Co. (Tultitlán)	1990	NA	NA	949	640	604
AHMSA Ingeniería	1989	329	215	177	205	241
Macocozac	1989	761	721	629	602	547
Moto Diesel Mexicana	1989	427	394	414	471	472
Motores Perkins	1989	502	492	537	602	528
Nutrimentos del Bajío	1991	NA	108	93	59	78
Refractarios Hidalgo	1989	230	211	217	165	197
Tabacos Azteca	1990	118	121	99	110	109
Tereftalatos Mexicanos	1988	NA	608	609	518	507
Tubacero	1990	1,160	1,083	937	857	952
Turborreactores	1990	287	292	330	323	302
Altos Hornos de México	1991	16,864	14,843	12,203	10,796	10,474
SICARTSA	1991	8,180	8,012	5,502	4,308	4,301
Grupo Industrial NKS	1992	1,204	878	868	658	658
Total		85,051	76,457	78,679	76,679	77,285
Total excluding TELMEX		35,056	26,988	28,744	26,767	27,392

NA= Not available.

Source: Figures provided by the enterprises.

protection afforded by government ownership. The iron and steel industry is an example of the latter.

The agricultural sector faced a completely different set of circumstances. The sugar refineries, in particular, confronted regulatory problems that were not corrected before divestiture. Moreover, in recent years the international sugar market has suffered sharp declines in sugar prices. There were also considerable disparities in the use of factors of production, and even now this sector has low productivity levels (see Table 6.14).

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Table 6.14 Employment in Privatized Sugar Refineries, 1989–1993

Refinery	Year privatized	1989	1990	1991	1992	1993
Álvaro Obregón	1989	777	777	777	552	552
Ameca	1989	703	703	703	599	496
Calipam	1989	397	397	397	384	384
Cuatotolapam	1989	915	915	915	700	700
Plan de Ayala	1989	883	883	883	808	808
Plan de San Luis	1989	537	537	537	642	642
Ponciano Arriaga	1989	665	665	665	560	544
Quesería	1989	751	751	751	466	466
San Gabriel	1989	460	460	460	518	518
Benito Juárez	1990	845	845	845	681	681
Casasano	1990	583	583	583	528	528
El Dorado	1990	762	762	762	532	532
H. Galeana	1990	604	604	604	496	496
Huixla	1990	591	591	591	493	493
Independencia	1990	951	951	951	627	627
J. Ma. Morelos	1990	618	618	618	485	485
J. Ma. Martínez	1990	1,137	1,137	1,137	1,197	1,197
Juchitán	1990	685	685	685	0	0
Lázaro Cárdenas	1990	477	477	477	346	346
Melchor Ocampo	1990	641	641	641	465	465
Mochis	1990	1,226	1,226	1,226	1,226	911
Primavera	1990	796	796	796	762	359
Purísima	1990	363	363	363	0	0
S.F. El Naranjal	1990	768	768	768	490	490
San Cristóbal	1990	2,863	2,863	2,863	2,085	2,085
San Pedro	1990	1,334	1,334	1,334	765	765
San Sebastián	1990	688	688	688	517	517
Santa Clara	1990	738	738	738	512	512
Santa Rosalia	1990	692	692	692	511	511
Santo Domingo	1990	392	392	392	0	0
Zapoapita	1990	653	653	653	543	543
Alianza Popular	1991	738	738	738	577	577
Pedernales	1991	418	418	418	325	325
Puruarán	1991	416	416	416	0	0
Bellavista	1992	618	618	618	472	472
Emiliano Zapata	1992	2,645	2,645	1,359	825	1,642
Total		29,330	29,330	28, 044	20, 689	20,669

Note: The figures refer to numbers of positions, and not necessarily to personnel employed.
Source: Financiera Nacional Azucarera, S.N.C.

Banking is another important sector requiring analysis. When the banking system was expropriated (September 1982), it had 155,309 employees; by end-1990 the number had risen to 162,683. Moreover, real deposit-taking per employee decreased during the same period by 66.5 percent, chiefly as result of the macroeconomic instability experienced at that time (see Table 6.15).

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Table 6.15 Employment in Privatized Banks

Bank	Year privatized	Two years before	One year before	During the year	One year after	Two years after
Atlántico	1992	7,368	7,088	6,236	6,185	6,185
Banamex	1991	29,482	31,315	31,960	37,230	33,385
Bancomer	1991	35,492	37,041	36,414	39,051	35,028
Bancen	1992	2,847	2,705	2,631	2,655	2,655
Banorie	1991	768	848	791	820	820
Banoro	1992	2,932	2,993	2,546	2,075	2,075
Banorte	1992	3,599	3,909	2,873	4,158	4,158
Banpaís	1991	2,970	3,080	3,089	3,651	4,409
Comermex	1992	12,190	11,411	16,000	16,620	16,620
Confía	1991	3,667	3,808	5,285	4,197	3,860
Cremi	1991	5,081	4,780	4,464	3,964	3,911
Internacional	1992	11,337	11,519	10,113	13,094	13,094
Mercantil de México	1991	3,397	3,466	3,362	3,728	4,064
Promex	1992	4,061	4,088	3,549	3,864	3,864
Serfín	1991	20,436	22,201	21,919	18,468	18,832
Somex	1991	7,255	7,327	7,265	7,155	7,138
Total		152,882	157,579	158,497	166,915	160,080

Source: Comisión Nacional Bancaria (National Banking Commission).

Between 1982 and 1990, the five largest commercial banks accounted for approximately 75 percent of total deposits (Banamex, Bancomer, Serfín, Comermex and Internacional). Employment in those five banks increased by 16,243 individuals, offsetting the decline in overall employment in the other 13 banks. During the year of privatization (1991 for some banks and 1992 for others), the total number of commercial bank employees rose to 166,915. After the process ended in 1993, the total number of bank employees had fallen only 1.6 percent from the predivestiture level.

Of course, the growth of employment in privatized enterprises is not isolated from events in the overall economy that affect employment in both public and private enterprises. Thus, if the domestic productive sector is exposed to greater competition from foreign producers and economic growth is sluggish, it is to be expected that both public and private enterprises will be in the same situation and will be forced to adjust production and employment levels.

Table 6.16 shows changes in the index of personnel employed in the manufacturing sector, by division. As indicated in the table, nearly all industries have low levels of employment compared to 1980; however, the privatization process appears to have had no significant impact on employment. Moreover, the fact that enterprises, whether public or private decided to adjust their workforce was due in large part to Mexico's low economic growth

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Table 6.16 Index of Personnel Employed in the Manufacturing Sector, by Division, 1989–1993
(Quarterly averages, 1980 =100)

Year/ Quarter	Division I	II	III	IV	V	VI	VII	VIII	IX
1989									
1	100.7	84.6	69.8	87.3	97.5	90.9	76.5	80.1	92.4
2	104.1	85.3	69.0	89.2	69.6	94.2	74.1	81.3	102.1
3	104.5	86.1	67.3	84.9	100.0	94.8	73.2	81.7	106.5
4	104.5	84.8	67.9	88.2	99.3	93.0	73.3	81.7	97.5
1990									
1	103.9	83.0	69.0	86.9	98.2	93.8	72.2	81.6	98.2
2	107.7	81.7	67.8	88.9	99.4	95.2	70.4	82.3	107.2
3	106.6	76.5	65.3	85.7	97.2	91.7	64.8	83.2	112.6
4	106.3	80.1	65.4	88.2	96.8	92.9	69.1	83.4	101.9
1991									
1	106.3	79.0	66.9	87.0	97.4	91.7	68.2	83.1	100.5
2	107.3	77.2	67.0	87.1	97.8	91.1	66.8	82.9	110.1
3	106.6	76.5	65.3	85.7	97.2	91.7	64.8	83.2	112.6
4	107.2	76.3	65.3	85.5	96.1	90.9	63.6	82.0	102.5
1992									
1	106.8	74.9	64.8	84.9	94.4	89.7	62.1	80.3	102.2
2	107.8	74.3	64.0	83.6	93.6	88.9	59.0	80.0	103.9
3	108.5	72.8	62.6	82.9	92.8	88.1	54.8	78.8	105.4
4	108.5	71.7	61.7	81.1	90.2	85.1	52.4	77.0	97.0
1993									
1	107.1	69.6	60.1	80.1	89.2	83.5	51.4	74.8	98.9
2	106.9	68.1	57.7	79.6	88.1	83.2	49.8	73.1	105.0
3	103.8	67.4	55.3	77.5	87.4	81.7	47.6	70.0	103.4
4	103.8	64.2	54.6	74.7	85.2	77.7	46.7	69.0	94.0

Divisions:
I: Food, beverages and tobacco
II: Textiles, clothing and leather industry
III: Wood and wood products industry
IV: Paper, paper products, printing and publishing houses
V: Chemical industry, petroleum derivatives and rubber
VI: Nonmetallic mineral products, except petroleum derivatives
VII: Basic metal industries
VIII: Metal products, machinery and equipment
IX: Other manufacturing industries

Source: Cuaderno de Información Oportuna, INEGI, various issues.

rates in recent years. Even in the worst cases, the adjustments made by privatized enterprises had a marginal effect on the overall rate of unemployment.

One cannot argue that, without divestitures, employment would not have declined. Many problems that were linked to inefficiency and the fiscal deficit (and thus to inflation) had to be corrected. Furthermore, in those public enterprises that were included in the budget and not privatized (PEMEX), employment also declined. This fact reflected both the necessity of a fiscal ad-

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Table 6.17 Personnel Employed in the Public Enterprise Sector (Budgeted), 1988–1993

Enterprise	1988	1989	1990	1991	1992	1993
ASA	6,865	6,634	6,657	6,857	6,916	6,765
CAPUFE	4,754	4,877	5,032	5,346	5,302	4,620
CFE	89,470	86,798	83,008	78,977	74,947	65,885
CLYFC	31,389	32,230	33,905	35,589	36,023	35,943
CONASUPO	4,064	4,240	4,368	4,120	3,744	3,613
FFCC	80,840	93,072	85,006	76,381	60,603	46,954
FERTIMEX	12,660	11,607	10,943	8,987	5,064	1,307
IMSS	238,869	301,189	316,672	330,077	336,674	339,720
INMECAFÉ	5,166	4,599	3,176	1,760	1,324	661
ISSSTE	38,801	59,875	84,1088	87,638	88,714	89,961
LOTENAL	2,050	2,075	2,154	2,268	2,264	2,256
PEMEX	205,260	189,995	182,205	175,840	147,080	116,970
PIPSA	486	489	526	557	529	494
Total	716,044	793,540	817,760	814,397	769,184	715,149
Total excl. PEMEX	510,784	603,545	635,555	638,557	622,104	598,179

Source: Secretariat of Finance and Public Credit.

justment and the stiffer competition facing all such enterprises, as Table 6.17 illustrates.

When public enterprises are privatized, a positive change in the productivity of the various factors of production (capital and labor) can be expected, reflected in the level of profits and in the real wages paid; thus, a relationship can be established between employment and privatization.

Theoretically speaking, when an enterprise is privatized and the type of industrial organization is the same as it was when the enterprise was under government control, a smaller work force and larger profits can be expected, although nothing can be affirmed *a priori* concerning wages. The profits of a privatized enterprise should increase relative to its former earnings in the public sector, since government objectives (as owner) differ from those of the private owner. The argument usually advanced[15] regarding this is that public enterprises have different objectives that require the sacrifice of profits.

As mentioned above, the objective of a public enterprise manager is to maximize expenditure,[16] even though it may mean sacrificing profits and, more significantly, running a deficit. Conversely, the private shareholder will try to maximize profits above all else and therefore manages the enterprise in such a way as to allocate resources efficiently.

Furthermore, the public enterprises would not have been sold if the buyers had not perceived the possibility of increasing their profits once they were under private ownership. In many cases, increased profits are possible only

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Table 6.18 Net Profits of Privatized Enterprises
(Billions of constant pesos)

	Year Privatized	Two yrs before	One yr before	During year	One yr after	Two yrs after
Services:						
Aerovías de Mexico	1989	NA	2.3	5.0	1.4	29.8
Cia. Mexicana de Aviación	1989	22.9	31.5	23.3	− 74.5	−62.8
Afianazadora Mexicana	1989	4.1	2.6	2.9	4.5	0.8
Teléfonos de México	1990	2,823.4	3, 013.3	1,542.8	2,504.5	3,110.4
Algodonera Comercializadora Mexicana	1989	NA	NA	− 0.4	0.6	1.2
Mining and manufacturing						
Cia. Real del Monte y Pachuca	1990	−17.4	− 22.2	−8.5	− 9.8	−2.7
Compañía Agroindustrial de Tizayuca	1991	NA	NA	0.1	− 1.6	− 4.5
Fábrica de Tractores Agrícolas	1990	11.8	1.1	−5.1	7.7	8.9
Dina Camiones	1989	9.4	27.6	32.2	12.3	101.4
Dina Autobuses	1989	− 8.3	−19.3	17.5	44.1	31.7
Dina Motores	1989	−16.1	− 9.8	−13.6	−15.3	2.9
Plásticos Automotrices Dina	1989	3.7	1.2	1.1	− 6.3	−1.1
Anderson Clayton y Co. (Tultitlán)	1990	NA	NA	13.1	18.8	20.3
AHMSA Ingeniería	1989	−1.3	−0.4	−0.9	−0.1	0.7
Macocozac	1989	5.5	3.1	−2.2	−6.0	−5.3
Moto Diesel Mexicana	1989	14.5	3.2	−2.5	12.4	3.0
Motores Perkins	1989	8.8	2.5	7.2	3.2	0.8
Refractarios Hidalgo	1989	0.2	0.3	−1.3	−1.2	0.4
Tabacos Azteca	1990	0.8	0.2	−0.8	0.2	NA
Tereftalatos Mexicanos	1988	NA	56.1	70.3	59.7	41.8
Tubacero	1990	33.9	−27.2	−14.8	−12.5	4.6
Turborreactores	1990	5.2	−4.9	−30.9	−7.6	2.6

NA = Not available.
Source: Based on data provided by the enterprises.

because the sales prices of the enterprise's products (now that the enterprise is privately owned) are in line with market prices. This is not necessarily so under state ownership, since, in many cases, the sales price is less than the market price.

As indicated in Table 6.18, for a large majority of the enterprises in the sample, profits increased following privatization (in some cases significantly), while many other enterprises, after becoming privately owned, stopped incurring losses. This supports the hypothesis that privatization, in combination with changes in the regulatory framework, increases an enterprise's efficiency, and that in running an enterprise, a private manager will strive to maximize profits.

It is important to note that changes in the profits or losses of privatized enterprises cannot be separated from events in the economy and in each sec-

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tor, as in the case of the airlines, which have sustained losses virtually everywhere in the world. Therefore, it can be asserted that sluggish economic growth affects the profits of both public and private enterprises (relatively). It should also be emphasized that privatized enterprises are not exempt from these influences.

Another point worth noting is that the enterprises' profits cannot be attributed to the existence of any monopolistic power derived from privatization (as this did not occur in the large majority of cases), since privatization proceeded almost simultaneously with the deregulation of various sectors, creating a more competitive environment. Therefore, the profits (or reduction of the losses) of privatized enterprises are a reflection of greater efficiency in the management of such enterprises.

In the past, in an over-regulated economy insulated from the rest of the world, the profits of many private and public enterprises could be attributed to protectionism. In the case of public enterprises, in addition to the protection they enjoyed from foreign competitors, domestic regulations shielded them from potential competition from domestic producers as well, which allowed them to earn monopolistic profits.

In the present environment, which is more competitive both domestically and with regard to the rest of the world, the enterprises' profits reflect their efficiency and not their privileged status.

As indicated above, the wages paid in privatized enterprises may be higher or lower than the wages paid when the enterprises were under government control. On the one hand, a government manager tends to maximize the enterprise's expenditure, inasmuch as he strives to increase his "political power"[17] through greater expenditure. Thus, one way of obtaining stronger support would be to offer higher wages and benefits, which would place the average wage paid by public enterprises above the average wage paid in the private sector. On the other hand, if no such arrangements existed prior to privatization, wages can be expected to increase as a result of the change to private ownership.

Table 6.19, which shows the growth of average productivity in a number of privatized enterprises, indicates that the change in this variable usually occurs after privatization. The evidence suggests that the wage situation in the Mexican public enterprise sector tends to be closer to one in which the wages paid (including any type of benefits that increase the actual wage) are higher than those in the market, which are the wages paid by private enterprises.

There are various examples of this situation; the clearest are PEMEX, CFE, IMSS, CONASUPO and FERRONALES. TELMEX is another example. When it was sold to the private sector, one of the issues involved was negotiation of the collective labor agreement, which led to the adjustment or even the

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Table 6.19 Index of Average Productivity* In Privatized Enterprises
(Year before privatization = 100)

Enterprise	Year privatized	Productivity one yr before	Productivity during yr	Productivity one yr after
Services:				
Aerovías de Mexico	1989	100.0	463.4	546.8
Afianazadora Mexicana	1989	100.0	118.2	186.4
Teléfonos de México	1990	100.0	112.4	109.7
Mining and manufacturing				
Cia. Real del Monte y Pachuca	1990	100.0	111.2	89.3
Compañía Agroindustrial de Tizayuca	1991	100.0	189.2	182.9
Fábrica de Tractores Agricolas	1990	100.0	67.5	65.5
Dina Camiones	1989	100.0	144.2	160.0
Dina Autobuses	1989	100.0	97.4	96.4
Dina Motores	1989	100.0	139.2	166.6
AHMSA Ingeniería	1989	100.0	52.3	187.5
Macocozac	1989	100.0	100.0	62.9
Moto Diesel Mexicana	1989	100.0	113.5	173.0
Motores Perkins	1989	100.0	108.7	87.2
Refractarios Hidalgo	1989	100.0	114.2	159.9
Tabacos Azteca	1990	100.0	112.4	109.7
Tereftalatos Mexicanos	1988	100.0	67.9	95.4
Tubacero	1990	100.0	164.1	186.9
Turborreactores	1990	100.0	71.2	65.9

* Gross value of production/number of employees.
Source: Based on data provided by the enterprises.

elimination of various benefits. Much the same thing happened with Aeroméxico and Cananea. When they were declared bankrupt, their work forces and the clauses in their collective labor agreements were restructured.

Table 6.19 shows that 61 percent of the privatized enterprises experienced an increase in average labor productivity compared to the productivity observed when they were government-owned, while 50 percent became more productive one year after they were sold to the private sector. This shows that the new owners changed the method of allocating factors of production and used resources more efficiently. Some enterprises, although adjusted to be more productive, were in a sector that experienced a slowdown in the year productivity was measured.

Privatization and Market Structure

The industrial organization of Mexico's productive sectors can be described as generally competitive, in that no enterprise has enough market power to de-

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termine prices.[18] Generally speaking, noncompetitive market structures can arise in an economy under two circumstances. The first occurs when there are sufficient economies of scale to permit a natural monopoly, or where market demand is so small that only a few enterprises can make a profit. The second occurs when markets become monopolistic or oligopolistic as a result of government intervention.

Regarding the first case, there are very few industries without a competitive market structure, precisely because of conditions in the market. Some examples of natural monopolies are the supply of urban drinking water; the distribution of electricity for a city; local telephone services (before cellular telephones); the regional generation of electrical power; and drinking water distribution systems. Cement manufacturers operate in a market where the level of demand is such that only a few enterprises profit.

Other noncompetitive market situations are attributable to government intervention, which can take two forms. The first occurs when the law (possibly constitutional law) reserves certain areas of economic activity for the state; such is the case in Mexico of the regulations set forth in Article 28 of the Constitution. More powerful than this, however, are legal provisions or regulations that, by distorting relative prices, impede competition in the market. Examples of such regulations are the trade protection afforded the domestic productive plant, price controls, government subsidies to public enterprises and legal barriers to participation (as in the case of highway transportation prior to its deregulation in 1989).

A protectionist trade policy, because it insulates domestic producers from external competition and provides them with captive domestic markets (given the relatively small size of the domestic market), tends to create oligopolistic situations. Moreover, price controls, especially in inflationary situations, gradually squeeze marginal enterprises out of the market ; as a result, markets also tend to become oligopolistic. Finally, government subsidies to public enterprises place them in an advantageous position vis-à-vis private enterprises in the same industry, primarily because subsidies are generally coupled with price controls that force private enterprises out of the market. Thus, the market becomes less and less competitive and public enterprises acquire an ever-increasing market share.

In recent years, government economic policy has focused on implementing a series of measures aimed at strengthening competition in the various industries.

First, in some areas formerly reserved for the state, participation by the private sector is now possible, with the result that the number of enterprises in these sectors has increased. Changes of this sort occurred as a result of the redefinition of secondary petrochemical products and the self-generation of electrical power.

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Second, the level of trade protection was significantly reduced, and some industries were eliminated altogether. Therefore, although the number of government-owned enterprises is relatively small, the existence of competition from foreign producers theoretically has the same effect on the organizational structure as would a larger number of domestic enterprises.

Finally, since 1989, price controls and subsidies to the public enterprise sector have been gradually eliminated and the biases against the private sector have been disappearing. All of these policies are focused on creating more competitive market structures, with a clear benefit for consumers both in terms of smaller price increases (if the economy is in an inflationary stage) and higher quality goods.

In this context, the privatization of public enterprises does not affect market structures because it only involves a change in the ownership of capital. However, before privatizing an enterprise, in many cases (especially those in which the existing regulations engendered significant price distortions or prevented the entry of new enterprises), the regulations were modified so that the conditions necessary for competitive market situations were already in place when privatization took place.

TELMEX is a case in point. As mentioned in the preceding chapter, before divestiture was initiated and the regulations modified, TELMEX operated as a monopoly, not only as a provider of telephone service, but also as a vendor of related goods and services. Following privatization, and under different regulations, local telephone service was opened up to competition and long distance service was restricted for a period of six years.

As a result of various modifications in the regulatory framework, Mexico's markets have become more competitive. The prices of internationally tradable goods have fluctuated at rates similar to exchange rate variations, indicating, almost independently of the number of domestic enterprises, that competition from foreign producers imposes competitive discipline on domestic markets.

Endnotes

1. The reduction in subsidies and transfers to the public enterprise sector and the earnings from the sale of these enterprises, although the most significant elements of the impact of privatization on public finances, are not the only ones. Two others must also be taken into account: the income not received by the public sector as a result of no longer owning enterprises sold to the private sector, and the increased tax revenue generated through private ownership of the enterprises, which it was believed would be more productive.

2. The downturn in 1983 was reversed in a single year, 1987. Reacting to the oil shock of 1986 and the subsequent acceleration of inflation, the government tried to alleviate

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the additional inflationary pressure by increasing subsidies to the rest of the economy through a smaller adjustment in the prices of goods and services produced by the public enterprise sector. However, the reduction in the relative price of these goods and services forced the government to increase its transfers to the public enterprise sector.

3. The measurement of this component of public finances does not include the results of financial intermediation by the development bank.

4. The national accounts analysis for an open economy incorporates the following equation for aggregate demand (DA): $DA = C + I + G + X$, where C = private consumption; I = gross fixed investment (including stockpiling); G = public sector expenditure; and X = exports of goods and services.

Aggregate supply (OA) is represented by: $OA = C + S + T + M$, where C = private consumption; S = domestic savings; T = total public sector income; and M = imports of goods and services.

Balancing aggregate demand with supply yields: $(I - S) + (G - T) = (M - X)$. What this latter equation means is that the sum of the investment-saving gaps and the public deficit must equal the external current account deficit. If the public sector is in balance (expenditure equals income), as it has been in Mexico in recent years, a current account deficit indicates that the economy is investing more than it is saving, with the additional resources being reflected in the capital account surplus.

5. Although in recent years the capitalization value of the Mexican stock market has increased significantly, the stock market continues to be a secondary source of financing for Mexican enterprises, which prefer using the traditional financial market (bank credit and the issuance of commercial paper and bonds). There are various reasons for this. One is that most enterprises in Mexico are family-owned. Another is that it is still relatively costly for small and medium-sized enterprises to participate in the stock market, compared with the costs of obtaining traditional financing.

6. The financial system's lack of depth in the economy can be explained primarily by two factors. The first is the low level of per capita income, which indicates a low level of economic development and, therefore, relatively limited use of the financial system. The second—and perhaps more important—factor is that because of the regulations imposed on the financial system and the lack of competition among the institutions that constitute the market, the system is relatively costly, as reflected in the large interest rate spreads prevailing in the national banking system. This makes use of the financial system expensive, with the result that few resources are attracted and channeled into the system.

7. This does not apply to development banking, the objective of which is intrinsically different from that of commercial banking.

8. Hachette and Lüders (1993).

9. An individual considers not only his present levels of income and consumption, but his future levels as well. In other words, his financial decisions will be based on both present and expected income, as well as his preference for present vs. future consumption.

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10. In 1989–1992, despite the increase in private investment, there are signs that private savings contracted, but two factors account for this. First, consumers began replacing durable goods (such as automobiles and refrigerators) after nearly a decade (1980s) in which these assets depreciated almost entirely and could not be replaced owing to the decline in real income. Second, although the acquisition of durable goods by individuals is measured as consumption in the national accounts, it should, strictly speaking, be classified as savings and investment. By making this adjustment, private savings, instead of falling, increase.

11. An example of the new investment opportunities opened up to the private sector as a result of privatization is participation (formerly restricted) in construction and the operation of toll highways.

12. The perfect mobility of capital to and from the rest of the world would eliminate this problem since, in such circumstances, any upward pressure on interest rates would stimulate capital inflows, which could be used to finance other investment projects. In Mexico, however, capital mobility is not perfect and other investment projects can indeed be crowded out, even if only temporarily.

13. To ensure a more equitable distribution of income and wealth, other factors must also come into play, such as higher levels of education, the existence of competitive and efficient markets, regulations that promote unrestricted interaction among various economic agents, etc.

14. For an analysis of the behavior of a government manager who seeks to maximize his own interests and not those of a public enterprise, and reasons why a public enterprise uses more labor than is optimal, see Clower (1965), Lindsay (1976), Kornay (1986) and Pint (1991), as well as Chapter 1 of this book.

15. Vickers and Yarrow 1988, 1991.

16. The public enterprise manager's objective of maximizing expenditure is related to his personal objective of maximizing his own long-term welfare, which depends on the political power he can acquire and—more importantly—wield, expenditure being the most common way of doing so. In addition, a public enterprise manager has no incentive to efficiently manage the resources he administers, as ownership rights to such resources are not defined, nor are the rights to the enterprise itself. See Lindsay (1976).

17. Pint 1991.

18. In this case, the term "competitive market" is not used to describe a situation in which Mexican enterprises are "cost competitive" on the international markets.

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CHAPTER 7

The Future of the Divestiture Process

Mexico has undergone rapid and profound changes in its social and economic structures, its political system and cultural institutions. These changes have created major challenges and opportunities that enable its people to adapt to new conditions of the productive environment, in a context of globalization and economic openness. Such an adjustment calls for stronger public, private and social initiatives to deal successfully with competition in the domestic and international markets.

The profound transformations in most world economies, including Mexico, have made it necessary to reformulate our present and future goals and objectives. This means breaking with the past and visualizing the future we want for coming generations. We must design new strategies and actions to shape a productive environment that is more competitive, as well as more efficient and egalitarian. We need to make structural changes in productive sectors that will lead to greater self-sufficiency in generating goods and services.

These development objectives require planning for a future in which our communities and productive agents will demand more and better public services and infrastructure. There are basic needs to be addressed in food, housing, education, health and communications, as well as public safety, drinking water, sewerage, street-cleaning, and public transportation. Our overall objective is not just to generate those goods and services demanded in domestic and international markets, but also to create greater wealth, more jobs, and the long-term investment needed to improve workers' income levels. Only this will raise the living standards of all Mexican citizens and maintain the conditions for achieving healthy and sustainable economic growth.

Beginning in 1982–1988, and with greater emphasis in 1988–1994, the Mexican government accomplished one of the most intensive and thoroughgoing transformations that the world has ever seen, and did so in a dynamic context in which international competition became a factor in the domestic economic environment. During this period, Mexico laid the foundations for a more productive economy that would provide opportunities for all, and distribute the benefits of development more equitably. Correcting the structural problems that hindered economic growth allowed the government to spend more on people, and less on special interests and unprofitable enterprises.

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Thus, the state resumed its role as promoter of economic development and enhanced its capacity to satisfy society's real needs.

A significant part of this structural reform was the divestiture of public enterprises. In the early 1980s, the government was involved in virtually every sector of economic activity, through more than a thousand public enterprises. Eventually, through liquidations, mergers and open and transparent bidding processes, the number of public enterprises decreased by more than 80 percent. The nonrecurrent earnings from the sale of these entities amounted to more than 60 billion new pesos ($23 billion), and they were used not to finance current expenditure, but to repay public sector debt. This made it possible to streamline public expenditure, as it was no longer necessary to finance large numbers of inefficient enterprises.

The divestiture of public enterprises was only one of many factors that helped Mexico effect a dynamic structural change with positive results for future generations. It has been said that lasting progress is possible only if precise measures are taken at the right moment. Although planning focuses on the future, past efforts can help us plan future actions. The structural changes that have already been achieved will enable us to envision our future more concretely.

Both the speed and the scope of structural changes have altered the relationship between state and society in Mexico. In the economic sphere, the objective now is to create an efficient economy capable of rapid, sustainable growth, to satisfy the growing demands of the public and of its productive agents. Attaining this objective will require achieving sustainable fiscal equilibrium and refocusing public expenditure on the proper tasks of government, among which are education, public health, and directly attacking poverty and housing shortages.

New Divestiture Plans

The point of departure for satisfying the demands of the public and its productive agents leads us to visualize greater economic and commercial openness. Along with this, we need administrative deregulation to facilitate and expand the role of private and social enterprises in certain economic sectors where the state is still deeply involved, but cannot continue supplying certain goods and services owing to the lack of available resources. Mexico's federal government should view the necessity of modernizing and expanding the country's basic infrastructure and services as a necessary condition for stronger economic growth. Taking such a view will no doubt lead the government to promote private investment and efficiency in areas such as railroads, electricity, petrochemicals, telecommunications, ports and airports.

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Table 7.1 Future Divestiture Program

Traditional	State and municipal
• Electrical power plants	• State and municipal enterprises
• Secondary petrochemicals	• Drinking water and sewerage
• Telecommunications	• Street-cleaning services
• Highways	• Public transportation
• Railroads	• Markets and wholesale supply markets
• Ports	• Trucking facilities
• Airports	• Sports facilities
• Banks (public sector shareholding interest)	• Cemeteries
• Other	• Trails
	• Sports stadiums, bullfight arenas

Therefore, we should pursue further reductions in the size of government, through a new divestiture program in two areas. The first area would involve the traditional infrastructures operating in the sectors mentioned above, and those where past privatization efforts can be expanded (such as highways, telephones and financial institutions). The second area, state and municipal entities, goods and services, would involve those infrastructures where state and municipal governments are still responsible under law either to supply goods or provide public services. In these future programs, great care should be exercised in the use of divestiture criteria, to avoid violating sovereignty or weakening government control over enterprises still considered a high priority and of strategic importance to the national interest.

As the economic objectives involve weighing many political and social factors, decisions in each sector will directly or indirectly affect the others. The analysis aims to evaluate the future performance of economic, political and social measures, in light of the overall objectives of development and comprehensive modernization of productive structures. Thus the future divestiture program should be coupled with specific actions aimed at the decentralization of economic life and of Mexico's political and social life as well. Without such measures, the divestiture process will not function properly.

Decentralization addresses a longstanding complaint not only of civil society and local economic agents, but also of many intellectuals, politicians, business groups and national political organizations, which have long demanded greater participation by local entities in the decisionmaking related to regional development objectives. Similarly, the strategic importance of privatization should be emphasized, to convince the public of the government's determination to promote systematic, structural change in the new circumstances that will define relations between the government and local, national and foreign productive agents. Such an environment of commercial efficiency and enhanced productivity will benefit the users of goods and services.

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In other words, if privatization is to enjoy public support, privatized enterprises must satisfy consumer expectations by offering better service, lower prices and higher quality goods and services; otherwise, disillusionment will set in and opinion will shift in favor of other solutions.

Only in this way can the government consolidate structural changes involving greater participation by private and social entities in the production of goods and the provision of services, in order to devote itself exclusively to regulating and controlling economic activity and focus its efforts and resources on other needs that are part of its economic, political and social responsibilities.

Regarding decentralization and divestiture, despite the progress and efforts of various government agencies, the growing demands of the population have not been satisfied. Therefore, it is indeed urgent that federal, state and municipal authorities, political parties and citizens organizations take the necessary steps to improve the population's living standards.

This topic is directly related to the necessity of designing mechanisms to better coordinate the efforts of the federal government, states, and municipalities to serve the public. This can be accomplished through modernization and strengthening the managerial capacity of states and municipalities, with the firm intention of reshaping their present circumstances and preparing them to respond energetically to future challenges.

In fact, the growing populations of various regions and localities throughout Mexico are demanding more infrastructure works and better public services. However, many government agencies face an acute shortage of financial resources that prevents them from satisfying such needs. The public treasuries of state and municipal governments are only able to satisfy the most urgent needs of their jurisdictions, which has delayed the startup of infrastructure works needed to provide public services.

Future demand for public services and works will continue to expand in proportion to population growth. If the managerial capacity of states and municipalities is not strengthened, they will not be able to fulfill their objectives. Therefore, a series of strategic actions must be taken to enable them to meet future challenges. Mexico's political leaders and economic agents should cooperate in implementing municipal reforms to facilitate the major macroeconomic transformations occurring in the country. Meeting the challenges of international competition will require the best possible use of resources and regional talent. We must shorten delays in infrastructure works and services and open up new opportunities to share in profits and risks of new investments. Local finances must be given an equitable and sound footing, and the microeconomy must be reactivated. All this calls for constructing—from the ground up—a new style of cooperative federalism designed to promote local and national development.

Such a new federal compact would include a broad municipal reform

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that aims at strengthening citizen participation in discussing and defining problems. This participation also extends to finding better solutions and involving all members of the community in a new dynamic of creativity, effort and competition. To resolve the main problems of local governments and achieve these new objectives, the following strategic actions are essential:

- Give states and municipalities greater financial autonomy.
- Promote regional microeconomic development.
- Expand the infrastructure and public services of their towns and cities.
- Strengthen state and municipal treasuries.
- Restructure the income and expenditure functions of each level of government.
- Redefine the role of state legislatures in approving laws on the revenue designated for town councils.
- Expand federal participation.
- Allocate more resources to states and municipalities that have extreme levels of poverty.
- Continue decentralization in the areas of education, health and food from the federal government to states, and from states to municipalities.
- Divest the major assets (of both states and municipalities) used to provide the various services for which they are responsible.

All the above actions depend on transferring more resources, power and decisionmaking responsibilities to states and municipalities. Only these steps can provide them with sufficient means and opportunities to promote local and regional development and growth, basing their functions on the increased participation of local economic and social agents.

Moreover, the new objectives should not be limited solely to providing public services to the community. They should be expanded to include the following goals:

- Promote economic and social development.
- Promote productive investment to encourage the participation of society in building local infrastructure and providing public services.
- Develop new productive investment projects to generate wealth and employment.
- Strengthen social dialogue to encourage the management of local conflicts.
- Intensify efforts to eradicate poverty.
- Develop inclusive and participatory styles of government.
- Ensure observance of the human and political rights of citizens.

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Some of the most important points in this future scenario are the need to promote economic and social development, the strengthening of state and municipal treasuries, expansion of the infrastructure and public services of towns and cities, the divestiture of major state and municipal assets, and the promotion of productive investments aimed at encouraging the participation of society in the construction of local infrastructure and in the provision of public services.

The methods to achieve these objectives are based on strengthening state and municipal treasuries. First, the treasuries of states and municipalities must be strengthened to promote the full and timely provision of public services for which they are responsible and which their communities demand. Yet how can these objectives be attained, if the demand for public services grows with each passing day and the budgetary resources available to states and municipalities to satisfy it are inadequate? The answer involves examining the various mechanisms for strengthening the finances of local government agencies, through larger budget allocations from the federal government to states and from the latter to municipalities, through justified increases in the prices of goods and services provided by states and municipalities, or through divestiture of the major state and municipal assets used to provide the various services for which they are responsible.

This latter alternative is the most viable and appropriate in light of the prospective circumstances of states and municipalities. The objective is precisely to encourage the participation of society in local infrastructure construction and the provision of public services, in accordance with the criteria of efficiency, productivity, profitability and quality.

State and municipal governments would thus be freed of such responsibilities and could operate with greater freedom and less budgetary pressure in attaining these objectives. They could then address other priority demands of the population and increase the quality of supervision and regulation of development, while at all times retaining the power to issue rules and regulations, supervise and oversee, to ensure the sufficient and timely supply of those public services that have been privatized or given in concession to private entities.

Local governments would therefore become promoters of concerted action and the generation of community commitments to development, by linking private, social and public resources to the regulations governing investments in infrastructure development projects and public services.

Clearly, then, one of our country's major challenges will be to invest in infrastructure and public services. However, the scarce resources that the government has for these purposes necessitate the implementation of policies aimed at the rationalization and maximization of public spending. In addition, the society must become actively involved in infrastructure construction and the provision of public services, through competition and the committed par-

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ticipation of all economic agents, including the development institutions responsible for channeling resources to supplement investment projects in the public, private and social sectors.

Accomplishing this will require the preparation of a local, regional and national inventory of investment needs, which will in turn require the promotion of studies and projects that utilize social and economic profitability criteria in their assessments. It will also be necessary to design strategic frameworks and comprehensive regional development studies, specifically tailored to the investment projects.

Better tax revenue mixes and lending for the development of infrastructure and public services should also be promoted, along with concessions, co-investment and long-term anchoring through the issuance of state and municipal bonds that provide solid support for strengthening state and, more importantly, municipal finances as the driving force of development.

Thus, the divestiture of state and municipal entities, goods and services, as well as projects related to such actions, should be based not only on principles of economic profitability, but should also incorporate the objective of a full and appropriate level of social profitability, in addition to greater productivity, efficiency and quality in the provision of services to the community.

Therefore, on the threshold of the twenty-first century, states and municipalities offer a full and highly varied range of opportunities for economic and social development, aimed at the reactivation of investment, business and the microeconomy, as well as inclusive approaches to government that allow for various forms of participation by local economic agents in the management of public services.

In the present circumstances (characterized by the generalized scarcity of resources, especially in states and municipalities), the demands generated by population growth in the local community environment obviously cannot be satisfied. On the one hand, such demands require more infrastructure works, and, on the other, better public services to satisfy the need for basic infrastructure, communications, health, education, housing, recreation and culture.

Thus, states and municipalities will face increasing pressure to satisfy the many demands of local populations adequately and in a timely manner. However, they will also encounter tighter budget constraints that will prevent them from quantitatively and qualitatively satisfying such demands, which will diminish their response capability.

Therefore, given the scarce resources and greater budget constraints that federal, state and municipal governments will have to contend with, it is important that mechanisms be created to strengthen local finances.

Accordingly, a new divestiture strategy must be developed for the future, to enable the federal government to promote private investment and efficiency in areas such as railroads, electricity, petrochemicals, telecommu-

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nications, ports and airports, as well as in enterprises and infrastructure in sectors where privatization efforts have already been made but where additional privatization is possible (e.g., highways, telephony and financial institutions). As mentioned above, this is the *traditional* aspect of divestiture.

The second aspect of divestiture, known as the *state and municipal entities, goods and services* aspect, would include the privatization of those enterprises and infrastructure over which state and municipal governments retain control, either to supply goods or provide services for which they are responsible under law.

The first aspect of the future divestiture process should be managed in accordance with the regulatory, technical and transparency criteria used in the previous process. The experience gained should be used to the fullest to expedite the privatization process; otherwise, undesirable efforts would be made by groups opposed to reduction of the state, who view privatization as unnecessary and contrary to their individual interests.

The second aspect of the future divestiture process should be managed in a context of economic rationality and efficiency, through sales, concessions and co-investment. The objective is to encourage the participation of private and social entities and promote investment and regionally balanced development. Thus, divestiture, more than a mere exchange of assets between the government and the private sector, represents the broader participation of civil society in economic and social development.

The above measures would allow states and municipalities to concentrate on the satisfaction of social needs in the areas of health and education, among others, and on the creation of an environment of long-term macroeconomic stability.

The three methods for divestiture of state and municipal entities, goods and services would be *sales, concessions,* and *co-investment*. All three methods would observe the following basic principles:

- Strict compliance with legal requirements.
- Absolute transparency.
- Constant provision of information to the public.
- Timely observance of procedures and guidelines.

The following steps should be considered in connection with the mechanism proposed for the divestiture activities of states and municipalities:

- Surveys and dialogue with civil society.
- Authorization by town councils.
- Authorization by state legislatures.
- Amendment of state and municipal organic laws, as necessary.

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- Execution of divestiture operations by state and municipal authorities, as appropriate.

The advantages of the divestiture of state and municipal entities, goods and services would be the following:

- The efficient provision of public services is guaranteed.
- The financial problems of states and municipalities are solved.
- Resources are freed for investment in other state and municipal social development services.
- State and municipal administrative and bureaucratic structures are streamlined.
- The constitutional mandate requiring the government to regulate the provision of public services is fulfilled.

Finally, in addition to the strategic actions proposed for this type of divestiture, the legal frameworks of various laws and regulations that govern the behavior of our country's economic agents must be modified. Providing the population with more and better public goods and services in a freely competitive market will be possible only if the functioning of the market is improved through appropriate regulations, which would in turn assure the desired efficiency of the new investments, thereby benefiting the population and promoting the modernization of our productive structures.

Conclusions

Economic theory suggests that private enterprises in Mexico would operate more efficiently than public enterprises, for the following reasons:

a) The government, as the principal agent of public enterprises, has other objectives in addition to maximizing profits.

b) The method of negotiating with the suppliers of inputs, workers and other agents involved in the production process is different.

c) Because the soft budget constraints of public enterprises do not exist for private enterprises, the latter make better use of their resources.

d) Private enterprises have greater incentives to produce more efficiently and to deal with the agent-principal problem, owing to the existence of a corporate structure and the necessity of making financial decisions different from those in the public sector.

e) Risks such as bankruptcy were highly improbable in public enterprises prior to the start of the privatization process in Mexico.

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In a broad range of circumstances, public enterprises are less efficient from a productive standpoint. Nevertheless, private enterprises are not invariably and always better than public enterprises. Both types of enterprises will function more efficiently within a competitive market structure. Thus the clearest gains of privatization have to do with productive efficiency, and the primary objective of the privatization process should be to promote such efficiency.

Even without such an improvement in resource allocation, privatization could be justified if a government has serious liquidity problems and decides to sell public enterprises to obtain additional resources. That is hardly the most efficient way of obtaining additional resources, owing both to the lateness of the sale and the allocative efficiency problems that would result if a monopolistic enterprise were not regulated. Moreover, regarding the sales mechanism, productive efficiency gains can cause allocative efficiency problems, so that privatization is not the best way of improving income distribution through the dilution of ownership of the enterprises' shares. In addition, choosing to dilute ownership destroys many of the incentives that lead to productive and allocative efficiency gains. In this case, the best option for the government would not be to privatize, but to try to increase the efficiency of public enterprises and transfer resources directly to households.

When an enterprise is privatized, the reallocation of resources and the consequent efficiency gains spur economic growth. The reallocation of resources is thereafter reflected in increased production and increased yield of factors of production.

In deciding whether to privatize an enterprise, the government must take a comprehensive view, by analyzing the macroeconomic and microeconomic objectives, weighing them and establishing priorities. Although the repercussions of privatization are many, the most important should be increased public welfare.

After summarizing the theoretical framework of the privatization program, Mexico's specific case was analyzed. This was followed by a short review of the factors involved in the formation of our country's public enterprise sector. In this context, the development of the Mexican public enterprise sector—the growth of which was almost constant from the 1920s onward—was influenced by a number of factors stemming from the specific circumstances prevailing in the economy. The creation of various enterprises by the federal government, primarily to handle capital goods and infrastructure works (goods whose production, at the time, required a heavy injection of resources and relatively long lead times), as well as entities that reduced transaction costs in the economy (such as the Bank of Mexico), facilitated and even promoted economic development in Mexico.

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Analysis of the four historic stages starting with the Political Constitution of 1917 and ending with the economic crisis of 1982, as well as the study of sectoral performance, shows that one of the main causes of unrestrained public sector growth was the bailout of private enterprises experiencing financial problems. The objective was to preserve the productive plant and employment, which, as a long-term approach, was clearly unjustifiable, since rescuing bankrupt enterprises to save jobs and, worse still, using petroleum receipts to create enterprises and agencies, distorted the state's true role in the economy, transforming it from "regulator" and promoter of development to "owner" and manager.

Another aspect that helped increase the size of government was its continued ownership of public enterprises when its involvement was no longer justified. No doubt public sector participation was essential in some sectors to spark development, especially when the private sector was unable or unwilling to invest, but such participation should have been temporary.

In the 1940s, for example, the production of steel was essential for the development of national industry. The worldwide supply of steel was scarce and domestic steel production, in addition to being inefficient, required heavy investments that private investors could not make. Therefore, the government's involvement was fully justified and, with a view to ensuring the production and availability of steel, the decision was made to create *Altos Hornos de México* and, later on, *Siderúrgica Lázaro Cárdenas, Las Truchas*.

Conditions in this industry were changing, however, particularly when most countries decided to reduce their steel production capacity owing to the development of a new technology which promoted the adoption of substitute products and the downsizing of steel plants to increase operating efficiency. This made less integrated processes viable and promoted specialization.

It should also be emphasized that another of the reasons for increased state participation in economic activities was the domestic development model Mexico adopted for several decades, characterized by a high level of protection, import substitution and intensive government involvement in many different enterprises in almost all sectors of activity. Its objective was to expand the infrastructure and increase the supply of goods and services necessary for the country's development.

In the early 1980s, however, Mexico encountered a series of problems that increased public expenditure considerably and led to recurring inflationary cycles, devaluation of the currency and a high level of external indebtedness, which had the cumulative effect of causing a recession and revealing the obsolescence of the domestic development and import substitution model.

The intensive level of state participation in the economy had required massive amounts of public resources, which put heavy pressure on public ex-

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penditure and limited the government's capacity to respond to more pressing needs. Added to these conditions were the extremely low productivity of resources used in public enterprises and agencies; the inefficient allocation of such resources and the consequent loss of welfare; the growing deficits of various enterprises that required government subsidies and transfers, and the pressure on financial resources in the economy. All these factors led to increasing external indebtedness and the intensive use of inflationary credit from the Bank of Mexico. The result was the serious crisis that erupted in the Mexican economy in 1982, which led the state to reconsider its role in economic activity (specifically, the role of public enterprises), as a public enterprise sector comprising 1,155 entities was altogether too large.

In these circumstances, structural reform of the state necessarily included resizing the public enterprise sector to strengthen the state's role as regulatory agent and promoter of the economy. It was therefore essential to increase these enterprises' efficiency in the allocation of resources, and, above all, to focus their activities solely on those areas in which they were effective and for which they were exclusively responsible.

Accordingly, in 1983, the decision was made to begin the process of divesting public enterprises that were not considered strategic or high-priority and therefore, were not the state's responsibility. Thus, the divestiture of public enterprises was an additional element of structural change in the Mexican economy. It was accompanied by commercial and financial liberalization of the economy and the deregulation of various productive sectors, with a view to increasing efficiency in the allocation of resources and thus achieving macroeconomic stability and higher levels of economic growth and public welfare.

Public downsizing programs were carried out previously in other countries, chiefly the United Kingdom and Chile. Those programs could not be applied to Mexico, however, because of its different economic and political conditions, in addition to the wide range and diversity of public sector enterprises, and their financial and material conditions. Thus Mexico's privatization program had to be designed from the ground up.

From a macroeconomic perspective, the main objective of privatization was to rehabilitate and strengthen public finances with a view to reorienting public expenditure and making ample room in the budget for social spending. As for the microeconomic aspects, the divestiture process would maximize the enterprises' chances of medium- and long-term survival, and would thereby promote greater productivity and sources of permanent employment.

The process of privatizing public enterprises was carried out in all cases through public bidding, based on the principles of transparency and strict compliance with the regulatory and legal framework. The complexity of the process varied according to the specific sales strategy selected for each enterprise.

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Three phases can be distinguished in the process of selling an enterprise: the decision to sell, implementation and formalization. The sales decision was always based on a thorough and detailed analysis of the condition of each entity and whether it was strategic or a high priority. Implementation of the process involved several stages, including, in particular, a technical and financial evaluation to determine the minimum reference price. Methods for determining this price took account not only of the enterprise's financial condition, but also its standing in the market.

Finally, in the formalization phase, it was important that the buyer offer not only a fair price for the shares, but also a work program to promote greater efficiency and long-term survival of the enterprise in the market.

As for the macroeconomic evaluation of the results of the privatization process, the divestiture of public enterprises allowed for a sizable reduction in transfers and subsidies from the federal government to the public enterprise sector, a key element in the government's effort to adjust its finances. Likewise, the sale of enterprises and the respective earnings allowed the public sector to generate a surplus and, therefore, repay part of its domestic debt, which freed resources for allocation to the private sector to finance its investment.

The microeconomic impact of the privatization process has been positive overall. Because it is linked to other significant changes such as trade liberalization, the deregulation of domestic markets and macroeconomic stabilization, the effects of privatization are difficult to isolate. One result of the government's structural reforms was the strong recovery of private investment in 1989, in an environment with more efficient resource allocation. This set the stage for greater economic growth in the future. The change in ownership of enterprises also had a significant impact on efficiency, reflected in the increased productivity of factors of production for many of the privatized enterprises. This tends to be reflected in greater returns on private investment, which will assuredly lead to higher levels of domestic savings and investment.

In combination with other economic policy instruments, the privatization process has created more competitive markets, which has resulted in a higher quality of goods and services, with a clearly positive effect on the welfare of the population.

The experience gained throughout the privatization program in Mexico was diverse, but extremely valuable. Some of the most important lessons learned can be outlined here.

An essential aspect of any privatization process is transparency, which means complying strictly with the regulatory and legal framework upon which the process is based. The flexibility of the process involves other aspects such as the design of a financial engineering plan for each enterprise, depending on its characteristics and complexities.

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The divestiture of enterprises should begin with the smallest enterprises, not just to gain experience and then take on more complicated cases, but also because it promotes public acceptance and investor confidence.

Macroeconomic stability is essential to the success of a divestiture program, as it is a major factor in investor decisionmaking. An important aspect of Mexico's privatization process (and a factor in the sale of several industrial enterprises) was the restructure of enterprises before they were sold. The new owners did not have to deal with the old problems or with subsequent adjustments made in the respective sectors by the government. Not only did this improve the enterprise's long-term prospects, it also increased the likelihood of selling the enterprise at a higher price.

Divestiture decisions should be centralized, because involving a large number of agencies or offices needlessly complicates and prolongs the process. Only one office should have this responsibility, and sales should be carried out by a small team of public servants.

The speed of the process is also important, since a prompt sale does much to prevent deterioration of an enterprise's overall physical and financial condition. However, this does not require sacrificing transparency or selling enterprises at any price. In evaluating a bid, the highest price is not the only consideration: the quality of effort should also be weighed, as well as the investor's experience in the sector and his investment commitments. All these factors can increase an enterprise's chances of medium- and long-term survival.

As most of the divested public enterprises were overstaffed, increasing their productive efficiency entailed a short-term adjustment in staffing levels. The growth of privatized enterprises frequently had a compensating effect on employment. Nevertheless, it is advisable to establish a trust with the sale proceeds, to assist laid-off workers (through training courses, for example) and improve their chances of quickly finding new employment.

The public should remain informed about the status of the sales process. In addition to sales announcements and press releases, official documents containing accurate and relevant information should be published and made available to anyone who requests it.

Finally, because earnings from the sale of public enterprises are nonrecurrent, it is unwise to use them for current expenditure. Instead, they should be used to repay debt and thus benefit the population directly, through increased social spending, always with the intention of improving the living conditions of the largest number of people who require services and infrastructure works.

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Appendix A. Examples of Divestitures of Public Enterprises* December 1988–June 1994

SECRETARIAT OF FINANCE AND PUBLIC CREDIT OF MEXICO
PUBLIC ENTERPRISE DIVESTITURE UNIT

Company	First Public Notice	Final Public Notice	Date Sold	Buyer	Sale price in 1,000 NP	Sale price in US $1,000	Exchange rate
COMPAÑÍA MEXICANA DE AVIACIÓN, S.A. DE C.V.[1]	25-may-87	25-may-89	22-aug-89	GRUPO XABRE, S.A. DE C.V., THE CHASE MANHATTAN BANK, N.A., DBL AMERICAN DEVELOPMENT ASSOCIATION, L.P., G.O. LTD. Y LOS CC. ELÍAS SACAL ZETUNE MÁS CINCO INVERSIONISTAS.	358,960.0	140,000.0	2.5640 USD
AEROPUERTOS Y TERRENOS, S.A.	25-may-87	25-may-89	22-aug-89	GRUPO XABRE, S.A. DE C.V., THE CHASE MANHATTAN BANK, N.A., DBL AMERICAN DEVELOPMENT ASSOCIATION, L.P., G.O. LTD. Y LOS CC. ELÍAS SACAL ZETUNE MÁS CINCO INVERSIONISTAS.			
COMPAÑÍA MEXICANA DE AVIACIÓN, S.A. DE C.V. (4%)+	NONE	NONE	30-sep-92	CORPORACIÓN FALCÓN, S.A. DE C.V. (Ejerció opción de compra-venta).	109,412.9	35,209.3	3.1075 TESOFE
AHMSA INGENIERÍA, S.A.	21-jun-88	21-jun-88	22-sep-89	CONSORCIO DE ACCIONISTAS EN INGENIERÍA, S.A. DE C.V. Y LOS CC. LUIS ÁVILA MARTÍNEZ, LUIS VELASCO GUERRERO, JORGE ORTEGA BERMÚDEZ Y ERASMO BARROSO REAL.	5,068.2	1,953.1	7.5950
GRUPO DINA							
DINA AUTOBUSES, S.A. DE C.V.	13-jun-88	23-may-89	27-oct-89	CONSORCIO G., S.A. DE C.V. Y LOS CC. ARMANDO, RAFAEL Y OMAR R. GÓMEZ FLORES Y J. LUIS PEÑA MÉNDEZ.			
DINA CAMIONES, S.A. DE C.V.	13-jun-88	19-jul-89	27-oct-89	CONSORCIO G., S.A. DE C.V. Y LOS CC. ARMANDO, RAFAEL Y OMAR R. GÓMEZ FLORES Y J. LUIS PEÑA MÉNDEZ			
DINA MOTORES, S.A. DE C.V.	13-jun-88	19-jul-89	27-oct-89	CONSORCIO G., S.A. DE C.V. Y LOS CC. ARMANDO, RAFAEL Y OMAR R. GÓMEZ FLORES Y J. LUIS PEÑA MÉNDEZ			
PLÁSTICOS AUTOMOTRICES DINA, S.A. DE C.V.	13-jun-88	19-jul-89	27-oct-89	CONSORCIO G., S.A. DE C.V. Y LOS CC. ARMANDO, RAFAEL Y OMAR R. GÓMEZ FLORES Y J. LUIS PEÑA MÉNDEZ.	213,096.0	82,420.9	2.5855 IMPLICIT.

* The full list of the enterprises privatized between 1988–1994 can be found in Jacques Rogozinski, *La Privatización en México: Razones e Impactos* (México: FCE, 1997).

[1] Vena a través de incremento de capital.

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Appendix A. (Continued)

Company	First Public Notice	Final Public Notice	Date Sold	Buyer	Sale price in 1,000 NP	Sale price in US $1,000	Exchange rate
TABACOS MEXICANOS, S.A. DE C.V. (TABAMEX)							
PLANTA DESVENADORA DE TABACO DENOMINADA "LÁZARO CÁRDENAS"*	12-feb-90	12-feb-90	04-jun-90	TABACOS DESVENADOS, S.A. DE C.V.	14,500.0	5,090.6	2.8484
TELÉFONOS DE MÉXICO, S.A. DE C.V. (20.4 %) "AA"[2,3]	13-aug-90	13-aug-90	13-aug-90	GRUPO CARSO, S.A. DE C.V., LOS CC. BERNARDO QUINTANA I., RÓMULO O'FARRIL N. Y 33 INVERSIONISTAS MEXICANOS, SOUTHWESTERN BELL INTERNATIONAL HOLDINGS, CO. Y FRANCE CABLES ET RADIO.	5,171,216.0	1,757,601.8	2.9422 IMPLICIT
ALQUILADORA DE CASAS, S.A. DE C.V.							
ASTILLEROS UNIDOS DE VERACRUZ, S.A. DE C.V.	04-jul-90	04-jul-90	31-jan-91	SOKANA INDUSTRIES, LTD. Y LOS CC. SANTIAGO CREEL MIRANDA, ROBERTO LÓPEZ VIDES, SERGIO NICOLAU GARCÍA Y RODRIGO MONROY CASTILLO MIRANDA.	55,000.5	18,500.0	2.9730 USD
PAQUETE DE MEDIOS DE COMUNICACIÓN							
CONTROLADORA MEXICANA DE COMUNICACIONES, S.A. DE C.V.[10]	21-may-93	21-may-93	30-jul-93	RADIOTELEVISORA DEL CENTRO, S.A. DE C.V.Y EL C. RICARDO BENJAMÍN SALINAS PLIEGO.			
COMPAÑÍA OPERADORA DE TEATROS, S.A. DE C.V.	21-may-93	21-may-93	30-jul-93	RADIOTELEVISORA DEL CENTRO, S.A. DE C.V. Y EL C. RICARDO BENJAMÍN SALINAS PLIEGO.	480,000.0	146,860.8	3.2684
ESTUDIOS AMÉRICA, S.A. DE C.V.	22-jul-91	21-may-93	30-jul-93	RADIOTELEVISORA DEL CENTRO, S.A. DE C.V. Y EL C. RICARDO BENJAMÍN SALINAS PLIEGO	50,000.0	15,298.0	3.2684
IMPULSORA DE TELEVISIÓN DE CHIHUAHUA, S.A.	21-may-93	21-may-93	30-jul-93	RADIOTELEVISORA DEL CENTRO, S.A. DE C.V. Y EL C. RICARDO BENJAMÍN SALINAS PLIEGO.	20,000.0	6,119.2	3.2684
OPERADORA MEXICANA DE TELEVISIÓN, S.A. DE C.V.[4]	21-may-93	21-may-93	30-jul-93	RADIOTELEVISORA DEL CENTRO, S.A. DE C.V. Y EL C. RICARDO BENJAMÍN SALINAS PLIEGO.	50.0	15.3	3.2684
TELEVISIÓN AZTECA, S.A. DE C.V.[5]	21-may-93	21-may-93	30-jul-93	RADIOTELEVISORA DEL CENTRO, S.A. DE C.V. Y EL C. RICARDO BENJAMÍN SALINAS PLIEGO.	1,150,000.0	351,854.1	3.2684

[2] Acuerdo de la Comisión Intersecretarial de Gasto Financiamiento 90-111-E-7.

[3] Para las empresas filiales Fincas Coahuila, S.A. de C.V. e Inmobiliaria Aztlán, S.A. de C.V., sus procesos de desincorporacion fueron autorizados originalmente como fusión.

[4] Caso especial. De acuerdo con la estrategia de venta del "Paquete" de Medios de Comunicación se crearon estas empresas, las cuales se vendieron el 30 de julio de 1993.

[5] Caso especial. De acuerdo con la estrategia de venta del "Paquete" de Medios de Comunicación se crearon nueve sociedades mercantiles de fomento con carácter temporal, las cuales se vendieron el 30 de julio de 1993.

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Appendix B.

Procedure for the Transfer, for Valuable Consideration, to Social or Private Sectors, of Securities Representing the Capital Stock of Enterprises in Which the State Is a Majority Shareholder, or the Equity Interest of the Federal Government, or of a Public Sector Entity in Such Enterprises

1. Pursuant to Articles 5 and 12 of the Regulations of the *Ley Federal de las Entidades Paraestatales* and Article 48 of the *Ley Orgánica de la Administración Pública Federal*, the Secretariat of Programming and the Budget, at the proposal of the corresponding sectoral coordinating agency, shall obtain presidential authorization to proceed with the sale of securities representing shares which the federal government or a public sector entity owns in enterprises in which the State is a majority shareholder, and, where appropriate, presidential authorization to reassign to the Secretariat of Finance and Public Credit the enterprises to be sold, notifying the coordinating agency and the Secretariat of Finance and Public Credit of said authorizations and petitioning the latter to designate the national credit institution that will be responsible for the sale.

Upon reassignment of the enterprises, and as deemed advisable by the Secretariat of Finance and Public Credit, the governing body of the enterprises shall be modified in order that the Secretary or a person designated by him may preside over it; in addition, said secretariat may propose that the board of directors confirm or appoint a new general manager for the enterprise.

2. For purposes of the foregoing, any proposals that the Secretariat of Programming and the Budget may make, in exercise of its legal authority, concerning the sale of the State's interest in public enterprises shall be based on opinions issued for that purpose by the Intersecretarial Expenditure-Finance Commission, in accordance with the applicable provisions.

3. From that point on, and throughout the process, the Secretariat of Finance and Public Credit shall have the authority to coordinate, supervise and execute the sale of the State's interest in enterprises proposed for that purpose, and shall be responsible therefor, in accordance with the pertinent rules issued by said agency and the Secretariat of Programming and the Budget, pursuant to Article 68 of the *Ley Federal de las Entidades Paraestatales*.

4. This responsibility and authority of the Secretariat of Finance and Public Credit shall be fulfilled and exercised by the Secretary of Finance and Public Credit through the administrative unit indicated for that purpose in the internal regulations of said secretariat.

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5. Once the decision to sell has been announced, the sectoral coordinating agency shall provide the Secretariat of Finance and Public Credit with a profile of the entity, as well as any recommendations it deems pertinent to the sale and any information requested of it, and shall designate the authority that will serve as liaison to expedite said processes.

6. When the shares to be sold are owned by a public sector entity, the sectoral coordinating agency shall arrange for the governing body to meet and, if necessary, pass a resolution to sell the shareholding interest of the respective public sector entity in the capital stock of the enterprise.

7. The Secretariat of Finance and Public Credit shall ensure that the national credit institution designated as agent in charge of the sale is not a creditor of the enterprise whose shares are to be sold.

8. The designated national credit institution shall, through the Secretariat of Finance and Public Credit, arrange a meeting with the management of the enterprise whose shares are to be sold, to explain the process and define the information requirements.

9. The Secretariat of the Comptroller General of the Federation, pursuant to Article 12 of the Regulations of the *Ley Federal de las Entidades Paraestatales,* shall appoint an auditor to report on the financial statements of the enterprises and, in coordination with the Secretariat of Finance and Public Credit, determine the date of the report.

10. Once it receives information on the enterprise and the financial statements examined by the auditor appointed by the Secretariat of the Comptroller General of the Federation, the national credit institution shall perform the technical-financial evaluation of the enterprise, with a view to defining the most appropriate strategy to be followed for the sale of the State's interest, in order that the State might obtain the greatest profit and the best possible terms in said process. This strategy shall take account of the following aspects, among others:

a) The feasibility of the sale and the adaptations or adjustments that will be necessary to complete it.

b) Based on the technical, economic, financial, technological and market characteristics of the enterprise, the national credit institution shall prepare a profile of the enterprise and shall establish a minimum price, reflecting the value of the entity's shares, in accordance with the specified terms.

c) The most appropriate disclosure mechanisms.

d) The preparation of the sales prospectus to be distributed to interested parties, which must contain information that will enable the latter to assess the project, without this putting the enterprise at a disadvantage in the market and without divulging strictly confidential information concerning its

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operations. The prospectus shall also contain the bidding conditions and the deadline for the receipt of offers.

11. The national credit institution shall submit to the Secretariat of Finance and Public Credit, for its approval, the sales strategy deemed most appropriate and the results of the technical-financial evaluation.

If the evaluation performed by the national credit institution indicates that the sales criteria established for the operation complicate, render impossible or are detrimental to the sale, it shall explain the matter to the Secretariat of Finance and Public Credit so that the latter might, in turn, submit it for the consideration of the Intersecretarial Expenditure-Finance Commission.

12. If the enterprise has social or private sector partners and its by-laws establish preferential or pre-emptive rights, such rights must be respected in the public bidding process. Once this possibility has been exhausted, the process of selling the shares may continue, in accordance with the results of the bidding.

13. Consideration shall also be given in this process to the preferential right which Article 32 of the *Ley Federal de las Entidades Paraestatales* grants to the enterprise's unionized workers, on equal terms and in accordance with the provisions of the applicable laws and by-laws.

14. The national credit institution acting as agent for the sale of the shareholding interest in an enterprise may not acquire said interest directly for its own account or though subsidiaries it has formed, if any, to participate in the shareholding capital of enterprises, unless authorized to do so by the Secretariat of Finance and Public Credit.

15. Once the sale has been disclosed and the bids received, the national credit institution shall take the necessary steps for comparing the bids and, if necessary, shall check them against the sales criteria.

16. As a general rule, payment for the shares of an enterprise must be made in cash within a period of not more than 180 days, with interest accruing after the first 30 days at the monthly CETES rate. The Secretariat of Finance and Public Credit, in exercise of the powers conferred on it by Article 68 of the *Ley Federal de las Entidades Paraestatales* and Article 12 of its regulations, may define special cases in which the sale is to be made on credit and shall establish the terms therefor. It shall report the exercise of such powers to the Commission on a monthly basis.

17. The national credit institution shall submit to the Secretariat of Finance and Public Credit its recommendations concerning the conditions in which the operation may be carried out, defining the potential buyer, the price and other applicable terms and conditions. The shares of the enterprise subject of the sale may be given as sole security by buyers when the cash payment represents at least 50 percent of the sales price.

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18. When the bids received exceed the minimum price established by the national credit institution, and once the recommendations of the latter concerning the sale have been received, the Secretariat of Finance and Public Credit shall make the decision to sell the shareholding interest and shall notify the national credit institution of its authorization and the conditions in which it is to proceed with formalization of the operation.

19. When the bid(s) received are below the minimum price established by the national credit institution, the Secretariat of Finance and Public Credit may decide to accept the bids or negotiate with the bidders, provided that the price is not less than 80 percent of said minimum price and the latter is no more than 10,000 million pesos. The secretariat may also reject the bids. If the bids received are less than 80 percent of the aforesaid minimum price or are rejected by the Secretariat of Finance and Public Credit, the secretariat shall submit the matter to the Intersecretarial Expenditure-Finance Commission for a decision concerning the action to be taken.

20. Except for the exercise of the preferential rights of current partners of the enterprise or public offerings made on the stock market in accordance with the guidelines and rules established by the corresponding law, analysis of the bids in all other cases shall require the receipt of at least two or more bids from potential buyers. However, when the bidding process results in only one bid, the Secretariat of Finance and Public Credit may decide to accept, negotiate or reject it, in accordance with preceding paragraph.

21. The Secretariat of Finance and Public Credit shall report each month to the Commission concerning its decisions in those cases where the sales price of the shares of the enterprise was lower than the minimum price established by the national credit institution, or where only one bid was received.

22. The national credit institution shall specify in the sales contract the guarantees, conditions and reasonable margins to be included in the purchase audit to be carried out by the buyer, immediately following which the latter shall take possession of the enterprise. In addition, when sales are made on credit, it shall include a clause stating the financial penalties to be imposed on the buyer if he attempts to reverse the sales transaction and return the enterprise to the public sector.

23. Once the transaction has been formalized, and after expenses approved by the Secretariat of Finance and Public Credit have been deducted and the commission has been agreed with that agency, the national credit institution shall deposit the proceeds of the sale with the Treasury of the Federation, pursuant to the *Ley del Servicio de la Tesorería de la Federación* and its regulations.

24. The Secretariat of Finance and Public Credit shall send the settlement information, together with any other documentation supporting the transaction, to the Secretariat of the Comptroller General of the Federation and

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the Secretariat of Programming and the Budget, for the purposes set forth in Article 13 of the *Ley Federal de las Entidades Paraestatales*.

25. In addition to the above paragraphs, in those cases where, in the opinion of the Secretariat of Finance and Public Credit, circumstances exist which are not foreseen herein and which substantially affect the sales procedure, [the Secretariat] shall submit them for the consideration of the Intersecretarial Expenditure-Finance Commission.

26. Owing to the necessity of the financial statements of public enterprises in general and of those involved in a divestiture process in particular containing the actual values of the assets to be sold, liquidated, etc., the Secretariat of the Comptroller General of the Federation, in exercise of the powers conferred on it by the *Ley Orgánica de la Administración Pública Federal*, shall suggest that the corresponding values for the use of fixed assets be determined by independent experts.

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Appendix C.

Sugar Refineries

During the period 1983–1990, the public enterprise Azúcar, S.A. de C.V. (AZÚCAR) controlled every aspect of the production and marketing of the sugar industry's products and byproducts. Moreover, throughout that decade, relations between sugar cane growers and manufacturers were governed by the sugar cane decree, which led to serious inefficiencies both in the field and in the refineries themselves.

In addition to the above, the prices of sugar and sugar cane were completely disproportionate. For example, the balance between supply and demand was determined by three different types of prices, as follows:

The price of sugar cane paid to its growers. This price was based on the wholesale price index and on the sucrose content of the sugar cane (with a guaranteed minimum price).

The price paid for sugar, i.e., the price paid to the refinery for sugar. AZÚCAR was by law the only buyer of sugar in Mexico, whether locally grown or imported. Therefore, the price was set by that entity at the beginning of the harvest, with several deductions paid to unions. As Table C.1 shows, the real price of sugar decreased an average 2.6 percent annually between 1980 and 1989, while the price of sugar cane increased an average 4.2 percent during the same period. The reason for this disparity was that sugar cane growers were in a better bargaining position than the government, which preferred to absorb such increases instead of passing them on to the retail consumer.

The price of sugar sold—the price at which AZÚCAR sold the various types of sugar (raw or refined), depending on the type of consumer (domestic, soft drink and other industries), with cross subsidies existing between the various types of consumers, as indicated in Table C.2.

In 1988, this situation led the federal government to initiate the process of privatizing the refineries. To obtain an attractive bid, the government offered a payment plan of up to 11 years, with a two-year grace period for the payment of interest, thus permitting vertical integration of the industry for the marketing of up to 80 percent of its output, without the involvement of AZÚCAR.

It also implemented a sales strategy whereby packages were offered, each consisting of refineries classified as "good," "fair" and "poor." Three lists of refineries were drawn up and investors were required to select one refinery from each group. Although this arrangement seemed feasible in theory, it was in fact unworkable, as some groups submitted more than 40 bids.

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Table C.1 Prices in the Sugar Industry

Harvest	Net sales price ($/kg)	Sugar cane price ($/kg)	Gross refinery profit ($/kg)	Gross refinery profit (%)
79/80	7.37	4.03	3.34	45.3
80/81	10.16	5.40	4.76	46.4
81/82	14.53	7.50	7.03	48.4
82/83	26.14	12.70	13.44	51.4
83/84	44.51	22.54	21.97	49.4
84/85	65.67	44.25	21.42	32.6
85/86	107.92	64.11	43.81	40.6
86/87	212.64	131.37	81.27	38.2
87/88	512.25	316.17	196.08	38.3
88/89	692.72	490.57	202.15	29.2
Average growth (%)		65.67	70.49	57.76
Real average growth (%)		(2.58)	0.25	(7.23)

Source: Financiera Nacional Azucarera, S.N.C.

Table C.2 Subsidy on the Price of Sugar by Type of Consumer
(In billions of 1989 pesos)

Year	Domestic consumer	Soft-drink industry	Other industries	Total
1982	578	130	283	990
1983	224	(98)	82	208
1984	339	(85)	127	381
1985	388	(11)	152	529
1986	324	(110)	107	321
1987	510	(216)	113	407
1988	434	(318)	81	197
Cumulative 1982–88	2,797	(708)	945	3,033

Source: Financiera Nacional Azucarera, S.N.C.

Nevertheless, the government managed to sell 22 refineries using this strategy. In these sales, the private sector proved to be more effective in negotiating with unions and growers than the government had been, so that efficiency in the sector increased immediately. However, some unforeseen factors changed the original terms of sale of the refineries, namely:

- Operating margin and price differential for the 1988–1989 and 1989–1990 harvests lower than the assumptions made for the bidding and receipt of offers for the refineries.

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- Disappearance of the differential between the price of sugar paid to refineries and the price at which it was sold to manufacturers.
- Untimely publication of the *Oficio de Integración* (Official Integration Letter).
- Cost of money (nominal and real) higher than projected at the time of purchase.

Moreover, the differential between sugar and sugar cane prices, which was at its lowest level (71 percent), and the high interest rates prevailing on the market prevented the new investors from making their first payment. Therefore, to facilitate sales already in progress, the government put together balanced packages and devised a payment plan based on the "fulfillment of obligations tied to the price of sugar." Interest on these obligations was set at a real rate of 10 percent and the nominal price varied according to the index of wholesale sugar prices.

In addition, the Secretariat of Agriculture and Water Resources (SARH) negotiated a new decree with growers, in which the price of sugar cane was determined as a fixed percentage of the price of sugar. To promote capitalization in the refineries, annual payments were increased 5 percent per year, enabling the investor to capitalize the refinery in the early years instead of paying the entire annual installment. The formula for calculating the annual installment was:

$$A = \frac{PV}{P}\left[\frac{\left[\frac{(r-g)}{(1+g)}\right]^{n}}{(1+r)}\right]$$

where:

A = Number of tons to be amortized during the first annual period
PV = Present value of the winning bid less cash payment
r = Real interest rate (10 percent)
g = Growth rate of annual installments (5 percent)
n = Number of years
P = Wholesale price of one ton of sugar in effect at the time of signing the sales agreement

Under this arrangement, 16 sugar refineries were privatized, including three in the social sector.

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Biography of the Author

Jacques Rogozinski is a Special Advisor for Private Sector Issues at the Inter-American Development Bank in Washington, D.C. He received a business degree from the Instituto Tecnológico Autónoma de México (ITAM) and master's and doctorate degrees from the University of Colorado. From 1989 to 1993, he served as Director-in-Chief of Mexico's Office for Privatization, which was responsible for divesting state-owned enterprises, including TELMEX and the Mexican airlines.

In 1993, Dr. Rogozinski became President and CEO of the National Public Works Bank of Mexico (BANOBRAS). That same year, he was named a Global Leader of Tomorrow at the World Economic Forum in Davos, Switzerland. He later served as President and CEO of Mexico's National Trust Fund for Tourism Development (FONATUR).

In addition to international speaking engagements and consulting worldwide on privatization, Dr. Rogozinski has written two books about privatization, *La Privatización en México: Razones e Impactos,* and *La Privatización de Empresas Paraestatales: Una Visión de la Modernización de México.* Among his other publications are "A Plan to Resuscitate Mexico's Entrepreneurs" and "Learning the ABCs of Mexico's Privatization Process" (*The Wall Street Journal*), and "Too Much Vodka!" (*The International Economy*).

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