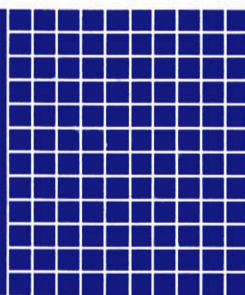


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PRIVATIZATION IN LATIN AMERICA

*Edited by Manuel Sánchez
and Rossana Corona
ITAM, Mexico*



Inter-American Development Bank



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Privatization in Latin America

**Manuel Sánchez and Rossana Corona
Editors
ITAM, Mexico**

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Privatization in Latin America

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AUTHORS

Ballén, Carlos Eduardo

Engineer, Associate Researcher, FEDESARROLLO

Coloma, Germán

Economist, Associate Researcher, Instituto Torcuato Di Tella

Corona, Rossana

Advisor, Financial Analysis and Investor Relations, BANCOMER

Gerchunoff, Pablo

Economist, Chief Researcher, Instituto Torcuato Di Tella

Gómez, Ana María

Economist, Associate Researcher, FEDESARROLLO

Hachette, Dominique

Professor of Economics, Pontificia Universidad Católica de Chile

Herrera, Luis Fernando

Economist, Instituto Tecnológico Autónomo de México

Jaramillo, Lino

Economist, Associate Researcher, FEDESARROLLO

Lüders, Rolf

Associate Professor of Economics, Pontificia Universidad Católica de Chile

Ochoa, Otoniel

Economist, Instituto Tecnológico Autónomo de México

Olvera, Arturo

Economist, Instituto Tecnológico Autónomo de México

Ramírez, Gustavo Adolfo

Economist, Researcher, FEDESARROLLO

Sánchez, Manuel

Deputy Director, Financial Analysis and Investor Relations, BANCOMER

Sepúlveda, Ernesto

Economist, Instituto Tecnológico Autónomo de México

Tagle, Guillermo

Associate Professor, School of Management, Pontificia Universidad Católica de Chile

Trujillo, Juan Pablo

Economist, Researcher, FEDESARROLLO

Zuleta, Luis Alberto

Economist, Researcher, FEDESARROLLO

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FOREWORD

Privatization in Latin America is the fifth book of a series published under the Centers for Research in Applied Economics Project sponsored by the Inter-American Development Bank. In keeping with the centers' objective of addressing the major economic and social problems affecting Latin America and the Caribbean, this volume examines the effects of privatization on efficiency, distribution of ownership, and overall performance of Latin American economies.

This book examines the diverse privatization experiences of Chile, Mexico, Colombia, and Argentina. Each case study carries with it specific lessons on transfer of ownership issues and the various costs and benefits of privatization. Evident from all four studies is the need to combine privatization with other reform measures such as price liberalization, openness to foreign investment, and simplified regulatory procedures. Without a stable climate for business and a sound financial system, the benefits from privatizations cannot be achieved fully.

These studies are most timely. Never before in the history of the region has privatization been embraced so wholeheartedly or pursued with such vigor. Even in such sectors as petroleum and mining, which traditionally have been protected as strategic and vital interests, the role of the state has come under serious scrutiny over the last few years. As a majority of state-owned enterprises continue to mount enormous losses, it is becoming increasingly obvious that the drain they exert on public finances is no longer allowable.

Yet privatization goes beyond mere fiscal considerations, as this book seeks to show. In fact, although short-term budgetary relief can be expected from the sale of public enterprises, policy makers would do well to resist the temptation of reaping quick government revenues, focusing instead on the broader implications for the economy as a whole. When executed properly, privatization facilitates more efficient markets, better regulatory practices, greater productivity, and healthier financial systems.

Whatever a country's motives for privatizing might be, certain conditions simplify the process and spread the benefits more equally among the entire population. For example, experience has shown that the gears of divestiture turn more efficiently when responsibility is consolidated within a single agency capable of seeking potential buyers and making sales. Also, because labor's cooperation is vital to the eventual success of the restructured enterprises, including workers in divestiture profits is important for ensuring a successful privatization process.

By divesting unprecedented amounts of public capital, Latin American policy makers are signaling their serious commitment to reform. Indeed, the message is getting through not only to their own populations, but also to the entire global community. By placing such an emphasis on private ownership and competition, governments are acknowledging openly that the key to economic progress lies within entrepreneurship and the sound business principles employed by the private sector. The corollary to this policy approach is that increased productivity and efficient management are the only realistic strategies for survival in increasingly competitive global markets. And while privatization alone cannot guarantee a successful reform program, it is certainly an appropriate step toward comprehensive structural adjustment.

Nohra Rey de Marulanda, Manager
Economic and Social Development Department

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CHAPTER ONE

A COMPARISON OF PRIVATIZATION EXPERIENCES: CHILE, MEXICO, COLOMBIA, AND ARGENTINA

Manuel Sánchez, Rossana Corona,
Luis Fernando Herrera, and Otoniel Ochoa*

Introduction

One of the structural reforms associated with the successful performance of several Latin American countries is privatization, which seeks to broaden individual countries' efforts toward market liberalization. As part of a new development strategy, this process stems from the redefinition of the state's role in the economy, substituting direct government participation in the productive processes with action primarily related to export promotion and regulation. Privatization can be accomplished in various ways, the most common being the total or partial sale of the stock in public enterprises, followed by the granting of public service concessions to private companies and the private financing of government infrastructure works.¹

The acknowledgment that public enterprises have not been able to guarantee the multiple objectives for which they were created (i.e., changes in state policy, job protection, better income distribution, and macroeconomic stability) has been the common thread. In the past, fulfilling these goals proved costly to society because resources were allocated inefficiently. The retreat from the criterion of profitability led to a deterioration in the financial health of public enter-

* The authors are grateful for the suggestions from the participating evaluators and researchers of the IDB's Centers for Research in Applied Economics.

¹ In a broader sense, liquidating public enterprises may also be included when such companies interfere with the normal operation of the market under private agents.

prises. Moreover, government intervention in the markets occasionally supplanted private investment and jeopardized the countries' growth potential. With privatization, the governments have sought to eliminate the primary causes of fiscal disequilibrium and inefficiency associated with the outdated interventionist approach.

Although privatization continues to spread in many countries, knowledge of the form that the process can take and its implications is limited by the small number and abstract nature of theoretical predictions, as well as by the dissimilar and relatively recent nature of the various privatization experiences. Indeed, perhaps because the goal is unattainable, theory does not provide an "ideal" privatization model that conforms to specific conditions, such as the good or service produced, the market structure, complementary policies, or the macroeconomic context of the countries. The purpose of this study, whose main findings are outlined in this chapter, is to contribute to an understanding of the forms that privatization can take and its impact. Twenty cases are examined—10 industrial and 10 service enterprises selected from the contrasting experiences of Chile, Mexico, Colombia, and Argentina—to enable us to draw some conclusions and make concrete recommendations about future privatization processes in the region.²

The study is organized in the following manner. The second section reviews the theoretical framework that forms the basis for the research and hypotheses of the investigation. The third describes the economic policy context that substantially determines the individual national experiences and sketches the background of the companies analyzed. The fourth presents the general findings and the individual results for each country in eight analytical areas as they relate to the working hypotheses. The fifth highlights economic policy lessons to be drawn and sets forth recommendations, and the sixth section contains some final comments.

Theoretical Framework

Assuming that the government seeks to maximize the welfare of society, Jones, Tandon, and Vogelsang (1990) determine that privatization is justified if the sum of the social value of the enterprise in private hands plus the social benefit of the monetary transfer from the private to the public sector associated with the sale price outweigh the social value of the enterprise in government hands. The best buyer from the societal standpoint is the one that, given the structure of the market, can bring the greatest benefit in terms of both the price and the capacity of the

² The design, methods, and scope of the case study approach as an investigative strategy are found in Yin, 1984.

buyer to generate profits with the enterprise compared to the opportunity cost of the source of financing.

These same authors show that the indifference price is equal to the difference in the social value between the enterprise when privatized and when not privatized, divided by the difference in the social value (or “shadow price”) of the money in the hands of the government as opposed to the private sector. This figure represents a minimum price if the difference referred to as the denominator is positive and a maximum price if it is negative. Presumably, the opportunity cost of the money obtained is different, depending on whether it implies sacrificing public or private expenditures or whether it is consumption or investment. The cost is expected to be low if it derives from nonnational external sources, assuming that nationals do not include nonnationals in their welfare function and the enterprise to be privatized does not have monopoly characteristics, since there is no sacrifice of resources or the transfer of monopoly rents to the exterior. Analogously, the increment in social welfare derived from the use of the resources from the privatization depends on the value that society assigns to this use.

Now, it is natural to conclude that the ability of the buyer to enhance the social value of the enterprise is associated with the possibility that the privatization leads to more efficient production and allocation. The literature identifies three basic channels through which privatized enterprises can generate gains in productive efficiency (the minimization of costs for any production level): (1) less (or zero) interference by government officials in the enterprise’s decision-making process, permitting a more efficient allocation of productive resources and the maximization of profits, with administrations abandoning political or non-commercial objectives; (2) a change in property rights that reduces the information gap between owner and administrator, enabling the former to supervise the latter and provide him with appropriate incentives;³ and (3) financial discipline, if the privatization implies the withdrawal of government as the guarantor of the enterprise in situations of bankruptcy or takeover.

However, theory suggests that privatization can improve allocative efficiency (the allocation of resources toward socially desirable levels of output) only in enterprises that have not been subject to competition and through complementary measures. Vickers and Yarrow (1988) emphasize that promoting competition in the markets and effectively regulating enterprises with monopoly power may generate efficiency more significantly than the privatization itself. This hypothesis can be broken down into two parts. First, it is necessary to remove entry barriers to competition to offset the monopoly power of the privatized enterprise

³ This second channel is based on the theories of property rights (“agent-principal”) and public election. See Alchian, 1965, and Niskanen, 1971, respectively.

or eliminate subsidies that have enabled the enterprise to compete. This finding, however, does not require the presence of real competition; the mere threat of competition would suffice.⁴

Second, there are cases of “market failure” (such as natural monopolies and externalities), where it is impossible or undesirable to stimulate greater competition. In such situations, adequate regulation is the tool for achieving an increase in efficient allocation by the enterprise—for example, by establishing tariffs, investment goals, and quality control for the product or service. These conditions point to a single conclusion: that the privatization of an enterprise with monopoly power will tend to raise the level of productive efficiency at the expense of allocative efficiency (which implies a less-than-socially-desirable level of output), except where profit maximization is pursued through competition and regulation. The hypothesis suggested by several authors thus postulates a tradeoff between efficient production and allocation when privatized enterprises possess monopoly power. A specific example of this is the monopolist’s exploitation of economies of scale and synergies that lower his average costs but increase his size in the market, distancing him from the situation that would prevail under competitive conditions.⁵

Now, the majority of authors maintain that some subsequent increase in the efficiency of an enterprise is indispensable if privatization is to bring a permanent fiscal gain. The theory is that the sale of public stock constitutes a one time only influx of capital that reduces the government deficit for a single period in equal measure. If the price of the stock reflects the present value of the flow of benefits of the privatized enterprise, the loss in future revenues stemming from the sale will result in larger future deficits, keeping the net capital of the government intact. Under these circumstances, privatization offers but a temporary relief for public finances, simply altering the time profile of the revenues; thus, the government should direct its new revenues toward some other type of investment (e.g., financial) without modifying its current spending. However, this equation is altered if the privatization or the policies that complement it imply an increase in the future benefits of the enterprise through an anticipated gain in efficiency. In that case, the resources from the sale would exceed the present value of the benefits that the enterprise would obtain if it were not privatized, signifying an increase in government capital—that is, a permanent fiscal gain that the government could apply to current expenditures without passing larger deficits on to future generations.

⁴ In the theory of “contestable markets” in Baumol, Panzar, and Willig, 1982, the monopolist behaves much like a competitive enterprise if other enterprises face a low entry cost in vying for part of the monopoly rents, should there be any.

⁵ The most common transactions that generate synergies are mergers or acquisitions. See Mueller, 1980.

Finally, since societies place a negative value on the concentration of wealth, privatization could diversify the ownership of public enterprises through the sale of stock to workers, to investment funds, and, finally, to multiple investors through the stock exchange. The literature thus postulates that some genuine benefits from privatization in developing countries could be the promotion of savings, a certain redistribution of income, and expansion of the capital market. At the same time, privatization can contribute to creating a stable macroeconomic environment through permanent fiscal gain. This can reduce the public deficit if the reform is perceived as an attractive opportunity for foreign investment, thus improving the balance-of-payments situation for a time.

This review of the literature suggests using the case study method to delve in greater depth into eight topics related to privatization and its effects in Latin America: (1) preparatory measures, (2) valuation, (3) the sale mechanism and the price, (4) buyers and financing, (5) competition, (6) regulation and supervision, (7) productive and allocative efficiency, and (8) the fiscal and macroeconomic impact. To achieve this objective and facilitate a comparison of the cases, this investigation adopts the 11 working hypotheses listed in Table 1.⁶

Countries and Selected Cases

Probably no factor determines the countries' individual experiences with privatization more than their economic policy framework, which includes government priorities and the order and effectiveness of the measures. This element is so crucial that the methods and the effect of privatization of enterprises devoted to the same activity but in different countries are radically different (e.g., the telephone companies in Chile, Mexico, and Argentina; the airlines in Mexico and Argentina; and the banks in Chile and Colombia).

Chile's privatization program has the longest trajectory of the experiences analyzed since it formed part of the measures promised by the entering military government in late 1973. The privatization process consisted of two rounds, corresponding to the periods 1974–78 and 1985–89, separated by a lapse of renationalization (the result of the financial crisis associated in part with the conditions of privatization in the first round). The objective of the first phase was to achieve fiscal gain. This phase affected a large number of enterprises, usually employed competitive bidding (auction) as the transfer mechanism (with the enterprise going to the highest bidder), allowed for the sale of enterprises on credit, and was complemented with deregulation. The objective of the second round,

⁶ These hypotheses were established *a priori* and do not pretend to be universal; they are used only as a point of departure for the comparative analysis.

Table 1.1 Results of the Testing of the Hypotheses
(Percentage of rejection)

Hypothesis	Chile	Mexico	Colombia	Argentina
Monopoly Power–Worker’s Share Hypothesis: Only in enterprises with monopoly power does the privatization include the distribution of shares to workers.	17	40	25	0
Profitmaking–Minimum Reference Price Hypothesis: The value of the sale exceeds the minimum reference price for all profitmaking enterprises.	17	40	50	20
Closed Bidding Ownership Concentration Hypothesis: If the privatization is accomplished through closed bidding (e.g., requiring certain characteristics of the investors) without the participation of the stock exchange, then ownership becomes concentrated.	17	20	0	0
Buyer Selection Hypothesis: Selecting buyers is a function of the investment programs and the offer of the new technologies to be incorporated, rather than the buyers’ experience in the field.	33	20	0	0
Profitability Promotion Hypothesis: The privatization has sought to promote the profitability of the privatized enterprises, sacrificing regulation and effective competition.	100	80	100	0
Input Deregulation Hypothesis: Deregulation of input prices complements privatization of enterprises.	17	0	0	20
Increased Investment Hypothesis: The privatizations have resulted in more investment in the company rather than reductions in subsidies and increases in fiscal resources.	33	20	75	20
Fiscal Gains–Current Expenditures Hypothesis: The government does not consider privatizations temporary fiscal gains; thus the resources obtained from them are not used to increase current expenditures.	17	0	0	100
Interest Rate and Debt Service Hypothesis: Privatization generates a major influx of capital that makes possible a reduction in interest rates and the debt service.	50	80	75	40
Higher Profit–Price Adjustment Hypothesis: The higher profits derived from the privatizations are due more to price adjustments than to cost reductions.	83	60	100	0
Union–Efficiency Deterioration Hypothesis: The government is better able to resist union pressures (i.e., strikes, interruptions in services, wage demands) than the private sector; thus efficiency deteriorates after privatization.	100	40	100	100

Source: Centro de Análisis e Investigaciones Económicas (CAIE).

which included reprivatizing the enterprises temporarily taken over by the state and selling public service entities, was to disperse ownership through a mix of several types of capitalism to permit participation by small investors. Three industrial and two service enterprises (including the privatizing and reprivatizing of one of them) are analyzed:

- **Compañía de Acero del Pacífico (CAP).** After a failed stock issue, this steel company, exposed to external competition years before, was privatized in two stages during the second round. The privatization combined labor capitalism with a new stock issue, a buyback of stock by the company, and offerings on the stock exchange. This enterprise is not subject to a specific regulatory regime, since it faces external competition.
- **Celulosa Arauco y Constitución, S.A. (CAYC).** A consortium of three enterprises from the timber sector, this company was privatized during the first round through competitive bidding. It is not subject to a specific regulatory regime, since it faces international competition.
- **Empresa Nacional de Electricidad (ENDESA).** After a revision of the law governing the electricity sector, this national electricity enterprise was privatized during the second round. A variety of approaches was employed, including stock packages to public employees and institutional, labor, and popular capitalism, as well as offerings on the stock exchange.
- **Banco de Chile (BCH).** Privatized in the first round and later taken over by the state, with the reprivatization ownership of BCH was diversified significantly. Strengthening of the regulations that governed the financial system accompanied this action.
- **Compañía de Teléfonos de Chile (CTC).** The specific regulatory framework of the telephone company having been modified at an earlier date, CTC was privatized during the second round because of the state's inability to assume responsibility for the investment necessary to meet the growing demand for service. The process included selling a controlling share of company stock through international bidding, plus institutional and labor capitalism, offerings on the stock exchange, and a new stock issue.

Mexico's privatization program had the second longest duration in Latin America, surpassed only by that of Chile. As in Chile, privatization was one of the structural reforms that accompanied the stabilization measures necessary to deal with the balance-of-payments crisis of 1982. Two phases can be distinguished: the first (1983–87), which included selling a large number of medium-sized and small businesses typically subject to a competitive environment, required relatively simple transfer processes based on market parameters; the second (1988 and thereafter) included selling major enterprises accompanied by regulatory adjustments and coincided with a new macroeconomic stabilization program.

The Mexican study explores five cases pertaining to the second phase (three industrial and two service enterprises):

- Ingenios Azucareros. Belonging to one of the most regulated industries in the country, these sugar processing plants were privatized through four successive auctions that offered increasingly flexible conditions of sale.
- Compañía Minera de Cananea, S.A. (CMC). With serious labor problems arising from the existing labor laws, the privatization of this mining company included two calls for bids, the declaration of bankruptcy, and two public *almonedas*.⁷
- Tereftalatos Mexicanos (TEMEX). Subject to external competition and highly profitable, this chemical company did not require any special preparation before its privatization, which was accomplished through competitive bidding awarded to its largest domestic competitor.
- Teléfonos de Mexico, S.A. de C.V. (TELMEX). The national telephone company was privatized after a modification in the regulatory regime to promote investment and foster expansion of the sector. The privatization combined a public auction for a controlling interest in the company that granted a 30-year concession on the enterprise and a 6-year monopoly on long distance service, with stock offerings on the domestic and international capital markets.
- Compañía Mexicana de Aviación, S.A. de C.V. (MEXICANA). With a new regulatory regime in place, the first phase of the privatization of this national airline included capitalization of the enterprise by the investment group awarded the right to buy the government-owned stock; the second phase consisted of selling that stock.

Before the privatizations, Colombia did not suffer a period of macroeconomic instability comparable to that of the other countries examined. The public sector was considered small in the 1980s. Thus, there was no comprehensive program of privatization, but instead the isolated sale of public enterprises to resolve specific problems. The study on Colombia includes two industrial and two service enterprises during the 1988–91 interval:

- Renault de Colombia (SOFASA). Government stock in SOFASA, part of a highly regulated sector, was sold directly to the French state automotive enterprise, which previously had held 50 percent of its equity capital. Thus, withdrawal of state participation from this company was not a privatization but a sale from state to state. The transfer of property im-

⁷ A judicial proceeding applied to enterprises that have declared bankruptcy.

plied no change in the regulatory regime, and just three years afterward, the barriers to external competition began to be lifted.

- Compañía Colombiana Automotriz (CCA). Subject to the same regulations as SOFASA, this automotive company was privatized two years after SOFASA through the direct sale of the stock owned by the nationalized banks to a foreign investor in the enterprise.
- Banco de los Trabajadores (BT). Nationalized along with other banks in response to the crisis of the early 1980s, this institution was privatized once it had been financially rehabilitated. The privatization involved a double bidding procedure.
- Recolección de Basuras en Bogotá (RECOL). The refuse collection concession was granted for a 5-year period in two geographical areas in order to broaden the coverage of the currently inadequate service provided by EDIS (Empresa Distrital de Servicios), the state enterprise.

Argentina's privatization program was the fastest and most intense of those studied. Launched by the entering administration in 1989, it was an essential component in coming to grips with the country's tremendous macroeconomic instability. The process thus was oriented toward providing liquidity to service the government debt and to rehabilitate the productive capacity of the enterprises; it thus made extensive use of external debt-for-capital swaps. Because of the urgent need for resources, the sale of state enterprises began with the largest and most profitable—not to mention economically essential—companies. This made it impossible to rehabilitate the enterprises financially or introduce regulatory modifications to boost efficiency before the privatization. The national study includes two industrial and three service enterprises:

- Oil. To boost the productive efficiency of the state oil enterprise (YPF), oil reserves were privatized by auctioning off areas that yielded low profits; signing contracts with private enterprises to exploit low-risk, high-profit areas; and reconverting contracts with private companies to transfer the property of the reserves that they were working.
- Petrochemical enterprises. The minority state share of four petrochemical enterprises was sold to the private companies that held the majority share. These packages included external debt papers as part of the payment. A certain opening to the exterior occurred, and some subsidies were eliminated.
- ENTEL. The phone company was sold as two enterprises through an offering of 60 percent of the stock, with the winners of the bidding awarded a 7-year monopoly on basic services. External debt papers were included as part of the payment, and the rest of the stock was divided between workers and offerings on the stock exchange.

- Aerolíneas Argentinas (AA). The national airline was sold through an offer of 85 percent of the equity to the only interested investment group, which included the company's principal domestic competitor. The controlling share passed to the Spanish state airline company, which, through its business associations, exceeded the shareholdings permitted to foreign investors (30 percent). New tariff norms were established once the privatization had taken place.
- Servicios Viales (SV). Through competitive bidding, concessions on approximately 30 percent of the national network of paved roads were granted for operation under toll or fixed-rate systems established before the call for bids, although the rates later were reduced.

A Comparative Analysis of the Cases

Preparatory Measures

Comparing the 20 case studies makes it clear that the less urgent the need for resources from privatization, the more extensive the measures adopted in advance of the privatization. In the majority of the cases, the purpose of such steps was to improve the efficiency of the enterprises and avert bankruptcies in order to obtain a higher price for the businesses transferred.

In Chile particularly, the Corporación de Fomento de la Producción (CORFO)—the agency responsible for privatizations—assumed the debts of one of the CAYC companies with the domestic banks during the first round of privatizations since the company had suffered revenue losses and needed to attract buyers. In the second round of privatizations, the Chilean government, having created a competitive institutional framework, placed greater emphasis on rehabilitating each individual enterprise. In CAP, administrative and financial rationalization were undertaken; the result was restructuring of the enterprise to make it function as a holding company, with commercial operations among subsidiaries regulated by the market, a goal-oriented administration, and personnel cutbacks. In ENDESA, distribution units were converted to regional enterprises, and personnel cutbacks were applied. The insolvency of BCH required a plan to recover and normalize uncollectible loans, reschedule the debts of viable clients, diversify and administer the bank's portfolio, transfer goods received as payment, liquidate nonbanking stocks and investments, increase revenues, and reduce expenditures. In CTC, steps were taken to improve the debt position; they included restructuring liabilities and reconverting debt contracted in foreign currency to debt in local currency.

In Mexico, an agent bank responsible for each process was designated. Several cases included the financial rehabilitation of the company by capitalizing

liabilities contracted with the government and modifying labor contracts. In the sugar processing plants, no preparatory measures were adopted, but the process coincided with restructuring of the debt of plants whose portfolios had expired. In particular, the excess personnel mandated by the labor contract was not eliminated since the most important determinant of sales was considered the nearby sugarcane fields. In CMC, the first agent bank began credit rationing of the enterprise and capitalized the bulk of its existing liabilities, creating a fiduciary account to cover obligations with suppliers and creditors; this obliged the company to adjust its current expenditures. After the first offering was annulled and the second had no takers, the mining company was declared bankrupt and a second agent bank was named. To start up company operations again, the agent bank restructured the administration and operations of the mine, as well as the wages and benefits it provided to workers. The labor contract also was modified, the most important agreements being the continuity of the work shifts and a decrease in the number of categories from 400 to just six. This led to a substantial reduction in operating costs, enabling the authorities to arrive at the sale date with a profitmaking enterprise.

In the case of TELMEX, profits equivalent to 1.5 times the equity capital of the enterprise were capitalized, substantially increasing the value of the company. Moreover, the capital structure was modified, making it possible to gain control of the enterprise with the purchase of just 20.4 percent of the company's capital stock. The federal government, furthermore, assumed the external liabilities of TELMEX in order to renegotiate them with the company's creditors. These liabilities later were exchanged for external public debt papers acquired in the secondary market. This debt swap, the sale of TELMEX's uncollected accounts on the international exchanges, and bond issues led to a reduction in liabilities and a substantial financial gain. In addition, a collective labor contract was signed to take the place of 57 assorted contracts, creating more efficient labor regulations and decreasing the number of labor categories from 1,000 to 140. In MEXICANA, the effort concentrated on reducing the weight of the debt vis-à-vis assets and eliminating unjustifiable concessions in the collective labor contract (the grace period for tardiness, for example, was reduced from 30 minutes to 5 minutes, and leave for a death in the family or illness, from 300 days to 180 days).

In Colombia, the financial reorganization of the enterprises included debt-for-equity conversion, personnel cutbacks, administrative reorganization, stricter financial control mechanisms, and definition of corporate strategies to guarantee the companies a presence in the markets. Furthermore, in the case of BT, the acquisition of unproductive assets to recover uncollectible loans and personnel cutbacks was significant, while the strategy to face up to the competition consisted of specializing in short-term consumer loans. The plan for EDIS before the privatization of the refuse collection service included city sectors divisions, an operations base for each zone that reduced the distance traveled per route per day,

private maintenance contracts, the standardization of equipment for collecting the refuse, the reorganization of personnel in the maintenance shops, more efficient management of vehicle spare parts inventories, and the construction of a transfer plant to reduce the time that the garbage trucks were in use and thus lower transportation costs.

In Argentina, where public enterprises as a rule were highly indebted and financially very vulnerable, the need to obtain funds in the short term hampered institution of administrative and financial measures to restore the enterprises to financial health. Where some steps actually were taken, they consisted of rate hikes and personnel cutbacks to boost the anticipated sale price of the company—as in the case of ENTEL, in which rates were jacked up by 90 percent in real terms.

Valuation

A valuation of the enterprises was performed before privatization to determine a minimum reference price, preferably through financial calculations and only as an exception through stock quotations in view of the underdeveloped state of the capital markets. The financial valuation was carried out within a finite time frame and employed a variety of methods. The method deemed most appropriate to the situation and the particular problems of the enterprise in question usually was selected.

During the first round of privatizations in Chile, the value of the companies' stock in the markets was used, with the estimated value of assets and liabilities as a reference; otherwise, a more detailed method of estimating assets, liabilities, and the flow of funds was employed. During the second round, the present net value of the flow of expected benefits to the enterprises was used in the majority of cases. Thus CAP developed a 10-year projection of results, discounting at a rate of 16 percent. The price of ENDESA stock was based on calculations of the present value of the expected future dividends with a 20-year horizon, at a discount rate equivalent to the yield of the stock of similar enterprises. In CTC, the present value of the expected cash flow for 10 years, including the possibilities for company expansion, was estimated.

The valuation method used in the majority of the Mexican companies was to take the present value of the net income discounted for each company and adjusted for the environment in which it operated. For example, in the sugar processing plants, the replacement value, carry over value, value for the purpose of mortgage guarantees, and the value of the plants as ongoing businesses were calculated—the last being the most relevant figure, since all of the enterprises were in operation at the time of sale. This method took the problems of the sugar processing plants into account (for example, excess personnel and a 40 percent weight assigned to the location of the sugarcane fields). The valuation of CMC consisted of determining the sale value of the stock; that of TEMEX considered

the depreciation of the stock 15 years down the line in calculating the present net value of the future flows. In the case of TELMEX, the agent bank performed several valuations using the net cash flow method: a financial valuation that incorporated future business in which TELMEX might participate; a technical valuation; and a valuation of each of the company's subsidiaries and the assets of the enterprise itself. Here it was necessary to consider the company's contingency labor liabilities at a value of close to 10 percent of its total revenues. In the case of MEXICANA, the discounted net flow of profits, adjusted by the sum of the depreciation and working capital, was estimated.

In Colombia, the valuation of the enterprises to be privatized took into account the fact that they were ongoing businesses; thus, the methodology employed was to take the present net value of the cash flow, projected to five years and discounted by depreciation and provisions. The SOFASA valuation was based on past investment, the equity value of investment, the anticipated profits, and the profits of the supplier of the material to be assembled.

In Argentina, the method used to determine the sale price of the enterprises and the fee to be charged for concessions was estimated on the basis of the present value of the cash flow of the activities to be privatized.

Sale Mechanism and Price

Although the cases studied vary, the chief mechanism in the sale of the enterprise was competitive bidding. Nevertheless, Chile's experience was unique, for it included the widest range of methods, especially the financed sale of company stock to workers and public employees. The sale price obtained through the bidding was typically higher than the minimum reference price. The experiences of the four countries tend not to reject the Monopoly Power-Worker's Share and Closed Bidding Ownership Concentration Hypotheses, and with the exception of Colombia, the same can be said for the Profitmaking-Minimum Reference Price Hypothesis (see Table 1.1).

In Chile, the main method employed during the first round of privatizations was the auction of stock packages that granted a controlling interest in the company. When the bids did not satisfy the requirements, the government declared the process void and negotiated directly with the highest bidder; this is what happened with CAYC. The two cases examined involved enterprises with no market power, and they did not include the sale of stock to workers; thus, the Monopoly Power-Worker's Share Hypothesis is not rejected. The same holds true for the Profitmaking-Minimum Reference Price and Closed Bidding Ownership Concentration Hypotheses. In the CAYC enterprises, part of the payment was made in cash; the rest was financed in installments over an eight-year period at a fixed rate of interest. In privatizing BCH, the government attempted to prevent the concentration of ownership by establishing a ceiling on the sale of stock

to individuals and corporate entities; however, in practice, this was impossible to control. Two calls for bids were issued; a cash deposit was required, with the balance to be paid in quarterly payments pegged to the price index and accompanied by a fixed interest rate.

The second round of privatizations combined several methods: the sale of stock to workers, private individuals, and corporate entities; sales on the stock exchange; and competitive bidding. Sales to workers were effected by substituting company stock compensation for years of service, and sales to the public were facilitated with soft loans from the government. With the exception of CAP, the Monopoly Power-Worker's Share and Profitmaking-Minimum Reference Price Hypotheses are not rejected. This is because the sale included workers, even if it did not depend on the degree of competition in the industry, and the prices obtained were at least equal to the minimum reference price. Similarly, with the exception of BCH, the Closed Bidding Ownership Concentration Hypothesis is not rejected, because the stock exchange was used and ownership was not concentrated.

Three unsuccessful attempts to sell the company preceded CAP's privatization, the last of which included granting loans to employees to enable them to acquire stock in the enterprise. Nevertheless, only a small portion of the stock was sold. The lack of interest in CAP was due to its small profits and the fact that the financial sector was offering securities under conditions that were hard to match. At this point, CORFO decided to sell part of the stock to the enterprise itself, thus reducing the government's share and capturing the private sector's interest. ENDESA stock was sold on the domestic market in various stages through competitive bidding, offerings on the stock exchange, and direct sale to company employees, public employees, and personnel in the Armed Forces and public safety agencies, who acquired stock through a partial advance on their future compensation for years of service. In CTC, several methods were employed for the sale; chief among them was the auction of a controlling share of the stock, coupled with the obligation by the successful bidder to guarantee a capital increase that would give it control of 45 percent of the company. International enterprises with the capacity to make a technological contribution to the country also were contacted. The strategy provided for the use of five complementary methods: selling to pension fund administrators (AFPs), selling to workers through advances on their compensation for years of service, selling on the stock exchange, bidding competitively, and increasing capital.

The sale mechanism employed for most Mexican enterprises was public auction under diverse modes of payment and coupled with the sale of assets or stock, depending on the particular situation of the enterprise. Of the three entities with monopoly power that were analyzed, only in TELMEX and CMC is the Monopoly Power-Worker's Share Hypothesis not rejected, for it included the sale of stock to company workers; neither is it rejected for TEMEX, because the company faces competition. The Profitmaking-Minimum Price Hypothesis is not

rejected for either TEMEX, TELMEX, or MEXICANA, while the Closed Bidding Ownership Concentration Hypothesis is rejected only in the sugar processing plants, because ownership was not concentrated, despite the fact that the stock market was not used.

The sugar processing plants were sold through four public offerings by forming packages of “good” and “bad” enterprises that gradually permitted a vertical integration that reached 100 percent during the last bidding process and increasingly required investment programs. Partial payment was to be made in cash, with the balance to be paid in annual installments at an interest rate linked to the average bank rate. In the final bidding, moreover, the government allowed for the issue of “sugar obligations” indexed to the price of sugar, by means of which the federal government assumed part of the risk connected with the purchase of these plants. Despite this support in financing the purchase, uncertainty about the permanence of the process and the amount of subsidies to agroindustry and to the inefficient payment system for the sugarcane resulted in lower sale prices for the plants in the final stage. The first auction for CMC was annulled because the winning investment group failed to fulfill the terms of payment—a situation that could have been avoided had potential buyers been screened beforehand; the second auction and the first almoneda were declared null and void when the minimum reference price was not attained.

The sale of TELMEX was carried out by selling stock for a controlling interest; bidding was open to foreign participation through a fiduciary that kept the majority share in the hands of Mexican investors. The criteria for selecting buyers were the price and the amount of investment pledged. At the same time, stock without voting privileges was offered on the domestic and international markets, giving the investment groups that had put the stock up for sale the right to acquire shares at the starting price of the bidding. After two attempts to sell MEXICANA through the Mexican stock exchange fell through because the buyers failed to fulfill the requirements stipulated, the company was privatized through the creation of a controlling interest with the old company stock and an offering of new capital through competitive bidding, thus reducing the size of the government share. To ensure the commitment of the successful bidders and grant them control of the enterprise, the government’s stock was placed in two trusts, and that of the winners in another. In the second of its fiduciary funds, the government ceded its voting rights to the winning investment group, allowing the group to buy the stock at the sale price when the trust expired. The second stage of privatization has begun with the sale to the controlling group of the government stock corresponding to the first trust.

Owing to legal constraints, the sale mechanism in Colombia included an offer of the government’s share to the former owners or current partners in the enterprises. If their response was deemed inadequate, a public tender was made. The exceptions were BT, RECOL, and SOFASA, which were offered directly to the

public. In BT, the former owners were considered morally bankrupt for having participated in the poor management of the bank; in RECOL, there were no former owners; and in SOFASA, the norms governing foreign investment prohibited a majority share to partners who were not Colombian nationals. The Monopoly Power-Worker's Share Hypothesis is not rejected in three of the companies where there was competition and workers did not play a part in the sale. The Profitmaking-Minimum Reference Price Hypothesis is rejected in the cases of BT and SOFASA, since the price obtained was higher than the minimum reference price, even though the companies registered losses. By selling through a limited public tender, capital was concentrated; the Closed Bidding Ownership Concentration Hypothesis is therefore not rejected in any of the cases studied.

Similarly, Colombia did not seek to democratize ownership of the enterprises or bolster the capital market by offering shares on the stock exchange. In the sale of BT, two bidding competitions were held, since there were no offers in the first. The privatization was carried out in stages: registration (through the payment of a nonrefundable fee); an evaluation of the financial and administrative soundness of each interested party; an invitation to the qualified buyers to present a bid; and the selection of the winning offer, based on a minimum reference price announced at the time of the award. BT was not sold through the stock market for fear that control of the enterprise would fall into questionable hands.

Individuals and corporate entities with sufficient resources and experience and the appropriate technology were invited to bid on RECOL. Proposals were to cover the pertinent technical, administrative, legal, economic, and financial aspects that would enable the government to judge the proponents' nature, competence, and ability to execute the project. Bidders would be committed to rendering services in the sector of the city assigned to them by EDIS. Participants were to present their price per ton of refuse collected, taking into account the time allowed and dumping site specified. Payment for the services would be bi-monthly per ton of refuse collected, transported, and unloaded at the chosen site. The criterion for selection was the lowest bid per ton collected.

In Argentina, the method employed was a two-envelope competitive bid. In the first envelope, interested companies were to include proof of their technical and financial ability to manage the enterprise. They then were screened on the basis of this information. Qualified investor groups could go on to present a second envelope indicating the price and investment plan offered. In large and highly specialized enterprises like ENTEL, AA, and the petrochemical companies, the bidding terms required the sale price to include a fixed amount in cash and another variable portion in debt papers. The highest bid (sale price or concession fee) was accepted. In the case of the two monopolies, ENTEL and AA, the bidders had to form part of an international enterprise with expertise in the field, foreign-held shares could not exceed 50 percent and 30 percent, respectively, and, in contrast to enterprises that operated in more competitive markets, the

stock was to be sold to company employees. The Monopoly Power-Worker's Share Hypothesis is therefore generally not rejected. The Profitmaking-Minimum Reference Price Hypothesis is rejected only in the case of oil. In the other companies, the sale price was higher than the reference price because of the conditions granted by the government when it substantially raised the rates for the services, thus sustaining the market power of the enterprises. Under the terms of the sale, ENTEL was divided into two companies, with a stock package offered for each. In all the cases analyzed, when a closed auction was used, ownership of the enterprises become concentrated; thus, the Closed Bidding Ownership Concentration Hypothesis is not rejected, even in the case of ENTEL, where the bidding was complemented with recurrence to the Argentine and international stock exchanges.

In the auctioning of AA, the investment group made up of Iberia (the Spanish state enterprise) and a series of Argentine companies headed by Austral, presented the only valid offer when the envelopes were opened. The offer included a cash payment, a credit payment, and transfer of external debt papers. Privatization in the oil market included granting concessions on some reserves that yielded low profits, joint ventures between the government and private capital, and the sale of some refineries, with the government retaining over half of the refineries' productive capacity. Since the private sector held a 70 percent share in the petrochemical companies, only investment groups that possessed a controlling share in the enterprise were allowed to participate in the bidding. The initial stockholders' meeting of SV began with a public screening process at which 38 consortia presented themselves; of these, 29 met the government's qualifications. There were 147 offers, from which judges selected 13 consortia comprised of 46 enterprises. Several of the qualifying firms participated in designing the sale process. Concessions were granted for existing roads; all segments were auctioned simultaneously, fostering collusion among the buyers who distributed the segments among themselves.

Buyers and Financing

In the bidding for the companies, the main criterion for selecting buyers was the highest price once certain entry requirements had been met—most importantly, the prospects for the development of the privatized enterprise. The exception to this rule was the sale of stock packages to workers, the aim of which was to diversify ownership—with Chile the most outstanding example. The Buyer Selection Hypothesis is not rejected in any of the national experiences, given the relatively secondary place occupied by the buyer's experience.

During the first round of privatizations in Chile, the enterprises affected were companies that operated in competitive markets; thus, the best buyer was deemed

the one that offered the highest price. There is, however, no evidence to reject the Buyer Selection Hypothesis in either of the two cases, since price was the main consideration and the amount of experience in the sector was not taken into account. Domestic credit was the primary source of financing. In the second round of privatizations, the Buyer Selection Hypothesis is rejected in CAP and ENDESA, since the main criteria for selecting buyers was the type of worker employed by the company or the nature of its institutional investors. However, as in the other three cases, the objective was to diversify ownership and consolidate the system of private ownership. The main sources of financing were the government and employee pension funds. At the beginning, the unions were opposed to the privatization of CAP. Stock was therefore sold to workers on an individual basis, with loans granted in proportion to their base salary for each year of employment with the company.

It was decided from the outset that ENDESA would be sold through popular capitalism.⁸ Thus, the sale was not promoted to foreign investors, who, once the company was privatized, invested in it through the stock exchange. Company shares were distributed, in order of importance, among pension funds, public employees, members of the armed forces, private citizens, foreign investors, CORFO, and others. CTC's controlling stock was sold to an Australian group that had no experience in the sector but offered the highest bid. However, the group sold its shares to the Compañía Telefónica Internacional Holding B.V. (the International Telephone Holding Company, Inc.). In this case, the stock was distributed in descending order among Telefónica, the Bank of New York, workers, pension funds, and others. BCH was privatized by granting credit to private investors to enable them to acquire stock and pay for it in installments based on their taxes for the previous period. The reference price was set to enable a financially viable bank to be established with BCH's particular portfolio.

In Mexico, the selection of the buyer was generally determined by the sale price that was bid. Except for TEMEX, however, the Buyer Selection Hypothesis is not rejected in any of the cases studied, since the investment commitment made was considered more important than experience in the sector. In the sale of the sugar processing plants, in addition to the price offered, the percentage of the price covered in cash and the degree of vertical integration requested (in the first bid) were taken into account, with the investment programs becoming progressively more relevant than the buyers' experience. The winner of the competition for CMC required credit from foreign and domestic banks to finance the purchase of the mine partially; it allotted less than 4 percent of the stock to the union,

⁸ This term refers to the privatization method used by the government that had as one of its main goals making stock in the privatized firms available to the mass of its citizens. To achieve this goal, sales were carried out with subsidized credit for the buyers whose only guarantee was the stock itself.

despite its original offer of 5 percent and the government's pledge to turn over 25 percent after the bankruptcy. TELMEX buyers were screened to ensure that they had sufficient net capital to carry out the expansion programs, that the finances of their companies were sound, and that they had some knowledge of telephone communications systems. The winning investment group consisted of a national consortium with experience in industry, marketing, and finance and two foreign investors with acknowledged expertise in telephone communications. Although the investors with technology that were awarded the contract had higher efficiency indicators than those of their competitors, their proposed investment programs carried more weight. With a loan from the federal government, the union acquired 4.4 percent of the enterprise's equity capital and was obliged to make amortization payments only if the share price went up. The screening process for MEXICANA was based on the bidder's reputation in the business community, its financial solvency, and the absence of pending debts or legal matters with the government. The winning investment group included a national consortium with experience in tourism, plus foreign investors who would provide access to financing.

Although buyers in Colombia were selected according to the highest bid, the sale process included screening buyers on the basis of their reputation and financial solvency and their experience in the activity of the enterprises to be privatized. However, there is no evidence to reject the Buyer Selection Hypothesis.

In Argentina, except for the petrochemical companies, interested parties were prescreened, with their technical and financial capacity serving as the criteria; it can thus be inferred that ensuring a higher level of investment was considered more important than the buyers' experience in the sector. Therefore, even though selection was a function of the sale price that was bid, the Buyer Selection Hypothesis cannot be rejected. When payment with external debt papers was required, some of the buyers that had qualified did not tender an offer because they could not obtain sufficient debt papers to fulfill the requirement. Out of seven bidders for ENTEL, only three submitted the second envelope; this number later shrank to two, probably because of internal problems and difficulties in obtaining debt papers. Selection criterion for AA gave a weight of 70 percent to the price, 25 percent to the investment plan, and 5 percent to other indicators. The only valid offer presented was accepted. As the payments fell due, however, the financial precariousness of the investment group became evident. To obtain the cash for the payment, the group planned to sell part of AA's fleet and then lease it from the new owner. As part of its capital contribution, Aeronac planned to turn over 90 percent of its shares in Austral. For debt papers, it planned to issue stock in the company and exchange it for external debt owed to Argentina's foreign creditor banks. The addition of new aircraft to the fleet was not part of the contract; the group transferred aircraft from Austral to AA in order to meet its commitment.

Competition

Lifting barriers to competition tended to precede or accompany privatization in cases in which the market approach served as a launching pad for structural reforms. The prototype of this situation was Chile's experience, and the antithesis, Argentina's. Hence, with the exception of this latter case, the Profitability Promotion Hypothesis is generally rejected.

In Chile, the military government fostered free competition from the outset, eliminating market distortions and applying a policy of openness to international trade and capital; thus, the Profitability Promotion Hypothesis is rejected. Even before its privatizations, CAYC formed part of an outwardly oriented competitive market. For BCH, ceilings on interest rates and entry and exit barriers to financial (including international) intermediaries were eliminated, and resources could be freely obtained and invested according to the individual criteria of each bank. By the second round, the markets had already been liberalized; the enterprises were therefore operating in competitive markets. The laws that governed the telephone communications sector, moreover, were modified to guarantee free entry into the telecommunications market. This obliged concession holders to establish and accept interconnections to give users access to all the public services installed and to enable providers to set prices and rates for these services freely, independent of any agreements that they might enter into with customers. One exception is ENDESA, which, as a natural monopoly in the provision of electricity to final users, did not modify the market structure. Even here, the Profitability Promotion Hypothesis is not rejected, for there was no attempt to boost the profitability of the enterprise.

In the majority of the Mexican cases, efforts were made toward eliminating entry and exit barriers and fostering competition. In the sugar processing plants, establishing a variable tariff on imports permitted a certain degree of openness. A reference price in constant dollars was set; imports with prices below this threshold were prohibited, and for those with prices above it, the importer paid zero tariffs. If the spot price fell below the reference price, the importer paid the difference between the spot price and the reference price. In addition, although CMC was sold to Mexico's main copper producer, and the purchase of this company consolidated a local monopoly, the constraints imposed by external openness rendered anti-monopoly measures unnecessary. However, a new mining regulation was put in place that eliminated the legal entry barriers to mining exploration and exploitation and facilitated the procedures for obtaining concessions.

The enterprise that purchased TEMEX became the sole producer of the product at the national level; to foster competition, tariffs were reduced and the enterprise committed to supplying domestic industrial consumers with this input at a discount over the import price if the consumers are exporters. The new owners of TELMEX were guaranteed that the enterprise would be the sole provider of telephone service,

at least until 1996, to enable the company to extend its coverage in providing local phone service without the threat of competition in the more profitable long distance service. Thus, TELMEX became a private telephone communications monopoly. With respect to MEXICANA, the competition for Mexican skies increased with the deregulation of routes and fares: there was an increase in the number of regional airlines and the frequency of charter flights, as well as greater competition between Mexico's two largest airlines vis-à-vis price and the quality of service. Thus, except for TELMEX until 1996, the Profitability Promotion Hypothesis is rejected.

From 1988 to 1990, the automotive sector in Colombia was saddled with legal entry barriers in the form of high tariffs, licenses, and permits for the importation of materials for assembly, not to mention restrictions on the types of automobiles that could be produced. By 1991, entry barriers to the financial and automotive sectors had been lifted, and opening to trade had begun in both sectors. The Profitability Promotion Hypothesis is rejected, since profitability was sought before privatization through the financial rehabilitation of the enterprises.

Argentina did not foster a competitive environment. On the contrary, the monopolistic or oligopolistic market structure was preserved—and in some cases reinforced—since it was believed that changes would delay sale of the enterprises; the Profitability Promotion Hypothesis is therefore not rejected. Moreover, just because there is no longer a monopoly on oil extraction does not mean that the market has become competitive. The government still plays a dominant role in that five private companies hold over 70 percent of the available privatized oil, and a single company controls over 25 percent—a system that enables producers to coordinate their strategies. Opening the refining market to permit oil to be imported freely is not enough to stimulate competition, for the necessary infrastructure does not exist. Thus, imports require high levels of investment. Furthermore, transportation costs for the international markets create a captive market for refineries. Petrochemical companies enjoy protectionist regulations that—coupled with the high cost of transportation, storage, and insurance—enable them to exert monopoly power. In the case of ENTEL, the creation of two enterprises did not increase competition because the companies service different markets; each therefore has a captive market.

Because the investment group that bought AA was also the majority shareholder of the principal competitor airline, the sale permitted creation of a monopoly in the domestic market. The coexistence of a monopoly in domestic routes and competition in international routes within the same enterprise have caused cross-subsidization from domestic to international services to emerge. With SV, there were no alternative routes to those that were auctioned off; thus, each became a monopoly, enabling the successful bidder to collect revenues before making the minimum investments stipulated in the contracts and to situate toll booths a short distance apart or at the outskirts of urban centers to facilitate the collection of tolls on short local trips.

Regulation and Supervision

Updating the regulatory framework tended to precede privatization and was more effective the longer it was in place. Once more, Chile represented the positive extreme in this respect, and Argentina, the negative. Nevertheless, the Input Deregulation Hypothesis, which associates increases in the prices of public inputs with the privatization, is not rejected in the four country experiences. Moreover, effective supervision depended on the presence of an authority to exercise adequate control, thus avoiding conflicts with the objectives of other government agencies.

In Chile, the modifications in the legal framework to foster competitiveness included eliminating controls on the credit market (i.e., ceilings on loans, interest rates, external bank debt, and reserve requirements) and standardizing the activities of the various types of banks. Despite efforts to construct an adequate legal framework to stimulate and monitor the operation of financial institutions within a market economy, the final outcome was negative because the free-market scheme existed side by side with the free regulation of the system. In the late 1970s, it became obvious that financial institutions could not be allowed to operate in a free market unless some prudent minimal controls were established over them. In the two cases considered, the Input Deregulation Hypothesis is not rejected, since price controls were lifted.

During the second round of privatizations, the Input Deregulation Hypothesis is not rejected either, except in the case of ENDESA, because the government decided to regulate certain privatized enterprises more stringently and intensify price liberalization. The legal framework for banking institutions was modified to correct the errors of the first round, with limits imposed on transactions with enterprises connected with the owners of the bank. For ENDESA, a new Comprehensive Electricity Services Law was enacted that takes the market, competition, and marginal costs into account when establishing rates. The law regulates the price of services to final users with low levels of consumption and includes the freedom to negotiate rates with large industrial clients.

In neither of the rounds were new institutions responsible for supervising the enterprises created, although in some cases existing agencies were strengthened. In the electricity sector, the National Energy Commission is responsible for planning and coordinating state investments, developing large electricity generation and transmission projects, and carrying out price studies that are used by the Ministry of the Economy to determine electricity rates. In addition, the Economic Office for Electrical Systems optimizes the operation of the system as a whole. It establishes mechanisms to coordinate activities among the various enterprises of the sector in generating and distributing electricity and operating interconnected installations in order to ensure uninterrupted and efficient service. In the second round of privatizations, mechanisms were established to enable the Office of the Superintendent of Banks to discharge its duties more efficiently, endowing the

office with the authority and financial resources to monitor compliance with the additional restrictions imposed on the banks.

Privatization in Mexico was accompanied by measures to promote openness and regulations to prevent an explosion of monopolies. Similarly, all of the privatized enterprises had to deal with deregulating prices and public services rates that formed part of the economic stabilization program; thus the Input Deregulation Hypothesis is not rejected. The most important aspect of sugar regulation was the elimination of the tax on marketing the commodity, which removed the disincentive to producers to integrate vertically and linked the price of sugarcane to the price of sugar. In the case of TELMEX, the Telecommunications Regulation was created, and the Title of Concession, which established the investment commitments of TELMEX, was extended by 30 years. To make these commitments feasible, rate and tax structures were redefined to allow profits to be reinvested, and some distortions in prices and rates were corrected. To regulate the monopoly power of TELMEX, the government opted for a rate system that implied keeping basic phone services constant in real terms. It should be mentioned that although the increases in the cost of basic telephone service provided for in the Title of Concession transfer a larger share of resources to the monopoly, they put the quantity of services provided in a position much closer to competition. In MEXICANA, domestic airline passenger fares and routes were freed in competitive situations, without the need for prior government approval. Moreover, after the privatization, the government suspended the concession to the union of exempting 50 percent of wages from the income tax; this obliged the company to compensate workers, significantly damaging MEXICANA's finances.

A number of entities currently supervise sugar production in Mexico, which occasionally leads to an overlapping of responsibilities. First, there is Azucar, S.A. de C.V., which monitors the companies' level of output in order to channel sale of their stocks and keep domestic prices from being depressed. Another institution, Financiera Nacional Azucarera (FINASA), periodically analyzes the situation in the processing plants to ensure the recovery of its loans and the financing needs of each of the enterprises. Finally, the Secretariat of Agriculture and Hydraulic Resources (SARH) is responsible for overseeing the sugarcane fields. TELMEX must submit quarterly progress reports to the government on the expansion programs. The government has the authority to designate a property advisor and a deputy advisor to the Administrative Council; this provision will remain in effect until August 1993. Government supervision has kept prices from rising as stipulated in the Title of Concession, which could delay the opening to the exterior if the cross-subsidy between services is not eliminated. The government has a share equivalent to 14 percent of the votes on MEXICANA's board of directors and, in this manner, supervises company decisions.

In Colombia, the automotive sector was faced with tax and customs preferences for imports of the material to be assembled, and the models assembled had to remain in the country for at least five years. By 1991, entry barriers and price controls had both been lifted and effective protection lowered, although it was still higher than that granted to the rest of the manufacturing subsectors. The Input Deregulation Hypothesis is not rejected, since privatization was accompanied by price liberalization, particularly in the automotive sector. Furthermore, in 1990, the financial, exchange, and investment laws were modified. The new legislation grants greater freedom and a more active role to commercial banks in the negotiation of foreign exchange and reduces the share of the Central Bank in that market. Moreover, it permits up to a 100 percent share of foreign investment, eliminates entry and exit barriers (maintaining minimal levels of capital), and promotes the dissemination of information, such as the publication of interest rates and risk indicators. The Office of the Superintendent of Banks is responsible for supervising and monitoring compliance with the general norms that govern the entire sector and complementing the protection provided by deposit insurance. The law requires that capital be increased annually by a percentage at least equivalent to the level of inflation of the previous year. The National Rates Board (JNT) sets refuse collection rates for EDIS and can modify them as well.

In Argentina, with the exception of the petrochemical companies, the Input Deregulation Hypothesis is not rejected, since the input prices of some inputs were liberalized. Calls for bidding partially compensated for the lack of a clear and comprehensive regulatory regime. In the majority of cases, the sales contracts established quantitative and qualitative goals for service improvements that implied high levels of investment to recapitalize the enterprise. Nevertheless, virtually all the contractual regulations were modified after the privatization to lower the price of the services. For example, in the cases of ENTEL and SV, the guidelines of the sale established that rates would be set by the government on the basis of inflation and the exchange rate. However, the convertibility law provided for indexation of rates to the U.S. consumer price index. Moreover, in SV, the government eliminated the royalty that it collected, lowered taxes, and granted subsidies. Together with the privatization of oil reserves and oil refining, the obstacles in importing or exporting crude oil were removed. Fuel taxes were also modified. In the case of the petrochemical companies, subsidies and the legal barriers to imports were eliminated.

The agencies responsible for supervising and regulating state services were not modified with the privatization, and they were weak and lacked autonomy. Financed with a royalty from telephone revenues, the National Commission for Telecommunications was created to monitor compliance with the quantitative and qualitative goals of ENTEL. This commission also establishes technical and service standards, standardizes equipment installation, and resolves conflicts that may arise between enterprises and users.

Productive and Allocative Efficiency

Although most of the cases analyzed are recent, profits generally increased after privatization, partly because of greater productive efficiency. Among the determining factors should be noted the emergence of synergies from contestable monopolies, although the price increases permitted by the regulations also have played a crucial role. Evidence of the effect on allocative efficiency is scanty; however, there are indications that when efficiency did increase, it was exclusively because of competition and regulation policies. Only in Argentina is it clear that the Higher Profit-Price Adjustment Hypothesis is not rejected. With the exception of Mexico, the Union-Efficiency Deterioration Hypothesis, which postulates that the government is better able to resist union pressures than the private sector, tends to be rejected.

In Chile, indicators for the years following the first round showed privatizations with higher profits. However, during the economic crisis of 1982, BCH's financial position deteriorated so much that the government was compelled to take it over; thus, as with CAYC, the Higher Profit-Price Adjustment Hypothesis is rejected. In all the second round cases studied, improved use of available resources is discernible, which suggests that privatization led to increased productive efficiency. Because of external competition, CAP invested in new technology to cut production costs and improve product quality. Moreover, it instituted a diversification policy that led to its buying of 20 companies in iron and steel production, mining, timber production, and services, and its profitability indicators have exhibited a rising trend. It is important to point out that the state does not provide backing for any of ENDESA's transactions. ENDESA secures financing based on economically efficient projects and the financial solvency of the enterprise itself. The increase in CTC profits is fundamentally due to rate hikes for local and international calls and the introduction of new services. Therefore, only in this case is the Higher Profit-Price Adjustment Hypothesis not rejected. The Union-Efficiency Deterioration Hypothesis is rejected as well since labor relations tend to improve after privatization because they become more technical.

In Mexico, the profits of TEMEX and CMC have risen because they have taken advantage of complementary relationships. Thus, the Higher Profit-Price Adjustment Hypothesis is rejected for these two enterprises as well as for the sugar processing plants. This is because higher profits are the result of cost cutting, even though the prices of their products have fallen in line with the international trend. The Union-Efficiency Deterioration Hypothesis is not rejected for CMC, TELMEX, and the sugar processing plants because these activities are labor-intensive and equilibrium between the union and private enterprise is achieved only through agreements that can count on public sector support, given the constraints imposed by the Federal Labor Law. In TEMEX, efficiency has

improved, reflected in the average output and the ratio of man-hours per ton produced. The complementary relationships arising from the merger made improved efficiency possible. Moreover, costs were cut by 25 percent when the company's bargaining power with materials suppliers was enhanced and its geographical location improved. For CMC, although there were no significant increases in labor productivity at the mine, the lower costs associated with the reduction in the size of the crew (24 percent of profits in 1991) and the savings in transportation and treatment costs when the mine integrated its processes with those of its buyers translated into a major increase in profits. In MEXICANA, the company's inexperienced boards of directors committed strategical errors that caused the quality of the services provided to deteriorate. Moreover, the lag between the rate adjustment and the cost increase caused profits to fall.

In the majority of the companies, privatization led to increased output. The sugar processing plants, for example, produced enough of the commodity to cover domestic needs. TEMEX obtained a larger share of worldwide production by merging with PETROCEL. However, allocative efficiency in the domestic market did not deteriorate, given the external openness of this product. The number of TELMEX telephone lines rose by 12.5 percent in 1991, and the number of communities served rose by 25.9 percent—higher growth than stipulated in the contract.

In Colombia, the impact on productive efficiency was more the result of preparatory measures and corresponding complementary policies than of the privatization itself. Moreover, profits rose before the privatization, mainly because of cost reductions; thus, the Higher Profit-Price Adjustment Hypothesis is rejected. In the case of BT in particular, financial rehabilitation of the bank led to significant growth in the productivity and efficiency indicators. Because of pressures from its new Japanese owner and a deteriorating market share brought about by the inefficient management style imposed by its French owner, SOFASA imposed policies to boost productive efficiency and cut assembly costs. Economic openness and the more aggressive business stance of other automotive plants has forced the company to cut spending by reducing the number of management staff and broadening the range of products without hiring new assembly workers. The policies of economic openness applied to the automotive sector fostered greater competition and, consequently, reduced the prices of the vehicles. Furthermore, the Union-Efficiency Deterioration Hypothesis is rejected in all the cases analyzed.

In Argentina, with the exception of the oil and petrochemical companies where the impact on efficiency was not estimated, the enterprises show higher profits associated with the price adjustments made before their privatization; the Higher Profit-Price Adjustment Hypothesis is therefore not rejected. The Union-Efficiency Deterioration Hypothesis is rejected, however, since the unions have lost some of their clout because of privatization. Once AA was privatized, it

closed its foreign offices, taking advantage, instead, of Iberia's offices and decreasing the frequency of flights on less profitable routes. In SV, roadways were improved. Finally, privatization had a negative effect on allocative efficiency in exchange for short-term resources because the enterprises retained, and in some cases enhanced, their monopoly power.

Fiscal and Macroeconomic Impact

The case studies indicate a favorable impact on public finances, although no conclusion can be drawn about possible growth in government net wealth. Results of hypothetical fiscal effects of the privatizations are not uniform. While the Increased Investment Hypothesis tends to be rejected for Colombia and the Fiscal Gains-Current Expenditures Hypothesis for Argentina; the Interest Rate and Debt Service Hypothesis tends to be rejected in all cases but Argentina. Privatizing large companies when participation by foreign capital is permitted or resources have been used to reduce the external public debt has resulted in significant balance-of-payments relief.

During the first round of privatizations in Chile, the government made significant outlays to restore BCH to financial soundness after its privatization; the Increased Investment Hypothesis was rejected only in this case. Nevertheless, the Fiscal Gains-Current Expenditures Hypothesis is not rejected for this bank because the net effect was a gain in fiscal assets and only the Interest Rate and Debt Service Hypothesis is rejected. As a rule, in the second round of privatizations, the government did not seek to improve the fiscal situation, although three of the cases showed a short-term fiscal improvement that will probably become long-term if efficiency continues to rise. In the case of CAP, stock prices were less than the present value of the expected future flows of dividends, which implied a subsidy; it can therefore be said that the state suffered a long-term capital loss. In the short term, the fiscal impact was positive, since the taxes and dividends produced by CAP before its privatization were less than the subsequent revenues from taxes and the sale of stock. For CTC, the fiscal impact was positive in the short term since the effective sale price exceeded the value that the private sector assigned to the stocks traded, based on projections at the time of the sale. Thus, the Increased Investment Hypothesis is rejected only in the case of ENDESA; the Fiscal Gains-Current Expenditures Hypothesis, in none of the cases; and the Interest Rate and Debt Service Hypothesis, in two.

In Mexico, the fiscal impact on government net wealth was generally positive. The sugar processing plants enjoyed a permanent gain since the revenue losses stemming from the sale of the enterprises as a package deal were more than compensated for by the subsidies that no longer had to be paid. For CMC, the fiscal effect was negative because the price paid did not offset the present net value of unrecovered liabilities of the development bank. In TEMEX, reduction

in subsidies and increase in taxes paid had a favorable fiscal effect. In the case of TELMEX, while the sale went better than anticipated, the net fiscal impact is estimated to have been negative if the benefit from reduction in interest rates (to which the sale of stock on the international markets contributed) is not included. Resources from privatizing TELMEX were allocated reducing the public sector's domestic debt by 10.5 percent in real terms. In view of this, the Increased Investment Hypothesis can be rejected only in the case of the sugar processing plants because the cutback in subsidies was considerably greater than the rise in investment after the sale. The Fiscal Gains-Current Expenditures Hypothesis is not rejected in any of the cases, since resource use has generated permanent savings through the contingency fund and recovery of part of the capital of the development banks. Nevertheless, the resources were not used to boost current expenditures. Finally the Interest Rate and Debt Service Hypothesis is not rejected except in the case of TELMEX since capital flowing into the country as a result of privatizing the rest of the companies was not sufficient to generate interest rate movements.

Although the Colombia study does not involve quantitative measurements, the qualitative arguments indicate that higher profits among the privatized enterprises may generate higher tax revenues in the future. When added to the cutbacks in subsidies, these may lead to consolidation of a permanent fiscal saving, although the amount is perhaps less than the investment required in the case of BT alone. Thus, only for this enterprise is the Increased Investment Hypothesis not rejected. The resources from privatization of the auto assembly plants were allocated to settling part of the external liabilities contracted with the French banks to support industrial project development. The resources from privatization of BT were returned to the Insurance Fund for Financial Institutions (FGIF) to enable it to deal with future crises; the Fiscal Gains-Current Expenditures Hypothesis is therefore not rejected since the use of the resources obtained through privatization generated a permanent fiscal saving and improved the investment capacity of FGIF. In view of the relatively small amount involved in the privatizations, the Interest Rate and Debt Service Hypothesis is not rejected, except in the case of BT.

The fiscal effect of privatizations in Argentina is ambiguous. They fulfilled the short-term objective of attracting resources and reducing the external debt, but the long-term effect is not clear. In every case investment has increased, self-financed by rates and fares. The impact on investment and fiscal revenues depends on the regulatory regime and any modifications in the relative prices; thus, the Increased Investment Hypothesis can be rejected only in SV. The Fiscal Gains-Current Expenditures Hypothesis is rejected because the objective was to finance the fiscal deficit. Deregulation of the oil industry could have a negative fiscal effect in the long term because of reduced tax pressures on the sector, the absence of a stable regulatory regime at the time of the

privatizations (which tended to lower the price), and the allocation of part of the resources obtained to the financing of public sector expenditures. In the case of ENTEL, putting the company under private management initially had a strong fiscal impact. This situation reversed itself after several years since tax revenues no longer fully compensated for the funds lost now that the state does not own the enterprise. Modifying SV implied a costly sacrifice for the government throughout the period of the concession due to elimination of royalties and to lower taxes and subsidies. Finally, the privatization of the petrochemical companies, of ENTEL, and of AA affected the balance of payments because interest on the external debt fell; the Interest Rate and Debt Service Hypothesis is therefore not rejected for these three companies.

Lessons and Recommendations

Preparatory Measures

The contrast between the privatization experiences in the first and second rounds in Chile highlights the need for a relatively long time horizon to carry out both the necessary preparatory measures and the entire process of privatizing public enterprises. Colombia's experience reveals that financially rehabilitating enterprises before privatization is particularly relevant when the survival of credit institutions is at stake, as in the case of the CCA, whose reorganization enabled the banks to recover their loans and maintained the stability of the financial system. Perhaps the most important lesson of the Colombian experience is the need to limit the time allotted for financial rehabilitation; otherwise, the privatization may not take place in the end. This is what happened in the case of EDIS, which continues to operate with tremendous inefficiency while no decision has been made about its privatization. From the Mexican experience, the bankruptcy of CMC is significant, for it enabled the authorities to found a new enterprise with a labor contract that reduced the sources of labor inefficiency and allowed the judiciary to intervene in conflicts between the government and the union. In this case, bankruptcy was the key to withdrawing the government guarantee and subjecting the enterprise to the same regime as the private sector.

Valuation

The valuation of enterprises should be adapted to the objectives of the privatization. If the goal is to sell the company, the main criterion should be a sale price based on the firm's potential for generating profits in the future. This would include the post-privatization regulatory regime and the geographical and labor situation. A lack of realism that led to an overestimate of BT's profits and the establishment

of a reference price that was higher than the commitments that could be made in CMC's situation thwarted initial attempts at selling both enterprises. In addition, if the potential buyers can become future suppliers or integrate their productive process with that of the enterprise to be privatized, the profits that these additional benefits represent to the buyers should be incorporated into the valuation—an aspect that was ignored in the assessment of Colombia's automotive enterprises. In Chile, the sale prices were not lower than the reference prices since the reference prices were determined by the market price of the stock (if sold on the stock exchange) or by the cash flow method, discounted to those who do not possess a controlling interest in the enterprise. In cases in which control of the enterprise is transferred, however, both alternatives are inappropriate, for they do not take private control of the enterprise into account.

Sale Mechanism and Price

In some cases, speed has meant sacrificing price, as in the Argentine government's failure to set even minimum requirements in the adjudication. Moreover, the urgent need for liquidity paradoxically may impede attainment of a maximum level of resources and even unnecessarily prolong the period of sale, as it did in the case of AA. The experiences of Chile and Mexico show that concentrating decision-making capacity in the hands of a single entity that had the authority to act was crucial for ensuring that the privatization process was consistent with the rest of economic policy. In Colombia, the lack of an agency responsible for the privatizations caused some of the sales to proceed without clear objectives (and in some cases, with conflicting objectives), as in the first attempt at privatizing BT. Here, two incompatible objectives were pursued: to recover the costs of restoring the bank to financial soundness and to sell it to the private sector at a reasonable price. The four experiences underscore the need to avoid any conflicts by preventing the agent in charge of the privatization from being responsible for its regulation as well. In Mexico, the privatization of CMC made it clear that the sale should not be carried out by an institution associated with past errors in the management of the enterprise or with a vested interest in it since these conditions produce distortions in the reference price. The agency in charge of the privatization should have experience in dealing with the problems of the enterprise and of the sector to which it belongs in order to determine an appropriate price. This was especially important in the privatization of the sugar processing plants and CMC, whose main problems were financial or connected with labor.

Several cases highlight the appropriateness of permitting flexible sale conditions when the objective is to transfer ownership, even despite lower fiscal revenues. This was true for the sugar processing plants in which vertical integration and the sale of packages which combined "good" and "bad" mills were permitted, and for BT, for which 100 percent of the stock was allowed to be sold. In

contrast, the stipulation that part of the sale price be paid in external debt papers considerably reduced the number of buyers for Argentina's enterprises, for it was difficult for stockholders to access the secondary market for external debt. When capital depletion is the main problem of the enterprise to be privatized, using mechanisms that increase investment in the company is recommended, even if it implies postponing fiscal revenues. This was the case in MEXICANA, in which the state share was reduced and the government received no revenues in the initial phase. It is important to keep the flaws in the process from drawing out the privatization. For example, awarding CMC to the highest bidder despite the knowledge that the enterprise's financial situation would not allow it to settle its liabilities undermined faith in the privatization of the mining industry because it was perceived as an increase in the investment risk.

Closed bidding appears to be the most appropriate mechanism for privatization when the aim is to transfer control of the enterprise or to supervise the source of financing. In Argentina, the government's obvious unwillingness to declare the bidding void and collusion among the bidders to distribute the road concessions among themselves limited bidding credibility.

Moreover, when an enterprise is privatized in stages, each stage affects the next. For example, in MEXICANA, the lack of experience in the company's sphere of activity, the short time allowed for preparing the bids, and use of the greatest share price to transfer control of the enterprise led the buyers to offer a very high price for the stock package. Nevertheless, the government has the option of selling its own shares in the company to another investment group at some future date, should it determine that those currently in control are not performing adequately. In that case, the price of the stock could be less than what was originally offered. Thus, instead of the original price of the controlling stock, what the government should maximize is the expected price throughout the process of divestiture.

Privatization in stages should not create uncertainty about the future viability of the enterprise or the privatization itself. In the case of the enterprises in Colombia's automotive sector, uncertainty materialized in the sale contract, which made payment of a portion of the stock subject to the companies' future performance. Privatization did not fully take place, therefore, since the process may be reversed on the demand of the buyers if the company performs poorly because of government measures that have a negative impact on it.

In the privatizations that involve considerable levels of financial resources—TELMEX, for example—the use of the domestic capital market is recommended as a sale mechanism only in the case of profitable enterprises; otherwise the firms should be rehabilitated financially before the privatization. At the same time, selling stock in foreign markets is successful when macroeconomic conditions are stable. Otherwise, the price of the stock could drop if buyers are not found, which would affect fiscal gains and perhaps even result in losses, and, in any case, concentration of ownership would not be prevented.

The Buyer and Financing

In Chile, with the exception of preferential offers to workers, buyers were not selected because of their experience in the sector but because they were the highest bidders, willing to make new investments (in the case of the telephone company) or “small investors” (in the case of Banco de Chile during the second round). The Chilean cases show that in a competitive market economy that adequately regulates natural monopolies, it is normally unnecessary to demand previous experience in the sector, the incorporation of new technologies, or minimum levels of additional investment from the buyer (except perhaps to avoid moral hazard in cases where the company’s capital is clearly insufficient to conduct normal business).

Nevertheless, the experience of CMC highlights the need to screen potential buyers for solvency—chiefly those unfamiliar with the industry involved—in order to prevent the possible failure of the process. There should be a penalty for buyers that fail to comply with any of the conditions stipulated at the outset. In the case of basic services like the telephone company and private waste collection, the studies of Mexico and Colombia recommend giving a greater weight to experience, financial capacity, and technology transfer when selecting buyers. Furthermore, the Colombian case points out the need to exclude automatic renewal clauses and very lengthy concession periods from contracts to enable the government to change contractors if performance is unacceptable and there are pressures to improve it.

In Colombia’s automotive enterprises, installment payments and their relation to the volume of vehicles produced pressured the state to keep existing protectionist policies in the post-privatization period. From the Colombian experience, it is also clear that financing from the public sector should not be used to improve the position of some buyers or contractors compared to others. In the case of waste collection, one concession holder negotiated an external credit for the public sector that was transferred through EDIS to that same contractor as an advance payment for its services, enabling the company to commence operations without providing any capital of its own.

The experiences of Chile and Mexico show that in order for the sale of stock to workers to be significant, the government must provide incentives. Chile’s situation illustrates that subsidized sales to workers are not just the result of the union’s bargaining power but may have objectives like diversifying ownership and eliciting popular support for the process. In the case of TELMEX, worker participation through financing by the development banks enabled employees to accept modifications in the labor contract. The option to buy was a basic tool in boosting efficiency, since worker support gave the administration the power to allocate labor resources more efficiently.

The most important lesson to be learned from the first round of privatization in Chile is that it is unwise to sell enterprises on credit. This practice can induce

bidders to offer high prices for company stock and later take serious business risks in the hope of financing the installment payments with the yield. In the case of BCH, the weak commitment of the buyers ended in an economic and financial crisis. In the absence of liquid resources that ensure good prices in cash, (partially) subsidized transfers of stock to the public should be considered.

Competition

The Chilean government was unwilling to raise the sale price of stock in its enterprises in return for granting them monopoly power. The lesson to be gleaned from this is that if the government wants privatized enterprises to play an efficient social role, the regulatory regime should foster a maximum level of competition. If this is not feasible, then adequate regulations should be drawn up. To continue or grant privileges to improve the sale price of stock in public enterprises significantly increases the risk that the privatization process will be reversed, apart from imposing a social cost that is technically unnecessary. The experience with TELMEX confirms this, since its sale as a monopoly did not imply a permanent fiscal gain, for the price obtained was less than the revenues that the government would have continued to collect had it kept the enterprise and eliminated its inefficiencies. The direct fiscal benefit thus did not justify the sacrifice in allocative efficiency.

The case of TEMEX in Mexico confirms that when an enterprise with marketable goods is privatized and becomes a domestic monopoly, all barriers to international trade should be lifted to prevent a conflict between the objectives of efficient production and allocation. In this enterprise, although the buyer suggested that the tariff be reduced to zero, this has not been done for fear that "dumping" will ensue. Nevertheless, the tariff should not be used as an anti-dumping measure if the problem lies in ineffective laws and mechanisms to combat unfair trade practices. Including a bilateral reduction in tariffs to promote efficiency, for example, could solve these problems. The experience of Colombia's automotive sector would suggest that regulatory measures to stimulate competition should be instituted before privatization. This would help prevent uncertainty about modifications in the environment that could result in low offers for the enterprise if there is a possibility that the assembly industry could disappear.

Regulation and Supervision

In Chile, the international trend toward privatization is confirmed as a phenomenon that accompanies a more general policy of deregulation. A clear economic policy framework for private enterprise is a prerequisite for the success of privatization. In Colombia, it was possible to privatize BT once the framework of the financial sector was defined by deregulating of the system and opening it to

external capital. In contrast, the policy changes in Colombia's automotive sector and MEXICANA, undefined before the privatization, have resulted in constant complaints about how negotiations were handled. In the case of the sugar processing plants, uncertainty surrounding the regulations for agroindustry, which were in the process of being modified, contributed to the drawn-out sale. Furthermore, when privatizing within a stabilization program it is a good idea to inform bidders explicitly about the price and regulation parameters that the government intends to set. Otherwise, social losses may be incurred if services deteriorate or enterprise development is hampered; this is what occurred with MEXICANA when the price of the inputs provided by the state increased and air fares were subject to regulation.

In sectors in which prices are determined internationally and the number of enterprises is small, regulation becomes unnecessary as long as the structure of the sector is competitive, as in CMC, TEMEX, and MEXICANA. In such situations, legal entry barriers should be eliminated to enable industrial mechanisms to regulate the behavior of market power. In the case of MEXICANA, the original regulation of the airline sector prevented markets from becoming competitive because other airlines were banned from entering the market. The new regulatory scheme has generated greater competition that benefits the consumer by offering him a wider range of fares and airlines. In contrast, TEMEX's failure to integrate with basic petrochemical companies has prevented higher profits because the government imposed a higher transfer price than the company's competitors have to pay and the supply of materials is uncertain. Integration should be allowed in the provision of raw materials to lower the final price of the product and boost the international competitiveness of the privatized enterprise.

Mexico's experience clearly shows that existing labor laws caused an endless series of problems for privatization. Modifying the legislation before starting the process, therefore, would have simplified the sale of the companies considerably. Under the prevailing circumstances, the only way to make substantial changes is to abrogate the labor contract; this is legally feasible only in the case of bankruptcy, which is what happened with CMC. For TELMEX, labor contingency liabilities represented a significant sum that depressed the sale price. MEXICANA unions have considerable bargaining power, which hampers company efficiency by preventing the payroll from being reduced to the most desirable levels. The adoption of a mechanism to curb the bargaining power of the union and loosen the legal rigidities that hamper efficiency is recommended. This will improve the buyer's chances of success and make it easier to obtain a higher sale price and attract foreign investors.

Especially in cases like TELMEX that involve a significant level of resources and belong to a sector in which there are no domestic investors with experience in the field, the legislation governing foreign investment should be modified to permit participation of investors with sufficient technology to guarantee the objectives of modernization and expansion.

Finally, regulation presupposes an authority with adequate supervisory powers, as illustrated by the restructuring of the Office of the Superintendent of Banks during the second round of privatizations in Chile. At the same time, this control should not be discretionary, for this generates uncertainty, and objectives are not met. This was the case in TELMEX, when government intervention in the decisions of the enterprise kept the price mechanism from working to eliminate cross-subsidizing between the types of services, thus delaying the opening of the profitable service to the exterior.

Productive and Allocative Efficiency

As the analysis above indicates, labor relations in the presence of rigid institutions or regulations are the most basic obstacle to productive efficiency. In such cases, workers and salaried employees should become more involved in the privatization process—as stockholders, for example—to make them more amenable to modifications in labor contracts and to provide the administration with elbow room to facilitate efficient resource allocation. The lesson is clear in the cases of CMC, TELMEX, and MEXICANA that redrawing labor contracts kept the efficiency of the enterprise from deteriorating further and in some cases even enhanced efficiency. Chile's experience underscores the fact that union pressures are determined chiefly by the economic structure, labor laws, and the attitude of the government. Moreover, once public enterprises became subject to the same treatment as private sector firms and there was competition under a deregulated (or strictly regulated) economy to induce efficiency, public enterprises markedly increased their efficiency in resource use. These firms tended to operate with market prices and costs, especially in the second round of privatizations in Chile.

Argentina's experience reveals that a lack of regulation to reduce the market power of the privatized service enterprises has implied the possibility of boosting their productive efficiency through rate increases that enable them to modernize their plants—however, at the expense of efficient allocation. This could put the sustainability of the privatization program at serious risk. Similarly, turning the sale of stock in these companies into a domestic and external financial policy tool should be avoided if it implies sacrificing consumer welfare. Although privatizations provided temporary financing for the public sector and enabled the private sector to increase its profits, it was at the price of creating monopolies and regulations that protected the enterprises.

The Fiscal and Macroeconomic Impact

The cases analyzed bore out the theory that the fiscal benefits from privatization increase if the process is accompanied by policies to promote efficiency (as in the

case of TEMEX, which permitted complementary relationships to emerge). Argentina's experience indicates that it is dangerous to rely too much on privatization to bring about fiscal rehabilitation, if this and other economic measures do not support a permanent reduction in the public deficit and the creation of a competitive climate for the privatized enterprises.

In problem cases, the government's main concern should be to cut losses, as it did in the bankruptcy of CMC and the sale of the sugar processing plants, which led to decreased subsidies. Furthermore, inappropriate regulation has an unnecessary negative fiscal effect. This was evident in the cost of rescuing Chile's financial system incurred since 1981 and blamed on the privatization. In Argentina, subordinating of regulations to the macroeconomic objective of price stabilization has implied a sacrifice in tax revenues.

Chile's study is a reminder that privatization on credit may lead to excess spending throughout the economy, financed with external credit. This practice sooner or later will require corrective action, ultimately signifying reductions in the relative levels of investment and social expenditures. When external resources are available, privatization that translates into excess spending at the national level and excessive external indebtedness should be prevented by controlling public spending policies. In certain situations, it may be appropriate to invest the resources from the privatizations temporarily in financial instruments.

The case of TELMEX, the monopoly with the largest state-owned controlling interest to be privatized in Mexico, illustrates the possibilities of supporting macroeconomic stabilization through privatization. The sale of TELMEX provided resources that obviously helped public finances recuperate. An increase in tax revenues stemming from the expansion of telephone services did not, however, offset the loss in future revenues. Thus, using the resources from the privatization to reduce the government's domestic debt was a prudent move. It enhanced the indirect fiscal benefit of the sale by translating into lower domestic interest rates, with social welfare justifying the sale of the company as a monopoly because of the high price obtained. When faced with a possible net fiscal loss, resources should be used to increase the indirect benefits of the sale. In the case of TELMEX, although the direct net benefit to public finances did not justify the sacrifice in allocative efficiency, the indirect benefits reduced interest rates on the balance of payments, and government liabilities were significant. An enterprise should be sold as a monopoly, therefore, only in countries where macroeconomic stabilization is a more important economic policy objective than efficient allocation. Otherwise, it is better to break up the company.

Colombia's experience suggests that an interesting way to use the fiscal resources from the privatizations is to improve the possibility of continuing the process in the future. This was true with SOFASA, in which revenues from the sale were applied to healing the financial situation of another state enterprise that was to be privatized.

Finally, the evidence from Chile suggests that controlling stock packages that are not sold through the stock exchange have a positive effect on the stock exchange market. The effect, however, is less than that of privatization methods that tend to diversify ownership and use the stock market for the transfer. This is essentially the difference between the first and second round of privatizations. Selling packages of controlling stock on credit—especially bank shares—increased ownership concentration significantly. The role of institutional investors in expanding and improving the stock market through their purchase of major stock packages on the exchange also should be noted. A clear example of this is CAP, which contributed to the development of the stock exchange. This would not have been possible without the reform of the pension system and the energetic participation of pension fund administrators, the enterprises that classify risk, and the corresponding oversight agency, among others. As the experience of TELMEX demonstrates, stock offerings on the international markets serve as an incentive to other enterprises to depend on the international capital markets.

Conclusions

In this chapter, the authors have summarized and commented on the main findings of the studies on Chile, Mexico, Colombia, and Argentina (Chapters 2–5) on the privatization process and its effects in those countries. The comparative analysis reveals that there is no single optimum strategy that can be applied in all cases of privatization. Although the studies provide a series of recommendations as to what can be done and what should be avoided in each of the eight topics examined in page 5, the conflicting results of the various national experiences are undeniable. This underscores the dependence of any privatization strategy on macroeconomic and institutional constraints, as well as on constraints specific to the cases at hand. To illustrate macroeconomic constraints, Argentina's current situation of macroeconomic instability, which has made short-term imperatives a priority and produced as yet an uncertain impact on the economy, is significant. Institutional constraints in the form of obsolete labor laws depressed the price and hampered the sale in several cases of privatization in Mexico, but granting power to the oversight agency was indispensable to the reprivatization of the banking system in Chile. The complex design of the sale of BT in Colombia was linked closely to the problems created by the poor performance of that bank.

These constraints determine the objectives and methods of privatization, making each case so individual that it is unlikely to be reproduced at some future date. Nevertheless, the investigation contains a wealth of lessons and concrete recommendations that can be adapted to different contexts. Generally speaking, the studies highlight the need for sufficient time to prepare not only the enterprises to be privatized but also the institutions and regulations that will ensure the

success of the privatization and promote efficiency. From the very first, a realistic valuation of the enterprise to be privatized should be carried out because, paradoxically, this speeds up the process. The sale method selected can be used to achieve specific objectives, such as the diversification of ownership and the application of the revenues toward the rehabilitation of another company to be privatized—both of which will support the continuation of the privatization process. The countries have favored buyers that have a potential for developing the enterprises. Before the privatization, the governments should clearly establish the mechanisms to foster competition and the regulatory regime to stimulate economic efficiency. Finally, while micro- and macroeconomic benefit may be anticipated from many channels, privatization is only part of a comprehensive economic strategy, and its survival depends on how consistent it is with the rest of economic policy.

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CHAPTER 2

FIVE CASES OF PRIVATIZATION IN CHILE

Dominique Hachette, Rolf Lüders, Guillermo Tagle

Introduction

Economic Policy and the Public Sector

Economic growth in Chile after the 1930s was marked by growing state intervention and, in particular, by a spectacular increase in public ownership and administration of economic activities. This intervention was accomplished partly through the creation of enterprises by the treasury, partly through the absorption of companies founded by Chile's private sector, and partly through the nationalization of foreign firms. Moreover, through the agrarian reform that began in 1962, the government came to control over 60 percent of the country's irrigated land.

In 1973, 596 nonagricultural public enterprises accounted for 39 percent of the nation's GDP (Tables 2.1 and 2.2). Not only did public enterprises cover 100 percent of public services (electricity, water, and sewerage), their output was more than two-thirds that of the mining, transportation, communications, and even the financial sector (Table 2.2).

The main justifications for this state intervention were the existence of natural monopolies in public services, distortions in the capital markets in the presence of economies of scale, special technological aspects, and—particularly in the early 1970s—income distribution considerations, since public enterprises could serve as instruments for stabilization, employment, and subsidies to consumption. Unfortunately, this growing state intervention in the economy did not produce the economic growth or income distribution anticipated by its defenders. This was one of the reasons for the drastic shift in Chile's development strategy after 1973.

In the search for macroeconomic equilibria and structural adjustments to promote stable growth and broad income distribution in the long term, the new strategy has relied on the restoration of the market as the main economic policy

Table 2.1. Privatization of State Enterprises or State-administered Enterprises, 1970–89

	1970	1973	1983	1989
Enterprises connected with CORFO	46	571	24	24
a. Subsidiaries	(46)	(228)	(23) ⁴	(24) ⁵
b. Taken over	—	(325) ³	(0) ²	0
c. Banks	0	(18)	(1)	0
Other state enterprises	20	22	21	18
Other financial institutions	2	2	2	2
CODELCO	0 ¹	1	1	1
Total	68	596	48 ⁶	45

¹ Although CODELCO did not yet exist, the state owned 50 percent of the large copper companies, acquired when the state invested in foreign enterprises in 1970 during the process of "Chileanization."

² After September 1973, 350 enterprises that had been taken over were returned to their owners, most of them during 1974.

³ Excludes enterprises taken over in which CORFO had a minority interest.

⁴ In 1979, two enterprises were created in which the state had a share: Lítio and Telex.

⁵ From 1983 to 1989, the following 14 state enterprises were created as a result of the dissolution of existing companies: Empresa Eléctrica Aysén, Empresa Eléctrica Colbún Machicura, Empresa Eléctrica del Norte Grande, Empresa Marítima del Sur, Empresa de Servicios Sanitarios de Tarapacá, Empresa de Servicios Sanitarios de Atacama, Empresa de Servicios Sanitarios de Coquimbo, Empresa de Servicios Sanitarios del Libertador, Empresa de Servicios Sanitarios de Maule, Empresa de Servicios Sanitarios del Bio-Bio, Empresa de Servicios Sanitarios de la Araucanía, Empresa de Servicios Sanitarios de los Lagos, Empresa de Servicios Sanitarios de Aysén, and Empresa de Servicios Sanitarios de Magallanes.

⁶ Does not include over 50 companies of the "peculiar area" indirectly administered by the state, which came into state hands in 1983 through the takeover of some private companies on the verge of bankruptcy. Those companies were controlled by the government for several years and then privatized before 1989. Those sectors of the economy were known as the "peculiar area" because they did not belong in a strict sense to either the public or private sector.

tool and the private sector as the principal agent of development. Also important are a greater opening toward foreign markets to exploit comparative advantages, nondiscriminatory treatment of all productive sectors to improve resource allocation, and development of the factor markets to promote savings, improve investment allocation, permit faster and less costly adjustments, and foster more productive use of production factors. Restoring the private sector as principal agent of development has implied downsizing the public sector, changing its responsibilities, and decreasing its activities and role in the economy. Public enterprise privatization is an important step in this direction.

The Privatizations

The First Round

There were two rounds of privatization in Chile: the first, from 1974 to 1981, and the second, from 1985 to 1989. The first round coincided with a period that opened

Table 2.2. Share of State Enterprise in Output
(Percentage of GDP)

Sectors ¹	1965	1973	1981	1988
Mining	13.0	85.0	83.0	n.a.
Industry	3.0	40.0	12.0	n.a.
Public services	25.0	100.0	75.0	n.a.
Transportation	24.3	70.0	21.0	n.a.
Communications	11.1	70.0	96.3	n.a.
Finance	—	84.0	28.3	n.a.
All state enterprises and public administration ²	14.2	39.0	24.1	15.9 ³

Sources: ¹ Larroulet, 1983; ² U.S. Embassy in Chile, 1985; and ³ authors' estimates, based on fiscal accounts.

with a deep recession (1975) and culminated in another that was even worse (1982–83). This was a time of great stabilization efforts and major institutional adjustments. To reestablish macroeconomic equilibria, fiscal employment and expenditures were drastically reduced and a modern, simple, and efficient monitoring system established. As a result, the fiscal deficit was converted to a surplus, while government expenditures were reduced from 44.9 percent of GDP in 1973 to 24.9 percent in 1981. At the same time, prices and interest rates were freed, government-held land privatized, the land and capital markets modernized, tariff and nontariff barriers replaced by a 10 percent uniform tariff, exemptions eliminated, the capital account opened, and an external investment code that promoted foreign investment approved.

At the same time, 325 enterprises taken over by the previous government were returned gratis to their legitimate owners. Moreover, another 207 enterprises acquired by the public sector at some point were sold into private hands. At the end of this period, only “strategic” enterprises (i.e., copper) and traditional public enterprises that were by and large natural monopolies, remained under state control.

To ensure efficient management, public enterprises were forced to scale back their personnel in 1975. A self-financing policy was imposed and the special benefits still enjoyed by these companies eliminated, with greater administrative flexibility granted to them (that did not extend to investment decisions). Public enterprises, moreover, were not allowed to broaden their plan of action; instead, they were forced to concentrate on the activities in which they had been engaged and for which they had been created, transferring any operations not directly connected with their line of work to the private sector. “While the policy shift did not have the privatization of public enterprises as its explicit objective, it contributed to their subsequent transfer by improving their financial performance.”¹

¹ Hachette and Lüders, 1991.

During this first period of privatization, several methods for the direct transfer of the state enterprises were employed: competitive bidding, liquidation, and direct sale. Competitive bidding, a process regulated by executive order, was the most common form intended to generate the highest sale price. Enterprises that anticipated operating losses were liquidated, and direct sale was used for smaller enterprises when the costs entailed in organizing a public auction would prove very high. Revenues from the privatizations were especially welcome because of the strong fiscal constraint in force.

*The Economic and Financial Crisis and the "Peculiar Area"*²

The above period ended in a deep recession (1982–83), which was not totally unrelated to the privatization process. The privatization methods employed from 1974 to 1979 stimulated the creation of holding companies with high leverages and highly concentrated ownership. Ownership in these companies and their credit operations were closely linked with privatized financial institutions that formed part of the holding company. Declining sales caused subsidiaries to incur debt, and the already insolvent banks worsened their situation by refinancing losses on loans to members of the holding company. As the crisis in the real sector deepened, the negative repercussions began to make themselves felt in the financial sector, compelling the government to take over some of the holding companies and with them, 50 related enterprises.

The Second Round

Once the economic recovery had begun, the government decided to go ahead with the institutional transformation process. The government privatized the pension fund and a significant portion of education and health services. From 1984 to 1985, after a financial reorganization of enterprises connected with the owners of the banks, the government transferred all the enterprises of the "peculiar area" that had just been taken over. From 1985 through 1989, the government proceeded to privatize a number of traditional public enterprises. This enabled it to reduce the share of public enterprises in GDP from 24 percent in 1981 to 16 percent in 1988. Despite the country's fiscal situation, which was affected by the recession (though somewhat eased by the revenues from the privatizations), there was no overwhelming desire to maximize fiscal revenues.

The first round was particularly interesting because it employed a wealth of privatization methods. Competitive bidding, once again the chief mode of privatization, was frequently accompanied by popular capitalism (the sale to small

² See note 6 for Table 2.1

investors), labor capitalism (the sale to the employees of the privatized enterprise), and institutional capitalism (the sale to the Pension Fund Administrations, AFPs—private institutions that had begun to take charge of the retirement system after 1985). Debt-for-equity swaps also enabled the authorities to combine foreign investment in the privatized enterprises with external debt reduction.

The Institutional and Regulatory Framework of Privatization

The privatization process from 1974 to 1989 was characterized by its simplicity, flexibility, and small size. Although modified several times during this period, the privatization framework was under the aegis of the Corporación de Fomento de la Producción (CORFO) and basically consisted of the council, a political entity composed of several ministers and responsible for the decision to privatize; the Normalization Unit, an executive entity in charge of the entire privatization process (which included the preparation of the enterprises before the transfer, the selection of the financial council and executive agencies, the selection of buyers, the negotiations, and the receipt of payments); a Committee for the Sale of Stock, an informal body that worked with the council; and the Executive Unit, which supervised the execution of the privatization process. On several occasions, the Normalization Unit hired private subcontractors and obtained help from those in charge of the enterprises about to be privatized.

Before the privatization of these companies, the effort to draw up precise regulations for the most controversial sectors (electricity, telecommunications, and transportation) not only facilitated the transfer of the enterprises to the private sector; the competitive environment it fostered was responsible for their unquestionably efficient internal operation and allocation. This effort created or boosted competition in all productive sectors—even those traditionally dominated by “natural” monopolies—and led to rules for rate setting that would be transparent, efficient, and free from bureaucratic influence.

The Impact of the Privatizations

While the privatization process may have had a negative impact on state wealth and fiscal revenues, this was not true for employment. Privatization fostered the expansion of private ownership, thus bolstering the market economy and stimulating the development of the capital market. Fiscal wealth and revenues were affected negatively not so much as a direct result of the privatizations but as a consequence of the current expenditures that they financed. It can also be argued that the treasury was forced to pay a (small) price (Table 2.3) for the diversification of shareholdings.

In addition, total employment in the privatized enterprises was less than what

Table 2.3. Sale of Stock of 10 CORFO Subsidiaries¹
(Annual report)

	1986	1987 ²	1988 ³	1989 ⁴	Total
Estimated price (thousands of UF) ⁵	12,838.3	20,226.4	40,278.5	11,816.2	85,159.4
Actual sale price (thousands of UF)	7,453.7	18,610.7	38,131.9	9,901.5	74,097.8
Difference (thousands of UF)	5,384.6	1,615.7	2,146.6	1,914.7	11,061.6
(%)	41.9	8.0	5.3	16.2	71.4
Interest subsidy (%) ⁶	—	4.8	2.5	0.9	10.6
Total difference (%) ⁷	41.9	12.8	7.8	17.1	79.6
Workers and capital holders					
Difference in favor of workers (%)	—	23.3	8.9	—	32.2
Difference in favor of capital (%) ⁸	44.8	9.9	7.6	17.1	79.4

Source: Hachette and Lüders, 1992.

¹ Includes ENTEL, CTC, CAP, ENDESA, SOQUIMICH, CHILGENER, CHILMETRO, CHILQUINTA, IANSA, and Laboratorio Chile.

² Includes one sale of ENDESA stock with a subsidized credit (December 1987), approved by Law 18,681 for public employees.

³ Includes the sale of two ENDESA stock packages (March 1988, December 1988), with subsidized credit, under Law 18,747. Shares were sold directly to public employees and indirectly through popular capitalism.

⁴ In 1989, of the 10 enterprises considered here, CORFO sold only stock in ENDESA, CTC, and ENTEL. Includes the sale of two CTC stock packages (March 1989 and April 1989) with subsidized credit.

⁵ UF is an accounting unit that is adjusted monthly on the basis of the Consumer Price Index. The values are therefore expressed in real terms. On July 31, 1993, the UF was equal to 9,900 Chilean pesos (\$US 25.20).

⁶ Subsidy obtained by those who buy stock with subsidized credit from CORFO.

⁷ Sum of the difference between real and estimated prices and the interest subsidy.

⁸ Includes sales to public employees.

it had been in these companies during the first round of privatizations in 1974 (Table 2.4). However, this was owing to the marked increase in efficiency before the privatization because of the self-financing policy imposed by the new authorities. Furthermore, the privatizations were a significant factor in the growth of financial liabilities in the capital markets from 5.9 percent of GDP in 1973 to 108.0 percent in 1989 (Table 2.5).

Securities transactions connected with the privatization rose tenfold during this period. In addition, the new pension system and the privatizations began a process of mutual reinforcement when the system became a major buyer of stock in the companies that were being privatized.

This chapter analyzes the privatization of five enterprises chosen to illustrate some major issues connected with privatization methods. These companies were selected for the diversity of their lines of business and their background, the controversy surrounding the privatization in some cases (as registered in public opinion polls), and the results of the privatization. The companies are: Compañía de Acero del Pacífico (CAP), Banco de Chile (BCH), Empresa Nacional de Electricidad (ENDESA), Compañía de Teléfonos de Chile (CTC), and Celulosa Arauco y Constitución, S.A. (CAYC).

Table 2.4. Employment in 10 Privatized Enterprises, 1970-89

Enterprise	1970	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
CHILGENER	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	748	779	819	852*	8690	845
CHILQUINTA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	948	968	983*	956	770	746
CHILMETRO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2283	2421	2631*	2746	2828	2962
ENDESA ¹	n.a.	8504	8460	5776	5629	5530	4763	4270	4018	2828	2728	2705	2813	2950	2905	2928	2925*	2980
CTC	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	6635	6850	7185	7374	7518*	7366
CAP	7045	12493	11637	11363	11065	10822	9886	9321	9049	7944	6961	n.a.	4062	6656	6767*	6923	9329	9785
IANSA	2214	2825	2881	3143	3423	3524	2386	1598	852	642	673	1079	1434	1702	2029	2102	2022*	2144
SOQUIMICH	10604 ²	10900	10684	10246	9247	8264	8024	7109	6534	5005	4421	4053	4402	4442	4704*	5024	6001	5453
ENTEL	1151	1312	1421	1475	1459	1173	1192	1236	1261	1311	1336	1336	1366	1386	1402	1456	1480*	1546
Lab.Chile	567	987	844	810	687	735	778	660	669	545	517	527	559	586	592	618*	681	749
Total	21581	37021	35927	32813	31510	30048	27029	24194	22383	18275	16636	9700	25250	28740	50017	30979	42224	34576

Source: Hacheite and Lüders, 1992.

* Year in which the private sector share reached 51 percent.

¹ Corresponds to the main office of ENDESA.

² Corresponds to 1971.

Table 2.5. Sale of Stock of 10 CORFO Subsidiaries, 1984–89

	1984	1985	1986	1987	1988	1989
Stock transactions (millions of Dec. 1988 U.S. dollars)	41.9	59.7	337.1	542.8	654.5	917.6
Stock transactions of privatized enterprises (millions of Dec. 1988 U.S. dollars)	2.6	18.7	187.2	368.7	448.2	578.8
Stock transactions of privatized enterprises/ Stock transactions	6.2	31.2	55.5	67.9	68.5	65.5
Stock and bonds (debentures) in AFPs ¹ (millions of Dec. 1988 U.S. dollars)	n.a.	19	19	260	527	899
Number of stockholders (thousands)	371.8	435.4	478.6	497.0	571.7	629.3
Stockholders of privatized capital (thousands)	n.a.	26.6	50.2	92.2	151.7	151.7*
General Share Price Index	77.9	100.0	201.6	357.5	449.4	666.6
Stock index for privatized enterprises	n.a.	100.0	145.4	245.8	261.6	392.0

Source: CORFO and stock market.

* Includes just 19 of 27 privatized state enterprises.

¹ AFP = Pension Fund Administrator.

Banco de Chile: A Twice-privatized Enterprise

Background

The Banco de Chile (BCH) has left its mark on the economic and financial history of the country. It began as a private institution, although owing to circumstances, it has been taken over by the state and privatized twice. The bank is currently 100 percent private and administered by a Board of Directors elected by over 39,000 stockholders, the majority of whom purchased stock during the second round of privatizations. BCH has 4,268 workers, the largest network of branch offices in the country (144 offices and customer service centers) and 91,991 current accounts held by enterprises and individuals.

The complexities and problems that have arisen during the course of what has been a double privatization process make this case interesting. During the first round of privatizations in Chile, BCH was sold through the auction of stock packages and functioned as a private enterprise until 1982. In January 1983, owing to the profound economic and financial crisis that was to affect not only this institution but all areas of the country's economy, the bank was taken over by the state and run by a government-appointed provisional administration until late 1986. The regime that governed the ownership of this and other banks was normalized in December 1985. For BCH, this process culminated in December 1986 with the transfer of its stock to the private sector through popular capitalism.

Since this is an institution that has been privatized under very different circumstances and by very different means, the discussion of this case has been divided into two sections: the first analyzes the privatization (post-Unidad Popular administration) through competitive bidding, and the second the privatization through popular capitalism.³ Table 2.6 provides a chronology of the most important events connected with this process.

Privatization: The First Round (1974–78)

In its first 76 years of life (1894–70), BCH managed to become the country's main private bank. Until 1970, banking in Chile was a stable activity that did not entail very high risks. Credits normally were granted at subsidized rates, enabling the banks to maintain a sound portfolio of clients. At the same time, access by new competitors to the market was highly restricted. The role of the board of directors in commercial banks up to 1970 was largely to act as agents of the Central Bank in the loan granting process.

Ownership of the commercial banks was mainly private. The exception was the State Bank of Chile, which, because it was a state bank, ventured into most of the commercial activities in which private banks operated and even enjoyed some privileges that gave it a competitive edge in certain sectors.

Although ownership of the banking system was mainly private, because of the heavy state control of the credit market and bank operations in general, competition was regulated.

Structure of Ownership at the Time of Privatization

The government of Salvador Allende (1970–73) had sought to nationalize the banking system through stock purchases or takeovers of private banks.

From 1971 to 1973, BCH was administered by a government-appointed team. Changes were instituted to transform it not only into a state enterprise but also an organ of the current regime, with all the political orientations of Allende's Socialist-Marxist government.

The End of the Socialist Experiment

On September 11, 1973, a military junta headed by General Augusto Pinochet overthrew President Allende and seized political power, launching a neo-liberal

³ This term refers to the privatization method used by the government which had as one of its main goals the availability of stock in the privatized firms to the mass of its citizens. To achieve this goal, sales were carried out with subsidized credit for the buyers whose only guarantee was the stock itself.

Table 2.6. Chronology: Privatization of Banco de Chile

1894 to September 3, 1970	Consolidation of BCH as the country's most important private commercial bank.
December 30, 1970	Speech by the newly-elected President of the Republic, Salvador Allende, announcing the start of the nationalization process. Purchasing power is broadened to permit the acquisition of stock in banks.
March 1971	The state, through CORFO, now controls over 25 percent of stock in BCH.
January 1972	Bank President Vinagre is replaced by Valenzuela, a representative of the state.
September 11, 1973	Allende's government falls, thus ending the Socialist-Marxist experiment in Chile.
September 16, 1973	The military junta, headed by Augusto Pinochet, names former Bank President Vinagre as managing director.
December 17, 1974	Executive order No. 818 is issued, establishing the regulations that govern the normalization of the financial system. This marks the beginning of the first round of privatizations in the banking sector.
1975	Through periodic auctions, CORFO sells 24 million shares (30 percent of the bank's capital) to private investors.
January 29, 1976	Managing directorship ends, and a private director is elected to take charge of bank operations.
1978	The privatization process ends with the auctioning of the last stock packages in state hands. The BCH investment group, led by Javier Vial C., owns the controlling interest in the bank.
1979-81	Rapid expansion and growth of both the bank and the country's economy.
1982	First signs of recession appear. Portfolio begins to deteriorate.
January 13, 1983	The government takes over BCH (and other banking institutions). A new period dawns, in which the bank will be administered by the state. Ownership regime situated in the so-called "peculiar area."
December 1983- March 1985	Exposure in the portfolio reaches 20.4 percent; committed capital, 40 percent. In 1984, committed capital is 633 percent, and in March 1985, losses come to 58.4 percent of the capital, while committed capital is 833 percent.
April 1985	BCH sells expired portfolio for \$1.04 billion.
June 1985	Through popular capitalism, Law No. 18,401 permits the capital contribution necessary to normalize the situation of the banks that have been taken over. The second round of privatizations begins.
December 1986	End of the sale of 11 billion shares, representing a capital contribution of \$235.25 million. Over 39,000 stockholders are now popular capitalists and the owners of the bank.
April 1987	The new board of directors that will take charge of the bank's operations as a 100 percent private institution is elected at the stockholders' meeting.

economic regime. On September 16, the new government put a managing director in charge of the bank, thus ending the socialist experiment in this institution and in the rest of the financial system.

Justification for Privatization in the First Round

It was a fundamental tenet of the new regime that the state should become involved only in areas in which the private sector could not operate efficiently.

Chaos was reigning in the country when the new government took over. The regime therefore enjoyed widespread support that enabled it to launch programs of change in both the economic and social spheres. This is why there was virtually no opposition when the government began the privatization of BCH in the first round.

Efficiency Indicators before and after Privatization

As some of the financial indicators for the 1970–73 period reveal, BCH suffered a major deterioration in its capital and total assets (Table 2.7). The most notable feature was the drop in bank activity, and, hence, in profits during this period. Once the military junta took over, the level of banking activity began to rise, with a corresponding effect on profits. Thus, in late 1974 (before the privatization), BCH had already recouped its 1970 levels of capital and assets (\$60.27 million in December 1974).

The strong financial recovery of the bank materialized before the institution was privatized as a result of the radical shift in social and economic policy promoted by the new government—so much so that when the private sector took control of the bank in 1976, its capital was no longer in the deteriorated state that it had been in late 1973. It cannot be concluded that the financial improvement in the institution was the direct result of a rehabilitation process aimed at the forthcoming privatization for it coincided with the overall financial rehabilitation of the country's social, political, and economic system launched by the government in September 1973.

The Privatization Process

No preparatory measures were needed to begin privatization of the bank beyond the general macroeconomic transformations that the state was adopting for the country as a whole.

The method of sale was an offering of stock packages. The guiding principle for the government in setting an appropriate price was to use the market price as a reference for the best indicator of value. Then, since stock in BCH was traded on the stock exchange, the shares that were in state hands were sold through public offerings at a price determined by the market.

To limit the concentration of ownership, a ceiling on stock purchases per investor was set; however, this provision did not establish concrete mechanisms to monitor the process, making it impossible to control in the end. Ownership of the bank became increasingly concentrated. In February 1979, the BCH investment group, which came to control the largest interest in the bank, held stock that represented nearly 30 percent of the institution's capital, even though the conglomerate had purchased a very small proportion of its stock through competitive

Table 2.7. Banco de Chile: Operating Statistics, 1970-86
(Millions of December 1990 U.S. dollars)

	1970	1971	1972	1973	1974	1975	1983	1984	1985	1986
Operating revenues	45.69	31.12	21.71	16.95	21.71	16.89	609.23	895.99	1407.54	930.70
Net margin	10.76	-0.03	3.24	5.99	3.24	2.37	-221.08	-332.94	324.61	179.97
Remunerations	22.84	23.96	17.87	9.99	17.87	13.59	44.34	40.50	46.74	50.03
Surplus	3.23	-1.37	0.04	2.27	0.04	0.36	-150.36	-274.04	8.64	31.18
Number of shares (millions)	70.00	80.00	80.00	80.00	80.00	80.00	1500.00	1500.00	6931.00	12500.00
Profits per share	0.05	-0.02	0.00	0.03	0.00	0.00	-0.10	-0.18	0.00	0.00
Capital and reserves	53.22	46.82	28.35	37.55	55.72	110.41	181.57	180.33	294.98	444.55
Total capital	54.71	45.40	28.36	39.47	60.28	134.11	31.21	-256.02	294.98	288.61
Rel. equity investment	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	374.74	167.21	0.00
Total assets	551.15	582.20	361.78	523.58	877.98	609.24	4639.54	6485.74	7705.94	6326.66
Total liabilities	496.44	582.20	361.78	523.58	877.98	609.24	4608.33	6741.75	7410.96	6038.05
Related operations	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	460.26	419.86	18.63
Securities	238.96	536.80	333.42	484.10	817.70	480.33	2643.90	2903.01	2243.02	1476.29
Provisions for risk assets	0.31	0.00	0.00	0.00	0.31	8.55	134.97	307.73	325.33	341.95
Subordinated debt	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	193.86	1331.96
Tax	152.95	196.80	108.93	135.46	264.80	206.16			0.0004	4.48
Dividend/share	0.04				0.05	0.08				

Sources: Banco de Chile and Office of the Superintendent of Banks and Financial Institutions.

bidding. The group acquired the bulk of its shares through the stock exchange and directly from minority shareholders.

Additional Details of the Process

CORFO, the state agency that owned the stock in the bank, was the agent charged with administering the sale of the various stock packages and handling all legal and administrative matters. In 1975 it began the process, inviting interested parties to participate in public bidding in which they were to submit the price offered and the number of shares that they wished to buy.

The form of payment was stipulated in the call for bids. In general, a cash payment of 10 percent was required, followed by installments pegged to the inflation rate, plus a real interest rate determined by the prevailing market conditions. The term varied in the different calls for bids; however, it fluctuated between three months and three years.

Because of the way credit was established, there were no implicit subsidies as a rule, and the economic value of the credit coincided with the equivalent cash price that was bid.

Although workers collectively indicated their intent to purchase controlling stock packages both publicly and privately in their dealings with the government, employees ultimately were considered just one more investor and received no preferential treatment.

Complementary Policies

The state had decided to privatize not only BCH but the entire financial system, resolutely assuming a subsidiary role. To do so, the government concentrated its efforts in two main areas: constructing an adequate regulatory regime and taking the necessary steps to establish the basic rules of free competition in the sector (a free interest rate, free mobility for economic agents—including international agents—with no entry or exit barriers, and the freedom to acquire and invest resources wherever the participants in the market deemed it most appropriate).

Together with the deregulation of the banks, steps were taken to develop the securities market.

As an additional measure to enhance the supervisory capacity of the government, a requirement that the investment portfolio be classified was introduced, with provision for losses dependent on the category under which the credits were classified.

Fiscal Impact of the Privatization in the First Round

Selling stock directly or through competitive bidding was aimed at maximizing state revenues. While under state control, the contribution of BCH to the fiscal

Table 2.8. Banco de Chile: Fiscal Impact of Privatization

	First Round			Second Round	
	1975	1977	1978	1985	1986
Number of shares sold	25,212,214	4,500,000	49,803,253	5,431,280,000	5,568,720,000
Percent sold	31.52	1.50	12.45	49.38	50.62
Estimated dollar price	29,455,671	1,625,738	12,674,970	12,015,973	25,393,980
Actual dollar price	12,466,179	2,952,355	33,261,478	7,074,323	8,162,905
Implicit subsidy, U.S. dollars	16,989,491	(1,326,617)	(20,586,507)	4,941,649	17,231,075
Implicit subsidy (%)	57.68	-81.60	-162.42	41.10	67.90

Source: CORFO, and author's calculations.

coffers was nil. The bank reported no profits for six years and thus paid no taxes or dividends. There were no specific state contributions to the financing of the bank, either. Analysis can therefore be limited to calculating whether by selling the stock, the state collected more (or less) than what constituted a reasonable estimate of the economic value on the date of the sale (Table 2.8). The sale of the stock took place chiefly in October 1975 and December 1978. The implicit subsidy as a percentage refers to the proportion of the estimated price that represented a subsidy.

Results

The sale of the first stock package produced a 57.68 percent subsidy, while the two additional sales generated a net transfer of resources to the state since investors paid 81.6 percent more than the economic value estimated in 1977 and 162.42 percent more in 1978. These results are consistent with the country's circumstances at the time of the transfers.

In 1975, it had been only two years since the start of the economic transformation undertaken by the government in Chile. There was considerable uncertainty about the future. The privatization process had just begun, access to external financing was restricted, and the investment groups that were later to vie very actively for control of the enterprises were not yet in their prime.

In 1977 and especially 1978, the situation was different. Investment groups were growing rapidly, and the value of controlling the enterprises was tangibly understood—particularly in the case of banks that could offer those who controlled them direct access to the domestic (and later, external) credit that was so badly needed. It therefore seems reasonable, especially in the 1978 sale (in which the BCH group was awarded over 60 percent of the shares auctioned), that an excessive price was paid vis-à-vis the estimated value. This difference must represent the value assigned by the buyers to the benefit of controlling the enterprise.

Privatization: The Second Round (1984–86)

The 1975–82 period following to the first round of privatizations was a time of economic boom for both the country and BCH in particular. This cycle came to an abrupt end the night of January 13, 1983, when, on government orders, five banks were taken over and two others designated for liquidation. Among the first group was BCH, thus ending this bank's second tenure as a private institution. At that point, the bank reverted to state control—not because of a political decision, as on the previous occasion, but because of its net worth position, which, given the size of the bank, put the country's financial stability in jeopardy.

The privatization of BCH in this second round is even more interesting than in the first, since in order to be successful, a real work of financial engineering had to be constructed from the moment the bank was nationalized. The analysis and details of this experience are summarized in this section.⁴

Banco de Chile before Privatization

The magnitude of the bank's financial problems was beyond anything imagined at the time of its takeover, which made it impossible to normalize its ownership in the short term. Even today (1992), although its ownership issue has been somewhat clarified, an enormous problem remains: the subordinated debt stemming from the aid that the Central Bank had to provide to BCH and several other domestic banks to prevent the total collapse of the financial system and with it, the Chilean economy. To illustrate the magnitude of this problem, it should be pointed out that in December 1990, the subordinated debt was 3.4 times the capital of the bank. This figure does not affect the bank's current net worth position, because it does not show up in the balance—only in the memoranda accounts and the notes to the financial statements. However, 70 percent of the profits generated in the coming years must go to the Central Bank to repay the real value of this debt, which is subject to an annual real interest of 5 percent.

To illustrate how dramatic the country's economic situation was, it should be pointed out that “from 1981 to 1983, a total of 22 financial institutions were taken over or liquidated; these entities accounted for 60 percent of the securities in the private banking market. Estimates by the Office of the Superintendent of Banks indicate that, on average, by December 31, 1984 (not counting the losses of the entities liquidated in the 1981–82 biennium), the banking system anticipated losses in assets not covered by capital provisions, that would commit 200 percent of its capital and reserves, or the equivalent of 18 percent of GDP that year.”⁵

⁴ All figures presented are expressed in December 1990 pesos (\$) or U.S. dollars, unless otherwise indicated.

⁵ Ramírez, 1980.

The Structure of Ownership at Privatization

When the state took over the bank in 1983, the institution was technically bankrupt, and its future viability without state assistance was nil. Moreover, the impact of developments in this institution on the rest of the economy, not to mention on international creditors, made it unacceptable and unfeasible from a societal standpoint to consider its liquidation. Thus, there was talk of an unusual ownership structure, since the stock in the bank remained in the hands of private shareholders, but the future of the bank and what it would become depended on the state. In terms of capital, the bank owned by the original shareholders had ceased to exist. In accounting terms, a “new bank” with a viable capital endowment would have to be erected on the remaining structure and organization.

Preparing the Enterprise for Privatization

The team charged with solving the problem had to concentrate chiefly on financial accounting to reconstruct an entity whose net worth position would enable it to be privatized. To solve the problem of BCH’s ownership, determining the real losses in assets and the real value of the portfolio was essential. The team worked with the Office of the Superintendent of Banks and the actual personnel of the bank.

The bank’s external auditors, Langton & Clarke (Coopers & Lybrand in Chile) also played a major role. Portfolio classification began in 1982 and ended in 1985. Once this task had ended, the next steps were to determine the amount of capital needed to create a viable bank, to establish a sale price (which meant deciding how much stock to issue and the appropriate price per share), and to design a sale strategy that would facilitate the speedy return of the bank to the private sector and simultaneously fulfill the state’s self-imposed goal of distributing ownership among the greatest possible number of shareholders.

Financial Position before Privatization and the Effect of the Solution⁶

The Net Worth Situation

By March 31, 1985, the bank’s losses had reached \$US 1.446 billion (approximately 23 percent of its total assets)—a situation that, under the regulations in force at the time, could not be acknowledged in the audits for another 10 years. Thus, they are only partially reflected in the financial statements on this date (Table 2.9). A total of \$US 527 million in assets remained, not deducted from the capital; thus, the net capital resulting from such losses was negative on several occasions.

⁶ The background presented below has been taken from Bank of Chile reports.

Table 2.9. Banco de Chile: Capital Formation and Liquidity, Proposed Solution
(Millions of December 1990 U.S. dollars)

Liquidity problem:	
Emergency loans in March 1985	588
Funds to repay them:	
Sale of portfolio in cash	348
Capital contribution	240
Total	588
Capital problem:	
Capital deficit in March 1985:	1,446
Net loss of provisions	30
Insufficient operating capital for debt (under 20:1)	
Total	1,476
Manner of replenishing capital deficit:	
Sale of portfolio with \$0 commercial value	1,046
Capital increase	240
Access to PDP (preferential dollar)	190
Total	1,476

Source: Banco de Chile.

The Liquidity Position

In addition to the capital problem, the deterioration in the portfolio created a serious liquidity problem that obliged the bank to recur to emergency loans from the Central Bank in the amount of \$US 588 million, generating a monthly financial cost of \$US 8-16 million.

In 1983 and 1984, the bank generated virtually no operating profits, owing to its high level of unproductive assets and lack of capital.

The only way to resolve the capital and resource deficit was through an infusion of fresh capital and long-term liabilities, with flexible grace periods for the payment of interest and principal. Law No. 18,401, which provided for capital formation through popular capitalism, together with agreement No. 1,555 of the Central Bank on the sale of the risk portfolio, offered the bank a possible solution.

Capital Formation and the Sale of the Portfolio

In April 1985, a capital increase of \$28.6 billion in June 1985 pesos (\$US 235.25 million in December 1990 dollars) was approved, through the issue of 11 billion shares with a face value of \$2.60 each (equivalent to \$US 0.02 in December 1990

dollars). With this capital infusion, the bank was in a position to sell its risk portfolio (whose commercial value was practically nil) to the Central Bank for \$US 1.023 billion—\$US 613 million in cash and \$US 410 million in letters of credit from the Central Bank (Table 2.9).

These resources enabled BCH to repay all of its emergency loans. This solved the liquidity problem and boosted the bank's profits, for there was a reduction in financial costs associated with these credits.

These operations made it possible to cover a net worth deficit that in early 1985 was estimated at \$US 1.597 billion and to create a viable bank (in auditing terms) for privatization, because the liability acquired by the bank as a result of the portfolio sale did not include the "subordinated debt" in the balance (only in the notes to the financial statement).

Additional Capital Formation

With the figures from the above analysis, the sale of the bank's stock commenced through popular capitalism. However, within a few months, after continuing the analysis of the bank's portfolio, the government realized that the problem was even graver and that even if the risk portfolio were sold for 2.5 times the capital, the bank would not be financially sound. They had begun to sell stock in an institution that would continue to be technically bankrupt.

To resolve this problem, the government was compelled to authorize a new sale of the portfolio in the amount of the bank's capital; thus, BCH managed to sell its portfolio to the Central Bank for a total of 3.5 times its capital. Because of this transaction, the stock sold in 1986 corresponded to a bank that was more financially solid than in 1985. The government therefore decided to raise the sale price by 16 percent.

The Development of the Privatization Strategy

The government's basic objectives in this second round of privatization were twofold: to consolidate once and for all an economic system founded on private ownership, with free enterprise the principal engine of development, and to disperse the ownership of the enterprises as widely as possible, enabling a high percentage of the population to become stockholders.

Composition of Shareholdings and Strategy for the Sale of the Stock

It was necessary to determine the composition of the stock to be issued, the preferential conditions to be granted to the new stock, and, most complicated of all, who would finance the purchase of the new stock issue (or how it would be financed) in compliance with the principle of diversification of ownership. Due

to the objectives established, the possibility of selling the bank to foreign investors was discarded because a diversification of ownership would not be achieved since the stock packages offered would have to be for a controlling interest.

“Popular capitalism” was the name for the mechanism designed to sell the stock. It consisted largely of granting subsidized credits and tax advantages to individuals interested in becoming popular capitalists, based on their previous tax payments.

Share of the Original Stockholders in the Ownership of the “New” Bank

Technically, those who had been stockholders before the takeover had no right to any share in the “new” bank. However, after lengthy negotiations between the state and representatives of a major group of the bank’s original stockholders, an agreement was reached.

Former stockholders were granted a 12 percent share of the bank’s capital, since, technically, a new bank was being established with the capital endowment but still using the name, the structure, and the physical assets of the old bank.

The Sale Strategy

At that time, given the recent negative experiences of enterprise stockholders, it was difficult to attract widespread participation by desirable buyers. However, it did not take long for the public to realize the benefits that would accrue from the implicit tax incentives; hence, some 50 percent of the stock was sold in late 1985.

Given that the selling prices were set constant in real terms, and that to receive the tax benefits associated with the purchase of these stocks in 1987, it was required only to buy before December 31, 1986, almost no stocks were sold between January and November 1986.

The situation changed dramatically the last two weeks of December, when it was decided to increase the selling price by 16 percent in real terms. The remaining 50 percent of stock was finally sold.

Thus, the privatization concluded successfully, meeting the government’s objectives to return the ownership and management of the bank to private hands and to disperse ownership among the greatest possible number of stockholders.

Worker Participation

Worker participation in the privatization process was an indirect objective of the authorities. While there was an interest in having workers acquire stock, no special direct benefits were offered in the case of BCH (in contrast to CAP or ENDESA, for example). This was because the active involvement of workers was not considered essential to the success of the process. Furthermore,

the incentives to buy stock were particularly strong for individuals who lived on their wages (because of the tax advantages). Thus, it was clear that bank employees would show an interest in buying, without the need for special benefits.

In practice, there was worker involvement. Some workers took an interest and purchased stock; however, their share was not large enough for them to assume an active role in the bank's management. In fact, during the first election of the board of directors, held in 1987, some groups of workers, through their own union organization, unsuccessfully tried to elect a director to represent their shares.

Fiscal Impact

The government's purpose in devising a formula for the privatization of this bank (and others in similar circumstances) was not to obtain higher revenues. Rather, it was to diversify ownership in a bank that had been made viable with public funds that clearly belonged to all taxpayers. A "just" way had to be found to return to the taxpayers something that was rightfully theirs. This was the justification for popular capitalism, in which stock in the bank was sold on credit under very advantageous conditions.

Results

The tax benefit to each stockholder varied according to the marginal (progressive) income tax rate to which he was subject. To include the effect of the tax advantage in the calculation of fiscal impact, the authorities sought a tax rate whose tax benefit would make the present value of the implicit subsidy equal to zero in order to compare it with what can reasonably be considered an average tax rate for the particular case of the bank's stockholders. The rate that satisfied these conditions was 9.14 percent. That is, any investor who bought stock in the bank and who, for income tax purposes, was subject to a marginal rate equal to or greater than 9.14 percent received a subsidy.

Due to the nature of the tax benefits, the economic value of the investment for each stockholder was tremendously sensitive to the rate at which he was taxed. The results in Table 2.8 were derived with a 15 percent rate for the stockholder. The overall effect of this privatization was to subsidize the investment in stock at a rate of 41.1 percent of the estimated price (the economic value of the shares sold) for shares sold in 1985 and 67.9 percent for those sold in 1986.

The authorities were also looking for a tax rate that would make the implicit subsidy equal to or greater than the total value of the shares sold. Using a sensitivity model, this rate was determined to be approximately 17.33 percent.

The results with respect to subsidies may seem unfair or a mistake. However, only those who had paid taxes in the two previous years were eligible for the subsidy and then, only in proportion to the sums they actually had paid. That

is, this was not an indiscriminate benefit, but a refund to taxpayers whose contribution had financed the rehabilitation of the financial system.

Results of Popular Capitalism

On December 31, 1986, the second round of privatizations ended, having achieved the government's two objectives: to return the ownership and management of this bank to private investors and to distribute ownership among the greatest possible number of shareholders (over 39,000 individuals and corporate entities were now the new owners of this institution, thanks to popular capitalism). As a result, the groundwork had been laid for rehabilitating of the financial system. The bank's provisional administration proceeded to call a stockholders' meeting, intended to elect a board of directors and return the institution to its normal operations as a private entity.

The financial performance of the bank in these past years has been extremely good from the standpoint of the popular capitalists since to date the annual dividends and the tax advantages from their investment have more than enabled them to make their payments to CORFO for the debt incurred to purchase the stock.

Profits from the enterprise have been especially high (25.5 percent in 1989), permitting the distribution of dividends greater than the amount of the loan payments to CORFO.

BCH has maintained its market leadership (surpassed in some types of operations only by the State Bank). Its share of the securities market fell from 16.12 percent in 1987 to 12.03 percent in 1990, while its percentage of deposits and revenues rose from 17.55 percent in 1987 to 19.64 percent in 1990. Its closest private competitor has been the Bank of Santiago (also privatized via popular capitalism), which had a 9 percent share of the securities market and 13.85 percent share of deposits and revenues in 1990. The number of current accounts per employee rose from 16 in 1987 to 21 in 1990, while the number of accounts per branch office increased from 505 to 638 for the same period.

The bank has also made an effort to keep itself technologically in the vanguard. In recent years, it has built an extensive network of electronic equipment to consult balances, together with automatic teller machines that form part of Redbanc. The information provided to the client also has improved, which represents a major advance in the development of information systems.

Although the signs up to 1990 generally indicate a major improvement in the bank's performance after the privatization, two worrisome aspects should not be overlooked. The first is the problem of the subordinated debt mentioned earlier, which the bank was able only to bring down from \$US 1.442 billion in 1987 to \$US 1.243 billion in 1990—this despite outstanding economic results in those years that will be hard to duplicate. The second is the fierce competition in the banking industry today, coupled with a rather intense process of financial disintermediation

among the country's main enterprises (which today access the capital markets directly without the need to recur to the banks). This leads to some concern about the future. In any case, the situation facing BCH today is natural and proper to any private enterprise operating in a competitive market and is thus independent of how the privatization was carried out or its consequences.

Compañía de Acero del Pacífico: Labor Capitalism in the Iron and Steel Sector

Background

Compañía de Acero del Pacífico (CAP), a 99.6 percent state enterprise in the steel sector with a history of private sector participation, was reprivatized during the second round of privatizations in Chile (1985–89).

Founded as the parent company under the name of Compañía de Acero del Pacífico S.A. de Inversiones, CAP had six subsidiaries connected with iron and steel activities and mining in late 1984—in the production, supply, or marketing of iron and steel products—and employed 6,630 people.

The capacity of the plant at Huachipato in 1984 was 600,000 tons of finished steel products per year, and it produced 100 percent of the country's steel. In that year, CAP held an 85 percent share of Chile's steel market, with 5 percent corresponding to other Chilean steel mills and the remaining 10 percent to imports. While production was oriented almost totally toward the domestic market, 19 percent of steel shipments were exported to Ecuador, Peru, the United States, and the Central American countries. Sales in 1984 were \$US 237.5 million.

Compañía Minera del Pacífico, the second of CAP's major subsidiaries, produced iron ore and pellets. In 1984, 83 percent of its output was iron ore destined for the external markets. Pellets, however, were sold exclusively to Japan.

In December 1984, 96.77 percent of the stock in the company was owned by the public sector, the bulk of it in the hands of CORFO. Some 3.23 percent of the company's capital stock was distributed among 3,580 private stockholders.

The Privatization Process

The reasons for privatizing CAP were no different from those used to justify the other privatizations: to diversify ownership, finance the fiscal deficit, stimulate worker participation, etc. However, there were also special circumstances involved. CAP needed to invest in order to refurbish the iron and steel processing and mining areas and keep them competitive, but the government's priorities involved postponing this investment. Thus, it became increasingly appropriate to privatize the company. In 1980, CORFO communicated to CAP the government's

Table 2.10. CAP Performance, 1979–89: Financial Ratios

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Investment/capital	3.7	2.2	1.9	1.1	0.6	1.8	1.4	1.4	1.4	18.6	29.6
Debt/investment	11.9	3.8	17.8	6.7	6.1	9.3	18.3	0.0	0.0	0.3	0.9
Total debt/capital	0.9	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.7	0.5	0.7
Long-term debt/capital	0.7	0.6	0.7	0.7	0.6	0.6	0.7	0.7	0.6	0.2	0.4
Current liabilities/current assets	0.8	0.6	0.6	0.8	0.9	0.6	0.3	0.5	0.6	1.0	0.9
Profits/capital	0.2	3.8	-6.5	-9.6	0.7	0.9	1.3	2.3	4.6	8.8	10.6
Op. profits/capital	4.2	5.4	0.0	-1.8	6.1	7.5	7.4	8.5	8.5	17.0	17.0
Taxes paid/gross profits	0.0	3.7	0.0	0.0	0.0	14.3	44.1	21.9	9.3	13.2	5.2
Number of personnel	9321	9049	7944	6961	n.a.	6630	6656	6767	6923	9403	n.a.

Source: CAP Annual Report.

decision to begin privatizing part of the company—a process that actually got under way in late 1984, concluding in July 1987 with 100 percent of the ownership of the enterprise in private hands.

Preparatory Measures

No specific measures were adopted, but some steps taken with other ends in mind facilitated the privatization process. First, the self-financing and other regulations applicable to all public enterprises as of 1974 stimulated a process that up to 1985 would boost CAP's administrative and financial efficiency; this considerably enhanced the company's performance, in addition to producing major cut-backs in personnel (Table 2.10). Second, due to these earlier measures, a certain financial reorganization was indirectly imposed on all enterprises with external debt through an exchange rate subsidy that lasted until 1986. Finally, an internal restructuring of the enterprise was carried out to divide company activities effectively through the creation of subsidiaries; this would facilitate a goal-oriented administration with independent auditing facilities⁷ and the sale of divisions connected with areas of business in which the company would no longer operate. In late 1982, the executives of the boards of directors were replaced by individuals from outside the administration.

The decision to privatize CAP was not lacking in opponents—especially workers because of their ignorance of the stock market, their fear of assuming the dual role of employees and stockholders, previous bad experiences as stockholders, and the politicization of the process.

⁷ It should be mentioned that one of the elements considered in the creation of the subsidiaries was the fact that the bulk of CAP operations were located in different parts of the country.

In January 1980, the Chase Manhattan Bank issued an Offering Memorandum that contained a bid of \$US 0.27 per share, estimated on the basis of transactions on the stock exchange and forecasts of 1985–94 company performance.

The Sale Process

Mechanisms common to the majority of the privatizations were used, such as the sale of stock to workers, sales on the Stock Exchange, and competitive bidding. In contrast to other enterprises, however, the public sector reduced its shareholdings by resorting to the legal mechanism of capital reduction.

The privatization was carried out in several stages. A capital increase, approved in April 1980 and equal to 40.4 percent of the stock issued, did not bear fruit. In 1984, another increase aimed at keeping just 51 percent of the ownership in public sector hands suffered the same fate; one year later, only 10 percent of the shares issued had been sold—90 percent of which had been acquired by company workers—through the personal credit system. The lack of interest stemmed from the low profits of the CAP enterprises, the bad rating of the stock by the Office of the Superintendent of AFPs, the attractiveness of financial securities, worldwide conditions in the steel industry, the workers' resistance to the privatization process, and the politicization of the process.

Capital Reduction

In light of the difficulties encountered in increasing capital and transferring stock in public hands, and in order to reduce the fiscal deficit, CORFO decided that the privatization process would be facilitated by a capital reduction through the acquisition of stock of the enterprise itself. The public was notified through the press. The stockholders' board agreed to reduce the capital by \$US 102.4 million by having the company purchase 320 million shares of its own stock at \$US 0.32 a share.⁸ The option was offered to all stockholders, who had 30 days from the publication of the notice to exercise it. CORFO exercised the option, selling 288.5 million shares worth \$US 92.4 million in two stages. No other stockholders followed suit. CORFO thus reduced its shareholdings to 51 percent, leaving 22 percent in the hands of workers and the remaining 27 percent in the hands of the public at large.

⁸ According to the established norms, this price was adopted because it was the weighted average of the stock transactions for the two months before the stockholders' meeting. It is important to note that the price set for the capital transaction (\$US 0.32) in nominal terms, was equivalent to \$US 0.25 and equal to the price established for the stock issues of 1980 and 1984.

Table 2.11. The Privatization of CAP, 1984–90
(To December of each year)

	1984	1985	1986	1987	1988	1989	1990
Percent of shares in private sector hands	3.2	10.7	51.9	100	100	100	100

Source: CAP Annual Report, 1984–90.

Table 2.12. Annual Summary of CAP Stock Sales, 1986–87

	1986	1987	Total
Number of shares sold	4,500,235.00	84,518,852.00	89,019,087.00
Percent sold	3.01	56.55	59.56
Estimated price (\$US)	2,825,744.10	65,635,734.40	68,461,478.50
Actual price (\$US)	2,315,905.70	46,453,811.30	48,769,717.00
Implicit subsidy (\$US)	509,838.40	19,181,923.10	19,691,761.50
Implicit subsidy (%)	18.04	29.22	28.76

Source: CORFO Office of Normalization.

Fifty-one percent of CAP—property of CORFO—was then sold to the company's 1,842 workers through the stock exchange. Thus concluded the privatization of CAP in 1987, with 100 percent of the ownership in private hands (Table 2.11).

It is interesting that one share of CAP, whose price had been set at \$US 0.25 (1980) at the beginning of the privatization process, was ultimately traded by CORFO to the private sector for \$US 0.53 (1987).

Fiscal Impact

The fiscal resources linked with CAP's privatization depend basically (but not exclusively) on the difference between the actual price and the estimated, or *ex ante*, value of the stock packages. The prices paid for the stock were 28.7 percent below the estimated price (Table 2.12). Sales to workers showed the highest implicit subsidies. Thus, the state should have suffered a long-term capital loss. However, fiscal resources increased substantially from the sale of CAP since from 1987 to 1990 the state received an average of \$US 19.1 million annually from the taxes and revenues deriving from the sale of CORFO-held stock, compared to \$US 7 million from 1980 to 1986 from the taxes and dividends paid by CAP. In the short term, therefore, fiscal resources, expressed as annual income flows, increased.

Impact on the Capital Market

Worker Participation

In August 1985, the personnel loan system was established, enabling workers to acquire shares from the November 1984 stock issue. These loans were granted interest-free by the company, which involved a subsidy for the purchase of stock in the enterprise. Despite their initial opposition, it was ultimately the workers who supported the privatization process since in September 1985 they acquired 90 percent of the shares from the stock issue of 1984. This loan system is still in force. In late 1987 when CAP became 100 percent privatized, company personnel came to own nearly 34 percent of the stock, far surpassing the share of the largest individual stockholder with an 8.89 percent share (Table 2.13). In 1990, the workers' share fell to 28.84 percent; however, that same year, the number of workers who owned stock rose to 6,079.

The sale of stock to workers has enabled them to participate in the management of the company through their elected directors.⁹ The benefits that they have obtained, the product of capital gains and stock dividends, have been considerable and are among the highest of all the privatized enterprises. In 1990, workers received their 12 monthly salaries, plus the equivalent of 3.8 additional salaries from dividends.

New Shareholding Structure

The privatization has contributed to the development of the capital market. The number of investors rose from 9,000 in 1987 to 12,185 in 1990, while the volume traded on the stock exchange increased from 0.03 percent of the total traded in 1984 to 0.6 percent in 1990. Moreover, the privatization of CAP attracted institutional investors—in particular, several AFPs.

In December 1990, company stock was distributed as follows: 63.22 percent among corporate entities; 28.24 percent among the personnel of the CAP enterprises; and 7.94 percent among other private investors (Table 2.4). CAP's largest stockholder owns 29.5 percent of the company, a figure currently surpassed by the workers' share.

One of the interesting morals of this privatization undoubtedly is that the combination of low profits before privatization and an unstable macroeconomic framework constitute a more significant obstacle to privatization than an underdeveloped capital market—whatever the mode of privatization employed.

⁹ Workers are currently represented on the board of directors by three of the nine board members.

Table 2.13. Distribution of CAP's Capital Stock, 1987-90
(To the end of December of each year)

Stockholders	1987			1988			1989			1990		
	Stocks Thousands	%	No. of Stock- holders	Stocks Thousands	%	No. of Stock- holders	Stocks Thousands	%	No. of Stock- holders	Stocks Thousands	%	No. of Stock- holders
Corporate entities	70,968	47.5	220	80,507	53.9	188	89,568	59.9	216	94,492	63.22	239
CAP personnel	50,263	33.6	3,084	53,810	36.0	4,296	46,203	30.9	4,743	43,114	28.84	6,079
Other private citizens	28,217	18.9	5,696	15,131	10.1	4,847	13,677	9.2	4,945	11,842	7.94	5,867
Total	149,448	100.0	9,000	149,448	100.0	9,961	149,448	100.0	9,904	149,448	100.00	12,185

Source: CAP S.A. de Inversiones, Annual Report, 1987-90.

Table 2.14. Exports of Cellulose, Paper, and Derivatives
(Millions of December 1990 U.S. dollars)

1970	31.5
1976	112.3
1977	132.0
1978	157.0
1979	236.0
1980	297.0

Source: Celulosa Arauco y Constitución.

Impact on Efficiency

Openness to foreign trade is the most effective tool for controlling monopolies in the production of tradable goods and stimulating the rapid adoption of new technologies.

CAP has been subject to external competition since 1974, when the policy of openness began, and has received no special assistance even when dumping has occurred. These circumstances and the sluggish world market have obliged it to invest in new technologies to lower production costs and improve quality. At the same time, the company has decreased its external indebtedness through debt conversion. In this way, CAP began to reduce its long-term debt of \$US 682.5 million in 1985, paying it off in 1989. The repurchase of the debt is reflected in a substantial increase in the company's nonoperating balances. CAP's debt has risen substantially lately because of larger investments.

The profitability of company stock began to rise considerably in 1986, and although it fell in 1990, the level attained was higher than it was when CAP was a state enterprise (Table 2.14). The operating margin (operating profits and mining revenues) also increased significantly after the privatization (Table 2.14). In fact, in its entire history, CAP had never before produced such a favorable balance.

Steel output per man-hour rose from 1982 on. Labor productivity continued to grow during the years when CAP moved into the private sector because of the investments made (Table 2.10), the modernization of the coke and steel mill, and the positive work environment. Moreover, the workers' new role as stockholders and their participation in the decisions of the Board of Directors led to quite acceptable labor-management relations, which translated into higher levels of productivity.

As a result, the production cost of steel per ton began to fall in 1982, a trend that persisted after the privatization. However, the cost reductions since 1988 have been not been sufficient to eliminate external competition or counteract the aggressive trade policies of Argentina and Brazil.

The privatization of CAP enabled the company to launch an extensive investment plan. This could not have been accomplished had the company remained a state enterprise, given the resource constraints on such firms and the government's priorities. As a direct result of the new investments, production rose, costs fell, and both the financial and operating indicators reflected the positive effect on efficiency.

Diversification

Although the decision to modify company objectives was made before privatization, there was a shift in the policy orientations of the firm as a result of the transfer to private hands. In particular, the policy to diversify company activities was continued after the privatization of CAP was complete. Thus, in late 1990, the CAP holding company was comprised of 20 enterprises pertaining to separate business areas: the Pension Fund Administration, real estate and construction, timber and agricultural activities directed mainly toward exports, and mining and trade. This strategy is especially lucrative in countries like Chile where the capital market is relatively undeveloped. In any case, the CAP diversification strategy launched after mid-1987 was profitable since the bulk of the conglomerate's new business activities prospered from 1986 to 1990.¹⁰

Finally, privatization was not accompanied by a surge in prices or a deterioration in quality; just the opposite occurred because of the intense competition.

Celulosa Arauco y Constitución S.A. (CAYC): A Company Privatized and Sold to a Single Buyer

Introduction

Celulosa Arauco y Constitución is the parent company of a group of industrial and timber enterprises. Its main objective is the production of long-fibered cellulose, the raw material in the manufacture of a wide variety of paper and cardboard. The company directs its activities primarily toward the external market.

Celulosa Arauco y Constitución operates in a highly competitive market and at present, is in the hands of a single owner. Founded and developed by CORFO and privatized during the first round, the company is the product of the merger of two enterprises (Celulosa Arauco S.A. and Celulosa Constitución S.A.) that were privatized through two separate auctions in different years. Celulosa Arauco was privatized in 1976, and Celulosa Constitución (CELCO), in 1979. In both cases,

¹⁰ Hachette and Lüders, 1991.

Table 2.15. Celulosa Arauco y Constitución: Structure of Ownership before Privatization

	Arauco Cellulose S.A. (shares)	Arauco Forestry Enterprises Ltd. (rights) %	Cellulose Composition (shares)
CORFO	29,368,342	99.65	79,291,824
ENACAR*	738,491	—	—
F.P. de Valdivia	—	0.35	—
Total	30,106,833	100.00	79,291,824

* Empresa Nacional del Carbón (National Coal Enterprise).

the companies were awarded to the same bidder, the Compañía de Petróleos de Chile, S.A. (COPEC).

This is a relatively simple case, since the privatization employed competitive bidding on a controlling share of the stock, and the sale took place under political and economic circumstances in which the privatization decisions of the authorities faced little opposition.

The Importance of the Industry Before the Privatization

In the early 1970s, Chile's timber industry played but a secondary role in the nation's economy, since the country's main productive activity in those days was mining. Exports of paper, cellulose, and derivatives were just \$US 31.5 million in 1970.

Exports of industrial timber products grew strongly in the 1970s. This trend became more pronounced from 1978 to 1980, reflecting the tremendous energy of the sector during the years of the privatizations (Table 2.14). The expansion of the sector during this time is the result of the economic policy adopted in late 1973: the liberalization of the markets, the gradual opening to external trade, the growth of the financial market, and in 1977, the incorporation of Celulosa Arauco as a private enterprise.

Structure of Ownership at the Time of Privatization

At the time of privatization, the majority share of companies that would give rise to what is now CAYC was owned by CORFO directly or indirectly through CORFO subsidiaries (Table 2.15).

Thus, when Celulosa Arauco and Empresa Forestal Ltda. were transferred to COPEC, they were largely owned directly by CORFO and indirectly through ENACAR and Forestal Pedro de Valdivia. The formal sale of these companies took place on September 9, 1977, while that of Celulosa Constitución was held August 10, 1979.

These privatizations formed part of the grand privatization scheme launched by the military government shortly after seizing power in 1973. They took place during the first round of privatizations, which was intended to rid the state of enterprises deemed burdensome, or at least dispensable, since they pertained to sectors where the private sector was believed to operate more efficiently.

Regulatory Regime before the Privatization

Unlike other sectors, the regulatory regime that governed the timber industry had no distinguishing characteristics but fit within the overall context of the economic laws and regulations of the time. The sector was subject to the general rules of the game for all economic activities: free competition, openness to external trade, openness to the external financial markets, and a subsidiary role for the state.

Thus, there was no special regulatory regime for this sector before the privatization of the enterprises.

The Privatization Process

The preparations for the privatization of the companies analyzed were minimal, except in the case of CELCO, which was financially rehabilitated to make the enterprise more attractive: It should be pointed out, however, that the rehabilitation took place only once the privatization process was under way and after the call for international bids had been published in the press. The lack of interest in CELCO by investors is what led to these preparatory measures.

The authorities were more concerned with passing economic legislation that would enable private enterprises to survive in competitive markets with freed prices than with taking preparatory steps in each particular enterprise. Furthermore, since the financial position of Celulosa Arauco and Forestal Arauco Ltda. was good, these firms required no special preparation. It should be borne in mind, however, that the September 1973 military action that installed Augusto Pinochet as president had led to personnel cutbacks in public enterprises, causing the abrogation of many labor contracts. It was thus unnecessary to undertake such measures just before the privatizations.

Financial Reorganization for the Privatization

As in other state enterprises, policies to boost efficiency were adopted in Celulosa Arauco and Forestal Arauco Ltda., entailing a more rational administration of company resources. Therefore, some degree of preparation did take place, albeit not with the specific objective of privatization.

In CELCO, apart from the general measures just described, CORFO decided to make a series of financial adjustments related to the handling of the

company's liabilities. These steps were taken three months after the international call for bidding in order to make the company more attractive to the eventual investors.

The privatization of these enterprises totally excluded workers from participating in these processes. There was no reassignment of personnel to new tasks, nor were workers given the opportunity to voice their opinion of the privatizations.

Sale Process and Price

Since Celulosa Arauco and Celulosa Constitución were private corporations, their stock was not traded on the stock exchange. This impeded the use of the secondary market in determining the price per share. This was also true for Empresa Forestal Arauco. Thus, the valuations of the enterprises were made by the investors themselves and by CORFO.

The privatization of these firms consisted of the direct sale of all company stock and rights after the call for bids issued by CORFO was cancelled.

The sale also proved to be a way of developing the sector and ensuring the property rights to the land. The original plan was to sell these firms to foreign investors, whom the government encouraged to participate in the bidding and who also were invited to tour company installations and forests in Chile.

The mechanism employed in the sale of the enterprises was an international public offering that transferred the total capital of the firms.

Call for Bids and Sale of Celulosa Arauco and Empresa Forestal Arauco

In August 1976, the Office of the Executive Vice-President of CORFO issued a call for public bids on 30,106,883 shares of Industrias Celulosa Arauco, 29,368,342 of which belonged to CORFO and 738,491 to ENACAR. At the same time, the Office of the Executive Vice-President put CORFO's total rights in Empresa Forestal Arauco (representing 99.65 percent of its capital) up for sale. On November 19, 1976, CORFO cancelled the offering after the single bid presented was determined not to be in the company's best interest. This \$US 60 million bid was made jointly by the Cruzat-Larrain investment group (COPEC's controlling company at the time) and the Angelini group (the current controlling company). Angelini withdrew from the process after CORFO requested a better offer. CORFO finally negotiated the sale of the two enterprises directly with COPEC, passing all shares and rights to this group.

Call for Bids and Sale of Celulosa Constitución

In December 1977, a public call for bids was issued for the sale of Celulosa Constitución. The process was declared void after no interested parties material-

ized. On January 31, 1979, a new call for bids went out on all of the company's stock.

On July 2, 1970, CORFO declared the second offering void, alleging that the bids did not meet the requirements or were not in the enterprise's best interests. The situation was later resolved on July 6, when all company stock was transferred directly to the private sector at a price of not less than \$US 58 million. On August 10, 1979, CORFO's 79,291,800 shares in Cellulose Composition were sold to COPEC for \$US 58 million, \$US 15 million of which would be paid in cash and the balance in eight annual installments. To back the credit, CORFO demanded guarantees valued at \$US 61,847,258, representing 142.2 percent of the total balance of the \$US 43.5 million debt.

These sales generally were transparent since all the sales were conducted through a public offering in which each potential investor had the necessary and relevant information to enable him to participate.

Once the sale of CELCO to COPEC had gone through, COPEC proceeded to merge the two timber companies. Thus, Celulosa Constitución absorbed Industrias de Celulosa Arauco, forming what is today known as CAYC. This merger enabled the first enterprise acquired to deduct CELCO's cumulative tax losses of \$US 48.7 million from the income reported in its subsequent tax returns. The merger left COPEC with 99.9 percent of the stock in CAYC.

Complementary Policies

No special complementary measures accompanied the privatization of these enterprises. As noted in earlier sections, the worldwide economic system was responsible for the modifications to make the companies more efficient and competitive. Therefore, it should be pointed out that while some of these complementary policies fostered competition in the timber sector, they were not adopted strictly for the purpose of privatization but to ensure a more efficient economic system. However, the timber companies have benefited from a substantial subsidy for planting, which has made forestry and cellulose production more attractive. This subsidy existed before the privatization.

In view of the conditions of competitiveness and openness to external trade under which these companies operated, prices and quality were both determined by the market. A product of poor quality would have no place in the international markets; its sales would therefore decline, resulting in a loss of competitiveness.

Investment programs expanded substantially after the privatization—especially in the areas of reforestation and the purchase of new forests, where CAYC launched a vast investment program. This would ensure its access to raw materials for the manufacture of cellulose and enable it to carry out its plans for expansion fully, capturing new markets in line with the company's new direction. These investment programs were not part of the sale agreement when the firm was

transferred to the private sector but the result of a policy change instituted by the new owners.

One interesting aspect of eliminating barriers to international trade that benefited the company was the lifting of the ban on exports of timber products with a low value added. Thus, exports of logs and wood chips were permitted, presenting the enterprise with new business opportunities. This same measure, however, involved a rise in the cost of raw materials for the production of cellulose and, hence, a reduction in the effective protection (and profitability) of the product.

Compañía de Teléfonos de Chile S.A. (CTC): An Example with International Bidding

Background

The privatization of Compañía de Teléfonos de Chile (CTC) is interesting because it is the largest enterprise of its kind in Chile, and several relevant aspects converge in its privatization. CTC was founded with foreign capital and nationalized in the late 1960s. It was auctioned during the second round of privatization (1985–89) through an international offering of a package of controlling stock. This transaction committed the buyer to making \$US 200 million in new investments. The bid was awarded to Australian investor Alan Bond. At the same time, small stock packages were offered on the Santiago Stock Exchange. After several years, owing to the financial difficulties of the Australian group, Bond decided to sell his interest in CTC to the Spanish state enterprise, Empresa Telefónica de España. It should be noted that, given the dearth of competition in the telecommunications sector, CTC is governed by a series of regulations. Because of its economic success, after its privatization CTC was the first Chilean company to have its stock traded on the New York Stock Exchange.

CTC controls approximately 95 percent of all telephone lines in Chile. It provides services and markets terminals to meet the telecommunications needs of business, institutions, professionals, and the community at large in both the urban and rural sectors of its concession areas. The company provides local and national and international long distance telephone service through its own and third party networks. Through its subsidiary, CTC Celular, it provides portable cellular phone service in the main areas of region five and the metropolitan region, where roughly 50 percent of the country's population resides.

Current cellular phone service regulations limit the number of concession holders to two per zone. CTC owns the concessions for region five and the metropolitan region (approximately 90 percent of subscribers), with the rest corresponding to its competitor, CIDCOM.

As for private telephone service and equipment sales (switchboards, fax, and others), several national and international companies compete for business.¹¹

Financial and Operational Information about the Enterprise

In 1990, the company generated a profit of \$US 91.9 million, which signifies stock profits of 14.8 percent and a profit of \$US 0.12 per share. That year, dividends of \$US 0.121 were paid per share. On December 31, 1990, the company's underwritten capital was 853,497,325 shares, 840,142,838 of which had been paid for. Company personnel in December 1990 totaled 7,530 (without taking into account the employees of subsidiaries—324 in all).

Structure of Ownership before the Privatization

On December 31, 1986, CTC shares were broken down into two series, A and B. Series A corresponded to the shares originally owned by CORFO, and Series B, to shares owned by individuals and traded on the stock exchange. Owners of Series A shares (92.15 percent of the total stock) had the right to elect six of the seven members of the Board of Directors, and Series B stockholders elected the remaining member.

The Privatization Process

The company was privatized during the second half of the 1980s. CTC's privatization must be understood within the context of the grand privatization scheme for the country, and the reasons for it did not differ radically from those used to justify the privatization of other state enterprises: to boost the efficiency of these firms, disperse ownership among a large number of stockholders, and promote greater economic development through the more efficient allocation of resources. In the case of CTC, there was the added reason that the nation's economic development and growth demanded a complete and modern telecommunications structure that would require an investment in excess of \$US 1 billion to meet unsatisfied demand and handle the growth in demand and the explosive development of telecommunications technology. Specifically, it was estimated that during the 1989–95 period, 807,760 lines would have to be installed, which meant increasing the existing number by 550,000. To accomplish this, it was imperative to obtain financing through capital contributions or incur debt through investors with long-term objectives.

¹¹ All figures are expressed in December 1990 dollars, unless otherwise indicated.

Efficiency Indicators before the Privatization

Table 2.16 shows the trajectory of CTC's efficiency indicators, calculated for the 1982–90 period, which covers the years before the privatization (1982–87) and the company's first three years in private hands. There are two types of indicators, financial and operating, and monetary figures are expressed in December 1990 U.S. dollars.

All of the indicators show a positive trajectory once the privatization of the enterprise has been completed. This holds true for both the financial and the operating indicators—usually with a break in the trend at the time of privatization. These indicators, as well as the changes in the company after privatization, will be analyzed in greater depth in the fourth part of this section.

Regulatory Regime before the Privatization

The regulations that governed the telecommunications sector up to 1982 were contained in Executive Order No. 4 (DFL4) of July 1959.

Law No. 18,168 of 1982, which appears still not to have considered the possibility of privatizing CTC, eliminated all discrimination among domestic and foreign enterprises.

It also eliminated monopolies, which by law were turned over to the state in this sector. This piece of legislation promoted the liberalization of the market and allowed prices and rates to be freely determined by providers. It did establish a system to eliminate monopoly systems and other distortions, however, by setting a ceiling on rates. The law guaranteed free access to the telecommunications market but obliged concessionholders of public telecommunications services to establish and accept interconnections.

DFL No. 1 (1987), which created favorable conditions for the future privatization of CTC, established the compulsory nature of the service, the methodology for rate setting, and the government's right to exact reimbursable financial contributions for the services subject to regulation. The methodology for rate setting gradually eliminated—and will continue to eliminate—cross-subsidies.

Preparation for the Privatization

The preparation of CTC for privatization was carried out along with the changes in the country's general economic (labor, finance, currency, corporate, etc.) laws and in those specific to the telecommunications sector. In particular, the setting of rates at "the marginal cost" and the decision to require self-financing of public enterprises enabled CTC to face privatization in an economically and financially sound condition.

Table 2.16. CTC Efficiency Indicators, 1982–90
(December 1990 U.S. dollars)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Profits/capital	-15.10	11.90	9.20	-8.40	14.40	10.00	12.30	17.20	12.40
Oper. profits/capital	8.40	10.60	13.20	21.20	18.60	18.30	16.30	20.70	16.30
Long-term debt/capital	63.10	49.30	44.10	41.40	47.30	48.20	37.40	41.30	56.30
Operating yield	5.40	7.80	10.00	14.30	12.50	12.70	17.80	20.70	14.30
Exploitation margin	18.80	24.60	30.50	38.10	34.40	34.00	40.30	42.70	36.10
Personnel/1,000 lines	15.70	15.90	14.50	13.50	13.40	13.10	12.40	11.40	9.30
Personnel/1,000 telephones	10.80	10.50	10.20	9.50	9.40	9.50	9.00	6.80	6.90
No of employees	6227	6338	6635	6629	6938	7240	7366	7366	7530
Investment/capital			13.70	14.10	16.60	16.50	19.60	37.20	24.20
Profits/share				-0.12	0.20	0.10	0.12	0.27	0.21
Indicators per line									
Operating revenues	304.82	311.23	317.80	319.06	328.41	344.97	398.36	415.18	448.21
Urban service	166.37	178.14	190.57	204.86	200.52	208.80	248.45	270.57	286.64
Long distance	122.28	121.67	116.07	103.64	116.73	123.95	137.13	127.99	140.01
Other services	16.16	12.43	11.16	10.56	11.16	12.22	12.78	16.62	21.57
Operating expenditures	271.94	263.20	247.69	228.45	232.74	244.36	285.68	281.74	299.36
Remunerations	129.76	105.51	106.17	95.61	103.04	110.56	116.07	125.36	144.15
Depreciation	67.68	85.06	64.55	60.21	62.68	64.55	74.20	82.38	93.09
Other expenditures	74.50	72.63	76.97	72.63	67.02	69.25	95.41	73.99	62.28
Operating balance	32.88	49.04	70.11	90.61	95.66	100.61	112.68	133.44	148.85
Cost per line installed				130.15	124.92	118.58	115.31	110.22	

Source: CTC.

Similarly, CTC's statutes were modified in 1987 to permit access to one of the major sources of domestic financing, the pension funds administered by the AFPs, through capital contributions. To gain access to this source, the current stock and new issues of CTC stock were certified by the Commission on Risk of the Office of the Superintendent of AFPs.

The company also signed a diversification agreement with CORFO, its majority stockholder, to reduce that agency's share in the enterprise by 30 percent within a space of not more than five years. In the financial sphere, moreover, transactions were conducted under the regulations governing the purchase of external debt notes. This enabled CTC to obtain major benefits when it bought back the notes with capital gains (reduction of the original debt)—with the external debt notes valued at between 60 percent and 70 percent of the value of the notes traded. In addition, in 1987, the company converted the \$US 64.9 million debt in foreign currency to debt in national currency to lower the currency and interest rate risk.

Worker Participation

As expected, workers and their union organizations did not welcome the announcements of CTC's privatization, because it would translate into mass layoffs and because of the strategic nature of the enterprise.

This initial union resistance was largely softened by CTC's offer to exchange shares in the enterprise for part of the provisions to compensate workers for their years of service (IPAS).

The Privatization Process, Sale Mechanism, and Price

The privatization of CTC provided for several modes of property transfer. Principal among them was the public offering of a stock package, coupled with a stipulation that the successful bidder effect a capital increase that would lead to its control of approximately 45 percent of CTC. The methods of transfer were:

- Sale to Pension Fund Administrators (AFPs): By late 1987, through this system (which obliged CORFO to give up its absolute control of CTC), the agency had sold over 31 million shares of company stock for \$US 25 million.
- Sale to workers (labor capitalism): On December 31, 1987, this method of transferring stock—made possible by a modification in the labor laws of 1985—was offered to 4,539 workers, who purchased 32,598,990 shares. Public employees likewise could opt for shares in the company, using the fund established for their compensation for years of service.
- Stock exchange: Another mode of privatization was to offer company stock on the Santiago Stock Exchange. By December 1987, almost 15.4 percent of the total stock in CTC had been sold. This process continued in 1988.
- Capital increases: An additional method used by CTC to secure capital increases was the system of reimbursable contributions. While this system is not very important in terms of the number of shares involved, it is nevertheless of interest. DFL No.1 (1987), mentioned earlier, authorizes the company to exact financial contributions from applicants for telephone lines, to contribute to the total or partial financing of the investment in these new lines. Such contributions may be reimbursed with stock or bonds.

Sale of Compañía de Teléfonos de Chile

In August 1987, CORFO issued an international call for bids on 151 million shares of the company—that is, 30 percent of the authorized capital (Table 2.17).

Table 2.17. Public Offering of Shares in CTC

	Bond Corp.	Telephone Co.	Communications Chile
Purchase of a 30% stock package			
• Shares	151 mill.	152 mill.	151 mill.
• Price per share (Dec. 1990 US\$)	0.91	0.96	0.81
Capital Increase			
• Shares ¹	355 mill.	243 mill.	243 mill.
• Price per share (Dec. 1990 US\$)	0.91	0.81	0.88
Date of payment	Nov.–Dec. 1988	Apr. 88: 10% Apr. 89: 15% Apr. 90: 25% Apr. 91: 59%	From 1988 to 1991 Equal payments
Financing	DL 600 for the total ³	DL 600 for \$US 30 mill. Chap. 19 for the rest ⁴	Chap. 19 and capitalization of profits ⁴
Average price per share (Dec. 1990 U.S. dollars) ²	0.88	0.82	0.75
Total offer (Dec. 1990 U.S. dollars)	322 mill.	255 mill.	250 mill.

Source: CORFO.

¹ Capital increase agreed to upon award.

² Laws that regulate the entry of fresh capital into the country.

³ Chapter 19 of the Compendium of Changes of the Central Bank is a mechanism whereby Chilean external debt notes that are repurchased outside the country are accepted at their face value.

⁴ Current value in December 1987.

All individuals or corporate entities, both domestic and foreign, that had qualified could apply. The reference price of the package of 151 million shares was set at \$US 102 million, or UF 6,202,900 (the equivalent of \$US 130.9 million in December 1990 dollars), corresponding to the valuation of the enterprise. A special clause in the call for bids required the successful bidder to commit to a subsequent increase in the company's capital, ultimately leading to a 45 percent share in the enterprise.

On December 18, 1987, the investors that had qualified were presented and their bids opened. The Bond Corporation, Telefónica Hispano-Francesa S.A., and Comunicaciones Chile S.A. participated in this process. Other consortia that had met the qualifications communicated their decision not to present a bid.

After analyzing the various offers, CORFO awarded the bid to Australia's Bond Corporation. The capital increase to which the consortium committed itself materialized in 1988.

In April 1990, the Bond Corporation International Bermuda Ltd. signed a contract with Telefónica International Holding B.V. Under this contract, all the

Table 2.18. CTC Ownership, 1986–90
(Millions of shares and percentages)

Shareholders	1986		1987		1988		1989		1990	
	Shares	%	Shares	%	Shares	%	Shares	%	Shares	%
CORFO	324.6	89.4	307.5	75.0	103.9	14.2	21.9	2.9	0.5	—
CTC workers	—	—	26.3	6.4	31.7	4.3	23.4	3.2	12.2	1.5
CTC underwriters	—	—	4.0	1.0	—	—	—	—	—	—
Pension fund	—	—	31.1	7.6	56.3	7.7	86.0	11.6	94.0	11.0
Other private	38.3	10.6	41.2	10.0	171.9	23.6	246.0	33.1	255.6	30.0
Bond corporation	—	—	—	—	365.6	50.1	365.6	49.2	—	—
Bank of New York	—	—	—	—	—	—	—	—	125.6	14.7
Telefónica Esp.	—	—	—	—	—	—	—	—	365.6	42.8
Total	362.9		410.1		729.4		742.9		853.5	

Source: Compañía de Teléfonos de Chile S.A.

capital issued by the former was sold, producing the indirect transfer of all stock in Bond Corporation Chile S.A. and its stock in CTC.

The New Shareholding Structure

As we have seen, the privatization of CTC included several types of stock transfers that involved frequent changes in the ownership structure of the enterprise from 1986 to 1990. Table 2.18 shows the evolution of the company's ownership in these years.

Investment Plans after the Privatization

CTC's development plan for 1988 to 1992, the period immediately after the privatization, included installing 650,474 lines at the automatic switchboard facility to double the number of lines in 1987 and attain a density of 12.3 telephones for every 100 inhabitants. This accomplished, 100 percent of the 1992 demand would be satisfied. Thereafter, a growth equal to demand was projected. At the same time, all switchboards—both domestic and international—would be incorporated into the direct dialing system.

In December 1990, the investment plan proposed in 1988 was superseded by the 1991–96 development plan, which provides for investment that will boost telephone density to 15.8 telephones for every 100 inhabitants by the end of the period.

The success of the investment program reflects the provisions of the law concerning the mandatory nature of the service and a rate scheme that enables the company to increase its profits with a greater number of lines in service.

Table 2.19. CTC Contribution to Public Finances

Average dividend per share 1984–87	\$ 0.073
Average dividends received by CORFO ¹ (324.6 million shares)	23.7
CTC taxes (1984–87 average) ¹	6.1
Total CTC contribution to public finances (annual average 1984–87) ¹	29.8
Average taxes paid by CTC 1988–90 ¹	4.7

Source: Compañía de Teléfonos de Chile S.A.

¹ Millions of U.S. dollars.

Privatization and Fiscal Impact

To calculate CTC's contribution to public finances before, during, and immediately after the privatization, an average dividend per share was determined (the company distributed 100 percent of the profits), to which were added the average taxes paid by the company (Table 2.19).

CTC thus reduced its contribution to the fiscal coffers after the privatization from \$US 29.98 million to \$US 4.78 million. Of course, the treasury received \$US 130 million in revenues from the sale in exchange. It should also be noted that this situation reflected a policy of no new capital contributions for state enterprises. This could not have gone on indefinitely if CTC had not been privatized, and the flows might possibly have become negative.

To determine the longer-term fiscal impact, the state's capital gain or loss from the privatization of CTC has been calculated. To do so, the ex-ante value of the stock packages sold by CORFO from 1986 to 1988 has been estimated. The implicit subsidy in Table 2.20 represents the difference between the estimated ex-ante value and the effective sale price of the stock sold in the course of the year.

Workers (from both the enterprise itself and the public sector in general) received a slightly positive subsidy, reflecting the government's policy of dispersing ownership.

Privatization and Increases in Efficiency

Table 2.16 presents CTC's efficiency indicators for the 1982–90 period:

- Company profits generally rose after the privatization (1988–90), reaching an annual level of more than 12 percent for these years.
- On average, the operating surplus (operating balance/net fixed assets), as well as the operating margin (operating balance/operating revenues), showed a sustained increase after the privatization.
- Investment over capital reflects the ambitious investment plan, with this indicator at its highest level for the period in 1989 (37.2 percent).

Table 2.20. Sale of CTC Stock: Annual Summary, 1986–89

	1986	1987	1988	1989	Total
Number of shares sold (thousands)	7,130.4	49,661.7	220,038.3	46,760.4	323,590.8
Percent sold	1.96	12.30	47.60	11.5	73.4
Estimated price	4,319.7	37,190.7	161,987.8	40,890.2	244,389.1
Actual price	3,197.9	40,507.3	193,262.8	35,544.7	272,512.7
Implicit subsidy	1,121.8	-3,316.6	-31,275.0	5,345.5	-28,124.3
Implicit subsidy (%)	25.9	-8.92	-19.3	13.1	-11.5
Implicit subsidy to workers	—	2.6	1.44	20.0	2.52

Source: Hachette and Lüders, 1992.

Note: December 1990 U.S. dollars.

- The number of workers for every 1,000 phone lines installed steadily declined throughout the period, with the trend more pronounced in the post-privatization years.
- Operating revenues grew substantially once the company was privatized (1990 versus 1987).
- Operating expenditures per telephone line rose only slightly throughout the period. This would indicate that the company has learned to control costs.
- As a result, the operating balance per line installed strongly increased, especially in the last two years coinciding with the privatization of the enterprise.
- The average cost of installing a new telephone line has steadily fallen from \$US 130 in 1986 to \$US 110 in 1990.

These indicators show that enterprise efficiency rose once the privatization was complete and that the company's new investment possibilities enabled it to increase the services offered and improve their quality.

Changes in the Administration of the Enterprise

After the privatization, CTC switched gears, shifting from a "technical operation" to a private enterprise "oriented toward the client, profits, and development," in the words of its chief executives. Much of the effort in 1988 was devoted to modifying the company's operational strategy, its organizational structure, and its style of management. By 1989, it was in a position to introduce heretofore unheard of services into the market, such as portable cellular phones, fax service, and the public fax network, reflecting the enterprise's new area of interest—telecommunications.

One of the steps taken by the company in 1989 was to decentralize management by creating four regional offices administered as separate business units. Its diverse businesses were later to become subsidiaries.

Empresa Nacional de Electricidad (ENDESA): The Privatization of a “Strategic” Public Service

Background

For decades, the Empresa Nacional de Electricidad (ENDESA), Chile’s largest generator of electricity and a subsidiary of CORFO, was responsible for supplying electricity and planning and executing the country’s electrification program.

In late 1986, the year before the start of the company’s privatization process, ENDESA and its subsidiaries employed 2,905 workers. The subsidiaries consisted of four electricity distributors, an electrical generation plant, and a health institute for pensioners.

ENDESA satisfies the electrical generation or transmission needs for virtually the entire country. It supplies electricity to the main distributors of the International Central System (SIC), which serves much of the nation’s territory, as well as the country’s major industries. By late 1986, to satisfy these needs, ENDESA ran 9 hydroelectric and 13 thermoelectric plants and its subsidiaries, 3 hydroelectric and 8 thermoelectric plants, for a total productive capacity of 1,519.5 MW and 418.4 MW, respectively. The company also had 4,256 km of single circuitry, while 2,199 km of double transmission circuitry supplied 87.5 percent of SIC’s total output and 48 percent of the total energy generated in the country.

At the time of privatization, CORFO owned 98.83 percent of the company.

The Privatization Process

There were no special reasons to privatize ENDESA, apart from the traditional ones. The fact that the electricity sector was governed by adequate legislation and was comprised of efficient private companies carried some weight in the decision. However, the privatization of this firm encountered fierce opposition for a variety of reasons: it was an economically and socially strategic service, there was a perception that the private sector was incapable of meeting the enormous investment needs, the company was monopolistic in nature, and the private sector was expected to lack interest in investing in the electricity sector, given its history of only moderate profits.

Table 2.21. Separation of COLBUN and Capital Contribution to ENDESA, 1984–86
(Millions of U.S. dollars)

	ENDESA 1984	ENDESA 1985	COLBUN 1986	ENDESA 1986 (post- separation)	ENDESA 1986 (post- capital)
Circulating assets	157	230	28	202	202
Fixed assets	2,302	2,113	649	1,464	1,464
Other assets	496	174	1	173	173
Total assets	2,955	2,517	678	1,839	1,839
Circulating liabilities	201	125	12	113	110
Long-term liabilities	1,393	1,639	391	1,248	754
Capital	1,361	753	275	478	975
Total liabilities and capital	2,955	2,517	678	1,839	1,839

Source: ENDESA.

Preparatory Measures

From 1974 to 1984, when the privatization began, several steps were taken to raise efficiency in the sector. Some coincided with the objective of privatization.

Among the most important of these measures were the self-financing norms applied to all public sector enterprises as of 1974. Also significant was the 1980 decentralization of ENDESA, which transformed the electrical generation and distribution units into separate corporations owned by ENDESA and CORFO; these subsidiaries became open corporations in 1982. This made it possible to stimulate efficiency through the creation of independent units.

In addition, CORFO separated Colbún-Machiacura from ENDESA in 1986, dealing a major blow to ENDESA's financial structure. CORFO therefore decided to capitalize the debt of the enterprise (Table 2.21). That same year, CORFO, which owned 98 percent of ENDESA's stock, supplied a capital contribution of approximately \$US 500 million through a swap of part of the company's liabilities for ENDESA stock. This transaction was criticized harshly because the swap was made at a value per share that was higher than the market value, thus entailing a capital loss for CORFO. However, the transaction enabled the AFPs to acquire stock and made the stock more attractive to other buyers.

Nevertheless, it should be noted that had this reduction in liabilities not taken place, CORFO's revenues from the privatization would have undergone a proportional decrease when ENDESA was privatized because of its high level of debt. Moreover, reducing the debt meant reducing the probability that the privatization would be reversed. Such a reversal could easily have occurred as a result of the company's debt situation.

The Sale Process

The stock was sold in the domestic market. Several mechanisms were employed, such as direct sale, public auction, and offerings on the Santiago Stock Exchange. Direct sales were aimed at company workers (labor capitalism), public employees in general, personnel in the Armed Forces and organizations responsible for public safety, and private citizens (popular capitalism). Workers acquired stock through an advance of part of their future compensation for years of service, and private citizens, through loans from CORFO.

Two methods of payment were permitted in the sale of the stock: cash and deferred payment. Popular capitalism benefited from a CORFO-subsidized credit and certain tax privileges. The most important institutional investors were the AFPs.

Six stock offerings were made from July 1987 to March 1989, giving priority to company workers. The sale was then opened to the general public and, finally, to the Armed Forces and the AFPs.

The number of shares that a private citizen was allowed to purchase was linked to his status as a worker in the company, the amount of his compensation, and the type of deferred payment. As an incentive to ENDESA employees, the stock was sold at subsidized prices.

In 1989, CORFO lost virtually all control of ENDESA due to the creation of subsidiaries (all of which, save one, were transferred to the private sector) and to the sale of the stock owned by CORFO. In late 1990, when the privatization process was nearly over, the ownership of the company was divided among 51,833 stockholders. Private citizens owned 38.75 percent; the AFPs, 26.34 percent; and other corporate entities, 20.27 percent. Moreover, foreign funds owned 7.32 percent; ENDESA workers, 3.31 percent; stockbrokers, 3.05 percent; and insurance companies, 0.96 percent (Table 2.22).

The sequence chosen ensured complete privatization and the irreversibility of the process. Moreover, "beginning the sale of the stock with the workers of the enterprises had the dual advantage of supporting the government's privatization effort while encouraging the rest of the private sector to invest since the perceived risk that the privatization process would be reversed was reduced."¹²

"ENDESA's most important stockholder is ENERSIS,¹³ a financial conglomerate that controls the principal distributor of electrical energy in Chile. This situation implies a significant degree of vertical integration between the sector's two largest companies. This eventually could affect the regulation of the electricity sector because of the pressures exerted by this powerful economic entity.

¹² Hachette and Lüders, 1991.

¹³ Pension funds as a group are the most important stockholders; however, each individual fund controls less than 5 percent.

Table 2.22. ENDESA: Capital Distribution, 1986–90
(Percentage)

	Dec. 86*	Dec. 87*	Dec. 88*	Dec. 89*	Dec. 90
CORFO	99.0	90.7	46.2	7.1	1.0
AFPs		3.8	19.8	21.9	26.3
Public employees				19.6	13.8
Armed forces				16.9	13.0
Private citizens				12.5	12.0
Foreign investment funds				1.6	7.3
ENDESA personnel				3.8	3.3
Others		5.3	34.0	16.6	23.3
Total number of stockholders	306	23,000	80,000	63,629	51,833

Source: ENDESA.

* Further disaggregated data was unavailable.

However, there may be positive aspects to this situation since transactions between the two entities, which are basically complementary, would imply a rationalization of the process that would mitigate the negative effects.¹⁴

Complementary Policies

To reduce natural monopoly power in electricity supply to small users, the authorities split up the company. In 1988, the parts were transferred to the private sector as subsidiaries for the generation and transmission of electrical energy.

ENDESA's relative share in the country's overall productive capacity (productive capacity/country's total capacity) rose until 1985; it fell precipitously in 1986 and was 43 percent in 1990. Something similar happened with respect to ENDESA's relative share of electricity generation vis-à-vis the country's and SIC's total electricity generation—ratios that in 1990 were 38 and 48 percent, respectively.

In September 1982, the new General Law on Electrical Services was enacted. Grounded in the principles of subsidiaries, self-financing, and a smaller state presence in the electricity sector, this legislation reaffirmed the use of marginal cost governed by efficiency, self-sufficiency, equity, and simplicity as the basis for calculating and setting prices.

In 1978, the National Energy Commission (CNE) was created, charged with planning and coordinating state investments in the electricity sector and developing large electrical generation and transmission projects in conjunction with the National Planning Office. The Center for the Economical Dispatch of Electricity (CDEC) was founded to prevent competition from jeopardizing the national in-

¹⁴ Hachette and Lüders, 1991.

Table 2.23. Sale of ENDESA Stock, 1987-90
(Annual summary)

	1987	1988 ¹	1989 ²	1990	Total
Number of shares sold (thousands)	1,808,612.2	5,658,384.0	295,653.9	87,220.8	7,849,870.9
Percent sold	22.8	71.4	3.7	1.1	99.0
Estimated price (thousands of U.S. dollars)	125,597.3	480,196.7	23,866.9	8,703.0	638,363.9
Actual price (thousands of U.S. dollars)	139,987.3	432,471.1	25,518.9	5,188.7	603,166.0
Implicit subsidy (thousands of U.S. dollars)	-14,392.0	47,725.6	-1,652.0	3,514.3	-35,195.9
Implicit subsidy (%)	-11.5	9.9	-6.9	-40.4	-48.9
Interest subsidy ³	7.7	2.1	—	—	9.8
Total difference ⁴	-3.8	12.0	-6.9	-40.4	-39.1

Source: ENDESA.

¹ Includes the sale of a single stock package with subsidized credit (December 1987) under Law 18,681 for public employees.

² Includes the sale of two stock packages (March 1988, December 1988) with subsidized credit under Law 18,747. The stock was sold directly to public employees and indirectly through popular capitalism.

³ Subsidy obtained by those who purchase stock with subsidized credit from CORFO.

⁴ Sum of the difference between real and estimated prices and the interest subsidy.

terest, to optimize the operation of the system as a whole, and to develop coordination mechanisms between the various enterprises of the sector in the areas of electricity generation and distribution and the operation of interconnected installations to ensure uninterrupted and efficient service.

Fiscal Impact

In 1988, when the private sector controlled over 50 percent of ENDESA's stock, CORFO received annual revenues of \$US 218.8 million on average—\$US 150.8 million from the sale of company stock and \$US 68 million in tax revenues (Table 2.23).

When this is compared with the average of \$US 42.5 million received annually by the treasury from tax revenues and the distribution of dividends in the period before ENDESA's privatization (1980-86), it is clear that the state registered a gain as a result of the privatization, even without taking the sale value of the enterprise into consideration.

A comparison between the ex-ante value or estimated price of ENDESA's stock packages and the price actually received shows that the prices paid for the stock remained approximately 5 percent below the estimated price. Assuming an absence of bias in the calculations, this implies that the state granted a subsidy to popular capitalists and ENDESA workers.

Effect on the Capital Market

ENDESA's privatization had a positive impact on the capital market for a number of reasons: (1) it boosted the relative share of the company's stock on the stock exchange from 0.03 percent in late 1986 to 15 percent in late 1990, (2) the number of investors rose from 306 to 51,833 during the same period, and (3) CORFO'S strategy of promoting institutional and labor capitalism fostered capital distribution.

Impact on Efficiency

Finally, the role regulation played in the success of ENDESA's privatization through its promotion of operational efficiency should be emphasized. Dividing the sector's enterprises into energy generators, distributors, and transporters promoted efficiency in the electricity system, as did treating companies that generate electricity as competitive enterprises and transporters of electrical energy as monopolies and creating an energy dispatching agency.

Nevertheless, it should be emphasized that once a controlling shareholder group materialized—which did not take place until two years after the privatization—ENDESA was able to set policies that led to a reduction in operating costs and the diversification of its activities. Until then, there was practically no significant reform of the company's administration or personnel structure.

Total returns increased markedly after 1988 (from 5 percent to 12 percent); however, debt reduction significantly contributed to this outcome (Table 2.24).

Except for creating engineering consulting services in 1988 (which also could have been accomplished with the enterprise in state hands), ENDESA did not begin to diversify its activities until 1990. That year, it embarked on a process of modernization aimed at creating a flexible organization whose structure was based on operational centers. In January 1991, personnel cutbacks were instituted that caused the layoff of 187 workers and immediate changes in the criteria for employee promotion, with the new criteria based strictly on merit.

New electricity projects were planned in order to create subsidiaries and, in this manner, invite private investors to participate in their financing, as with the Pehuenche plant project and the Pangué subsidiary.

Cost and output indicators have been badly affected by the drought of the past three years, which makes it difficult to gauge the actual impact of the privatization. Output per man-hour, while higher than that of the preprivatization period, has stagnated. Production costs began to rise significantly in 1988 because of the higher fuel consumption required for the generating thermal energy. However, transmission costs, an independent indicator of situational phenomena, reveal a reduction in production costs and in the percentage of losses from energy transmission and consumption at the company's plants. Moreover, in-

Table 2.24. ENDESA Performance, 1979-89

Indicators	1979	1980	1981	1982	1983	1984	1985*	1986**	1987	1988	1989
Investment/capital (%)	8.9	13.3	13.2	16.5	16.3	22.3	18.7	—	15.8	4.6	15.6
Debt/investment	0.3	0.6	0.4	0.9	0.5	0.9	0.9	—	0.3	2.1	1.6
Total debt/capital	0.3	0.4	0.5	0.9	0.9	1.2	2.5	—	0.7	0.6	0.7
Long-term debt/capital	0.3	0.3	0.3	0.8	0.8	1.0	2.3	—	0.6	0.5	0.6
Current liabilities/current assets	0.9	1.3	1.9	1.1	1.0	1.2	0.5	—	0.4	0.4	0.4
Profits/capital (%)	2.4	4.5	3.0	-10.4	6.4	2.4	-19.4	—	4.9	12.3	7.3
Operating profits/capital (%)	1.8	3.3	3.9	6.7	7.7	8.5	14.6	—	8.7	10.7	7.9
Taxes paid/gross profits	19.8	44.2	46.3	(**)	5.0	41.2	(**)	—	0.0	0.1	0.2
Dividends/profits	n.a.	78.5	72.4	0.0	0.0	9.0	-13.5	—	92.5	18.0	25.2
No. of employees	4270	4018	2828	2728	2705	2813	2950	2905	2928	2925	2980
Annual rate increases	14.6	4.3	-2.8	19.2	n.a.	n.a.	-2.8	-7.7	11.7	19.1	11.7

Source: ENDESA Annual Report.

* Average for 1985 and 1986.

** Although there was no net loss, income tax was paid.

vestment productivity, as measured by the ratio of sales to productive capacity, has risen. No changes in the quality have occurred as a result of the privatization, and the real price fell by 8 percent in the final year.

Lessons Gleaned from Analyzing Privatization in Chile and Recommendations

General Conclusions

The analysis of the six cases of privatization in Chile confirms that privatization is neither good nor bad but simply a means to certain ends. These ends will be achieved to the extent that the privatizations methods employed are consistent with these ends and that the privatized enterprises operate in an climate conducive to them.

The political objective of the privatizations in Chile was to foster the dilution of power to ensure a lasting democratic regime. Economically, the object of the privatizations was to turn the private sector into the engine of development, since it was considered more efficient than the public sector in this regard. In addition, especially during the first round of privatizations, the government was looking for a positive fiscal impact as a result of the transfer of the public enterprises to the private sector.

As a rule, the methods of privatization employed were consistent with the government's objectives, and the cases analyzed reflect this. During the first round, enterprises taken over during the Unidad Popular regime were privatized, as were another 100 or so state enterprises (the vast majority of which had been acquired during the same regime). During the second round, the large public service enterprises were privatized. With the fiscal situation under control, the government favored the diversification of ownership over fiscal revenues because of the amount the capital involved. A variety of privatization methods was employed during this round (labor capitalism, popular capitalism, institutional capitalism, and traditional capitalism), resulting in a true dispersion of ownership in several of these enterprises.

All in all, the privatization process was not without defects, especially in the first round. In general, its lack of transparency has been decried publicly. However, the cases described here suggest that this was not so. In all of them, the relevant agents—that is, those with real possibilities of participating in the privatizations—received adequate and timely notice. This was also true in other cases not analyzed in this report.¹⁵ Thus, the lesson here seems plain: to avoid

¹⁵ See Hachette and Lüders, 1992.

criticism, those responsible for the privatizations should not skimp on resources to inform the public about the process. With no valid reasons to oppose the privatizations, the easiest thing appears to have been to undermine the prestige of the process with allegations of a lack of transparency and, in so doing, hint at corruption.

A real problem, described in the narrative on BCH, surfaced with the sale of stock on credit during the first round of privatizations. Sales on credit caused participants to present high bids for stock in the companies that were being privatized, which subsequently led them to take high business risks to finance the loan payments with the yields. This moral hazard stemmed basically from the buyers' precarious net worth position and eventually translated into widespread bankruptcy among the enterprises due to the economic crisis of 1982–83. This led to a partial reversal of the privatization process. The lesson in this case is clear: selling a controlling share of company stock on credit should be avoided, for whoever holds a controlling interest can decide the degree of risk that will be taken in the operations of the enterprise.

Other Lessons

A series of common hypotheses were utilized in the study of the various cases in this report—hypotheses that were later confirmed or rejected through testing methods appropriate to the particular situation. What follows is a discussion of the cases and the lessons that can be gleaned from them. The results are often complemented with opinions based on previous studies. In any case, the general conclusion expressed earlier becomes evident here—that, in the vast majority of cases, whether or not the hypothesis is rejected is a function of the regulatory framework and the mode of privatization.

The Privatization Process

Sale to Workers

In Chile, the sale of stock to workers was connected with the authorities' desire to diversify ownership while investing the process with legitimacy. During the first round of privatizations, sales to workers were practically nonexistent. During the second round (especially during the stock transfers of the large public service enterprises) the government encouraged workers from both the enterprises to be privatized and the rest of the public sector to buy stock in order to achieve a greater diversification of ownership and neutralize union opposition to the privatization process.

Buyer Selection

The cases analyzed confirm that buyers in Chile were not prescreened for their experience in the respective sector but were selected because they were willing to pay the highest prices for the stock, they were also willing to undertake new investments (Compañía de Teléfonos de Chile), or they were small investors (Banco de Chile, second round). This position reflects the objectives of the privatization in Chile very well, especially the concept behind the entire scheme.

Experience, represented by the cases analyzed in this report and the other Chilean privatizations, indicates that in a competitive market economy in which natural monopolies are adequately regulated, it is normally unnecessary to require buyers to have previous experience in the sector, to incorporate new technologies, or to realize a stipulated amount of new investments (except perhaps to avoid moral hazard in cases in which their capital is clearly insufficient for normal business operations) for the enterprises to prosper and compete internationally and thus fulfill their social objective.

The Ratio of Sale Value to Reference Value

The cases analyzed confirm previous studies that suggest that sale values in Chile bore no relation to the real value of the enterprises that were privatized. Moreover, the reference values, often closer to the real value than to the sale value, generally turned out to be less than or equal to the sale value in companies of which a controlling interest was offered, regardless of the company's profits or losses in public sector hands.

A review of all the cases analyzed by the authors, not just those in this report, leads to the conclusion that even in a country with a rather undeveloped capital market—as was undoubtedly the case in Chile at the start of the privatization process—it is impossible to reject the hypothesis that the prices paid for the stock in the privatized enterprises (except for the subsidy to workers) are significantly different from those corresponding to the cash flow discounted at the pertinent discount rate.¹⁶

Method of Privatization and Concentration of Ownership

The evidence in Chile clearly suggests that offerings of controlling stock packages not conducted through the stock exchange have a smaller impact on the stock market than do privatization methods that tend to diversify the ownership of the enterprises and use the stock exchange for the transfer to private hands.

¹⁶ See Hachette and Lüders, 1992.

The fundamental role that institutional investors played in the expansion and modernization of the stock market is especially noteworthy; these investors bought major packages of stock in the enterprises undergoing privatization. The spectacular development of the stock exchange in Chile in the second half of the past decade (as illustrated in the case of CAP) would not have been possible without the reform of the pension fund system and the role played by the Pension Fund Administrators, the risk classification enterprises, the appropriate Office of the Superintendent, etc.

Speed of the Privatization Process

The various cases analyzed and Chile's privatization process in general suggest that privatization requires a relatively long time horizon for execution, if a reversal of the process is to be avoided.

Complementary Policies

Fiscal Revenues

At the risk of being repetitive, we shall point out that, from the economic standpoint, the objective of institutionalizing an effective market economy with social concerns—with all of its implications—prevailed in Chile from 1974 to 1989. This means even from 1974 to 1976, when the government was confronted with fiscal difficulties, it did not succumb to the temptation to raise the price of transferring the stock of the enterprises undergoing privatization through protectionist regulations. Once again, the lesson is clear: political objectives determine the methods of privatization, and these, its effects.

Fiscal Impact

The Effect on Fiscal Resources

In this case, several effects can be distinguished. There is an effect on short-term fiscal revenue flows. Before the privatizations, this corresponded to the sum of the taxes paid by public enterprises, plus the dividends distributed, minus any new outlays that had been made to finance new investment projects, and which after the transfer are only the taxes. In Chile, until 1970, this flow was slightly negative for state enterprises as a whole. With privatization, the treasury receives the sale price, which tends to make the cash flow positive during the privatization period, as actually occurred in the country. After privatization, the treasury re-

Table 2.25. Chile: Results of Tests of the Hypotheses

Hypothesis	Not Rejected					Rejected						
	CAP	CAYC	ENDESA	BCH1	BCH2	CTC	CAP	CAYC	ENDESA	BCH1	BCH2	CTC
Monopoly Power—Worker's Share	*	*	*	*	*	*	*	*	*	*	*	*
Profitmaking—Minimum Reference Price	*	*	*	*	*	*	*	*	*	*	*	*
Closed Bidding Ownership Concentration	*	*	*	*	*	*	*	*	*	*	*	*
Buyer Selection	*	*	*	*	*	*	*	*	*	*	*	*
Profitability Promotion	*	*	*	*	*	*	*	*	*	*	*	*
Input Deregulation	*	*	*	*	*	*	*	*	*	*	*	*
Increased Investment	*	*	*	*	*	*	*	*	*	*	*	*
Fiscal Gains—Current Expenditures	*	*	*	*	*	*	*	*	*	*	*	*
Interest Rate and Debt Service	*	*	*	*	*	*	*	*	*	*	*	*
Higher Profit—Price Adjustment	*	*	*	*	*	*	*	*	*	*	*	*
Union—Efficiency Deterioration	*	*	*	*	*	*	*	*	*	*	*	*

ceives the taxes, which are positive (or in a worst-case scenario, nonexistent). That is, the flow remains positive.

Another fiscal effect of the privatizations is their impact on wealth. Is the fisc richer or poorer for the privatizations? The analysis of the cases in this report shows a great disparity among enterprises. While the buyers of stock in CAP appear to have acquired their shares at a very “low” price (given the information available at the time of privatization), those of CTC, Celulosa Arauco, and BCH (first round) paid relatively “high” prices. ENDESA stock purchasers, in contrast, neither gained nor lost. A very special case is that of BCH’s popular capitalism during the second round of privatizations. Wishing to diversify ownership and willing to “compensate” taxpayers for the implicit cost of rehabilitating the financial sector after the crisis of 1982–83, the government transferred the stock of this bank to the private sector, granting enormous tax advantages that were later reduced through regulations. At the beginning, these advantages were so great that the stock transfer turned out to be free for a buyer subject to relatively low income tax rates.

Use of the Revenues from the Sale of State Enterprises

The destination assigned by the treasury to the revenues from the sale of the state enterprises assigned by the treasury cannot be determined from the analysis of the cases presented in this report. Under the general budgetary norms, all revenues in Chile are deposited in a common account and later allocated according to the budget. Hachette and Lüders (1992) concluded that during the first round of privatizations, the sale of the enterprises enabled the government to finance greater social expenditures (education, health, and housing), while during the second round, the revenues from the sale permitted a higher level of public investment—including investment in some of the enterprises to be privatized. If social expenditures are regarded as an investment, these facts would confirm the hypothesis that governments consider the revenue from the sale of public enterprises temporary income largely to be invested.

External Capital Inflows

In Chile, the political and economic climate at the time of the privatizations generated only slim external capital inflows. The case of CTC is perhaps the exception. During the second round of privatizations, several foreign investment groups entered into an association with local entrepreneurs, jointly controlling a number of former public enterprises in the so-called “peculiar area”—the most outstanding case being that of COPEC, owner of CAYC. These foreign investment groups generally paid for their investments through swaps of Chilean external debt. The lesson in this case is perhaps that governments should foster the conditions that

make external investment attractive to encourage foreigners to participate actively in a country's privatization process.

Enterprise Efficiency

Prices and Costs

Except for demanding a distribution of dividends equal to 100 percent of the profits, subjecting new investments to the approval of the National Investment System, and limiting the diversification potential of the enterprises, the military regime generally granted the administrators of Chilean public enterprises a high degree of autonomy.

Before this privatization, moreover, Chilean public enterprises as a rule already tended to operate with "real" prices and costs—that is, prices and costs reasonably similar to what they would have been in an ideal, undistorted market economy under competitive circumstances. This was especially true during the second round of privatizations. Public enterprises therefore tended to be efficient.

In four of the six cases studied in this report, the analysis suggests that the rise in the profits of the privatized enterprises is significant and corresponds to a genuine increase in efficiency—and not to a simple correction in the relative prices and costs. This contradicts earlier studies, in which the application of a discrimination analysis and an analysis of the principal components of a relatively large sample of public, private, and privatized enterprises in the 1980s did not permit significant differentiation among these groups of enterprises on the basis of efficiency indicators, even though the means and the averages of the majority of these indicators were higher for private and privatized enterprises than for public enterprises.

If there is a lesson to be gleaned from this, it is that under special circumstances, when public enterprises can be isolated from political pressures to subsidize the prices of their products or hire excess personnel and these firms can be subjected to competition, relatively efficient public enterprises may exist temporarily. In any case, these same privatized enterprises tend to show relatively better yields.

Union Pressures

The freedom to unionize (under competitive conditions) exists in Chile, and collective bargaining takes place at the enterprise level. Enterprises, in turn, are in competition with other local and, often, international enterprises. From the case analysis in this study and the reports, it can be asserted that union pressures re-

sulting in “excessive” cost increases (those that generate inefficiencies in the allocation of resources) have very little to do with the public or private status of the enterprises. They are determined, rather, by the structure of the economy, the labor laws, and the attitude of the authorities.

Policy Recommendations

The economic policy recommendations for other privatization processes that flow from the above analysis are many. The most important are the following:

- Those charged with policy formation should not consider the privatizations an end in themselves, but rather, a means to other, broader ends. They therefore should take special care to ensure that their goals are compatible with economic policy and the methods of privatization.
- If the privatized enterprises are to play an efficient role in society, the regulatory regime that governs them should foster maximum competition; if this is not possible, then appropriate regulations should be put in place. Maintaining or granting privileges to boost the sale price of the stock in public enterprises significantly increases the risk that the process will be reversed and imposes a social cost that is technically unnecessary.
- Purchases of controlling stock in the enterprises on credit through competitive bidding should be avoided at all costs, for they generate moral hazard and invite the concentration of ownership—again, increasing the risk that the privatization process will be reversed. In the absence of liquid resources that ensure good cash prices, the possibility of (partially) free stock transfers to the general public should be explored.
- For enterprises that are undergoing privatization, the subsidized sale of stock to workers is effective in gaining labor’s support for the privatization process, even though the union leadership may oppose it for political reasons.
- In an economy open to the trade of goods and services (including financial services), stock in the enterprises in competitive markets may be sold to the highest bidder, without the need to limit the transfer to investment groups that have technological know-how in the sector or are willing to commit new capital resources. The buyers will acquire the necessary technology in the international markets or obtain the necessary capital to prosper and serve the community.
- Even in countries where the capital market is relatively new, as long as the privatizations proceed at a prudent pace, the offers made during the auctioning of shares in public enterprises will correspond roughly to “market values”—that is, the present values of the anticipated cash flows, dis-

counted at the present relevant discount rates. The public sector therefore should not expect the privatization process to imply capital losses and can privatize without fear of an adverse fiscal impact. On the contrary, the sale prices will reflect the efficiency gains of the enterprise transferred.

- When external resources are available, privatization should be prevented from translating into excess spending at the national level and excess external debt through the control of public spending policies. Under certain conditions, it may be appropriate to invest temporarily the resources from the privatizations.
- The agents in charge of the privatizations should take special care to ensure a transparent process to prevent subsequent allegations of corruption that could lead to a suspension of the privatizations or even to a reversal of the process.

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CHAPTER 3

THE PRIVATIZATION PROCESS IN MEXICO: FIVE CASE STUDIES

Manuel Sánchez, Rossana Corona,
Otoniel Ochoa, Luis Fernando Herrera,
Arturo Olvera, Ernesto Sepúlveda*

Introduction

Purpose and Organization

This chapter presents an empirical analysis of five cases that fully exemplify the privatization experience in Mexico and provide specific lessons and recommendations for future processes in the region. The cases analyzed are sugar mills, Compañía Minera de Cananea (CMC), Tereftalatos Mexicanos (TEMEX), Teléfonos de Mexico (TELMEX), and Compañía Mexicana de Aviación (MEXICANA), which differ from one another with respect to size, the type of good or service provided, the sector to which they belong, the industrial organization to which they are subject, the intersectoral relationships observed, and the complementary policies established.

This chapter is organized as follows: the remainder of this section describes the privatization context in Mexico and the macroeconomic assumptions of the study. The second through sixth sections contain an analysis of each of the five cases of privatization, including background information and a discussion of the privatization process, complementary policies, gains in efficiency, the fiscal and macroeconomic impact, and lessons and recommendations for each case. Finally, the seventh section contains the general conclusions of the study.

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The Privatization Context

Between 1920 and 1960 the Mexican government formed large public enterprises such as Banco de México and nationalized the country's oil, electricity, and railroad companies in order to promote and orient economic development. But it was in the 1960–82 period that the greatest growth in government-controlled entities occurred, generally as the result of a strategy of rescuing failed private companies in order to preserve jobs and the production of “essential” goods and services. In some cases, however, the objective of government intervention was macroeconomic control (for example, the nationalization of commercial banking in 1982).

In the 1960s the policy of the government and public enterprises was to promote industrial development in a closed economy through import substitution. The existence of varied economic and social objectives such as the regulation of markets, the redistribution of income (through consumption subsidies, for example), and the promotion of industrialization (through the freezing of public rates and prices, for example) eroded the financial position of government-controlled enterprises and increased the fiscal deficit. In the late 1970s, investment commitments and current expenditures generated a high level of public foreign indebtedness, which had been made possible by the temporary situation of high oil prices and international liquidity.

From a historical perspective, the increase in the number of government-controlled enterprises was phenomenal. In 1930 there were 12; in 1940, 57; in 1950, 158; in 1960, 259; in 1970, 491; in 1976, 845; and in 1982, 1,155, a number which in and of itself eloquently expresses what had occurred. The impact of this growth was also very significant. While in 1975 government-controlled entities represented 6.6 percent of the GDP, 26 percent of the gross fixed capital formation, and 3.4 percent of the overall employment, in 1982 they accounted for 14 percent of GDP, 30 percent of gross capital formation, and 4.4 percent of employment.

The payment crisis of 1982, precipitated by falling oil prices and tight international credit, revealed the limitations of the growth of the parastatal sector and the excessive intervention of the government in the economy. As a result, in 1983 the authorities adopted a new development model based on trade liberalization, economic deregulation, and a new definition of the state's role in the economy. The rescaling of public enterprises included liquidations, terminations, mergers, transfers, and sales. Thus, the government relinquished responsibility for producing “nonstrategic” goods and services¹ and concentrated on improving the

¹ “Strategic areas” are defined in Article 28 of the Political Constitution of Mexico as the minting of money, mail and telegraphs, radiotelegraphy and satellite communications, the issue of banknotes by a Central Bank, oil and other hydrocarbons, basic petrochemistry, radioactive minerals, and the generation of nuclear energy, electricity, and railroads.

regulatory framework and the means of supervising economic activity. The privatization process consisted of the sale of many state-owned enterprises. In 1989 new forms of private participation were promoted, including coinvestment and the granting of public works concessions (road and highway projects, for example).

Two phases can be identified in the privatization process in Mexico. The first consists of the 1983–88 period, which was characterized by a slow beginning and a more aggressive program in 1985 and which included the sale of small and medium-sized enterprises generally operating in a competitive environment. The privatization process was relatively simple since the enterprises could be valued using market criteria, most of them were profitable, and there were no political or economic obstacles to their being managed by the private sector.

In 1983–88 the government sold 122 state-owned enterprises. By the end of this period it was involved in only 13 of the 28 productive activities in which it had participated in 1982, having withdrawn completely from the production of bottled drinks, textiles, cement, automobiles, pharmaceuticals, and secondary petrochemicals. The larger sales occurred in the second half of 1988, chief among them being the airline Aeroméxico (following its bankruptcy), the secondary petrochemical company Tereftalatos Mexicanos, and several sugar mills. The macroeconomic impact of the privatization process in this phase was insignificant, since it did not include the sale of any major state monopolies. It is estimated that the revenue from the sale of public enterprises throughout the period totaled approximately \$1.03 billion.² The process of selling these entities was slow since, as in other countries, it included a comprehensive learning process.

Since 1989 the privatization process in Mexico has advanced on two fronts: (1) Sale began of enterprises of considerable size, some of them monopolies. They included the telephone company TELMEX, the airline MEXICANA, other sugar mills, the steel mills AHMSA and SICARTSA, the insurer ASEMEX, and 18 commercial banks. In 1989–90 the number of state-owned enterprises was reduced by 132, of which 40 were sold for a total of approximately \$750 million. In the first half of 1991 alone, the proceeds from the sale of the controlling interest in TELMEX totaled \$1.7 billion. (2) The regulatory framework was adapted to the country's economic activity, which facilitated the privatization process. The objectives of deregulation included the opening up of various activities in which private sector participation had been restricted, as well as the removal of barriers to competition. Some of the most important regulatory reforms were: modification of the regulations governing foreign investment, which, among other things, allowed unlimited stock exchange investments by foreign investors; turning over the freeway and bridges program to the private sector; review and adaptation of

² Amounts are in U.S. dollars, unless otherwise indicated.

regulations governing the telecommunications industry as part of the privatization of TELMEX; reforms permitting free trade and the importing of sugar, in conjunction with the privatization of the sugar mills; and reclassification of basic and secondary petrochemicals, which expanded the number of products in the latter category that could be privately owned.

Macroeconomic Assumptions

To quantify the fiscal impact and social implications of privatization, we used historic observations and macroeconomic projections (Table 3.1).

Table 3.1 Macroeconomic Assumptions
(Percentages)

	1992	1993	1994
Real GDP growth	5.1	5.6	5.1
Real GNP growth in the U.S.	1.0	2.7	3.1
LIBOR interest rate (3 months)	5.8	6.7	7.8
Real CETES interest rate (1 month)	3.0	4.0	3.7
Inflation	12.9	8.0	5.0
Average exchange rate (pesos/dollar)	3,113	3,149	3,149

Source: Author's calculations.

Ingenios Azucareros

Background

During the privatization period, the Mexican sugar industry was the largest agroindustry in the country. Its share in the GDP had grown considerably since 1979, reaching about 0.9 percent in 1990. The sugar sector was one of the largest sources of employment in the country and in some states the main source of employment. Moreover, Mexico is the eighth largest producer of sugar in the world and the fourth in the Western Hemisphere, after Brazil, Cuba, and the United States.

The sugar industry raised the living standards of the people in the rural areas because the unions (Asociaciones de Cañeros, the Sindicato de Trabajadores de la Industria Azucarera y Similares de la República Mexicana), the owners of the mills, and the public sector had provided schools, hospitals, and other public health and welfare services.

Table 3.2. Sugar Producer Equivalent Subsidy, 1985–88
(Millions of U.S. dollars)

	1985	1986	1987	1988
Australia	16.00	86.93	89.20	67.28
Austria	102.68	62.83	41.52	12.66
Canada	5.83	19.16	4.99	4.99
EC	3,269.02	3,885.20	3,706.70	3,383.50
Finland	80.62	94.48	69.79	111.62
Japan	743.05	694.44	673.61	52.77
Sweden	84.75	83.11	98.52	52.95
U.S.	1,216.00	1,191.00	1,384.00	1,029.00

Source: Organization for Economic Cooperation and Development (OECD), *Agricultural Policies, Markets and Trade: Monitoring and Outlook 1989*, (Paris: OECD, 1989).

Internationally, the relationship between the production factors of this industry is strictly regulated by the setting of guaranteed domestic prices since the grower's only customer is the sugar mill nearest his plantation (monopsony), and the mill is in a similar situation since it must depend on local workers to stay in business. At the same time, governments have protected domestic producers by imposing import controls, heavy duties on foreign sugar, or a combination of the two. One way of determining the degree of government intervention is the "sugar producer equivalent subsidy," which is the difference between the income actually received by producers and the value of their production at world prices (see Table 3.2). The existence of considerable, generalized subsidies makes it unlikely that countries will be motivated by comparative advantages in the production of sugar.

Protectionism and subsidies throughout the world have caused international prices to fall below production costs, which in Mexico has caused the sugar mills' operating margins to contract sharply. Consequently, although in the early 1970s the private sector owned approximately 75 percent of the sugar mills in Mexico, 10 years later most of the mills (75 percent) were owned by the federal government.

The government policies that have shaped the sugar sector in Mexico have included subsidies for the growers of sugar cane (raw material), agricultural insurance premiums, and irrigation project subsidies to guarantee minimum prices for sugar producers and control the amounts sold. In addition, final consumption of sugar has been affected by price controls and subsidized prices.

In the 1983–90 period, the state-owned company Azúcar, S.A. de C.V. (AZUCAR) coordinated the development of the national sugar industry, directing and controlling the operation of the state-owned mills and marketing the industry's products and byproducts. AZUCAR functioned as a monopsony and a monopoly, buying all of the sugar produced by the mills at liquidation prices and

distributing it for industrial and retail consumption. It assumed the storage and financial costs associated with holding production during the harvest and distributing it uniformly throughout the year, and made the imports necessary to satisfy national demand. There was a 50 percent tax on sugar sales for any mills that wanted to sell their sugar in the market.

Moreover, in the 1980s the Sugar Cane Decree, which governed the relationships between cane growers and the mills, established a method of paying for sugar cane that guaranteed the grower a minimum payment equivalent to 83 kilograms (kg) of sugar per ton of cane, allowed the manufacturer to have factory losses of up to 26.4 kg of sugar per ton of cane, paid the grower a uniform price equivalent to the saccharose average obtained by the mill throughout the harvest period (factory output), and tied the price of sugar cane to the October-October rise in the Mexico City Wholesale Price Index. These regulations caused serious inefficiencies. In the field, the guaranteed minimum payment and the uniformity of the price received by growers discouraged the planting and delivery of better quality sugar cane and represented a cross subsidization of growers with above-average saccharose yields and those with below-average yields. In the factory, allowing a mill to deduct up to 2.64 percent of factory losses from its payment to growers did nothing to stimulate greater productivity.

Contrary to the situation in most of the world, the prices of sugar and sugar cane were completely unrelated. While the price of sugar cane was indexed each year at harvest time, the price of sugar was adjusted arbitrarily, causing uncertainty and occasionally reducing the mills' operating margins, resulting in a shortfall in the necessary investment and affecting the crop's long-term viability.

The result was the obsolescence of the sugar cane plantations and, consequently, a decline in productivity in terms of both the tons of cane per hectare and the sugar content per ton of cane. The result of this was a small volume of sugar cane to be milled and underuse of the mills' installed capacity. Compared with the rest of the world, Mexico was at a competitive disadvantage in extraction, recovery, and yield (see Table 3.3).

Under public control, increased productivity was not a goal in and of itself because AZUCAR, as the organization responsible for training growers, was not concerned about modernizing the systems. An example of this backwardness was the system for getting raw material from the field to the mill, which had hardly changed in 20 years.

As a result, and despite the fact that it was one of the largest producers and consumers of sugar in the world, Mexico went from being a net exporter of large quantities of sugar to having to import sugar to satisfy internal demand. It is estimated that sugar imports in 1990 totaled nearly \$300 million.

Moreover, for the public sector, the cost of the mills was very high. In 1988 government expenditures for the sugar industry represented 25 percent of the total budget allocated for the entire Secretariat of Agriculture and Hydraulic Re-

Table 3.3. Mexico's Position in the World Sugar Industry

Principal Indicators	Mexico	World	%
Tons of refined sugar/hectare/year	5.85	5.35	109
Pol in sugarcane (%)	12.25	12.70	96
Extraction from milling	91.75	94.00	98
Total recovery (%)	72.50	82.50	96
Factory output (%)	9.74	10.48	93
Tons refined sugar/employment position	32.00	25.00	128
Field	92.00	77.00	119
Factory	23.00	19.00	121

Source: *Etudes et Recherches Sucrères*, 1990.

sources (SARH). The subsidies the government granted to the sugar industrialization and distribution network provided consumers a benefit equivalent to approximately 70.5 thousand pesos per year per family in 1989 (based on a family of 5.5 people and 45 kg of sugar consumed each year by each person). This represented an annualized expense of about a trillion pesos, including financial costs.

As far as indirect subsidies are concerned, two of them significantly affected the field structure: the payment of social security for cane growers and their families and the subsidized bags of sugar each grower received. The social security contributions were determined by multiplying the sugar production by an amount determined arbitrarily every two years, without any regard for the price of sugar cane or the price of sugar (in early 1991 it was 36 pesos per kg of sugar). The mills were required to contribute 50 percent, the federal government 25 percent, and the cane grower 25 percent; the shares of the workers and cutters were to be covered by the employer (grower), the mill, and the federal government, each contributing a third.

This social security system did not encourage looking for ways to increase productivity—through scale increases, for example. The social security contribution could be higher even when the work force was reduced, because the payment was proportional to production without any upper and lower limits. In addition, the public treasury was hit with additional expenses since the social security for growers was subsidized (50 pesos per kg of sugar).

As a result, in October 1987 the Federal Executive Branch decided to cut the state's involvement in sugar production in half because of budget constraints. In addition, privatization and deregulation were included in the new economic policy for the sugar industry, the objective being to liberalize the domestic and foreign markets to make the sector more competitive and avoid supply problems. A year later, the federal government decided to withdraw completely from the produc-

tion and marketing of sugar, which was the beginning of the process of privatizing the remaining mills.

Privatization Process

Financiera Nacional Azucarera (FINASA) was the agent bank in charge of privatizing the mills. Nothing was done in advance to make the sale of the mills more attractive, but the process coincided with the restructuring of the debt of those mills that had overdue loans.

The mills were valued in four different ways, according to the replacement value of a typical mill; the index of the remaining useful life of the equipment and fixtures multiplied by the replacement value; the mortgage value, which took into account operational and cost structure elements, excluding financial expenses; and the technical value or value as a going concern, which included the physical value of the assets, the productivity of the industrial units, and the projections, given the characteristics of the sugar cane.

The first three valuation methods failed to take into account such basic aspects of the mills as their proximity to the field, the excessive labor costs associated with the benefits provided to the mill workers, the underuse of the installed capacity, and losses sustained in extracting saccharose. Consequently, an alternative method of valuation was sought that would reflect the problems and potential of each mill. In valuing the mills as going concerns, consideration was given to the useful life of the machinery and equipment, the efficiency of the mill, the utilization and productivity of the cane field, including location, labor productivity and financial results.

The appraisals of the first mills sold, viewed as going concerns, were lower in all cases than the mortgage value. This showed, once again, that to a greater or lesser extent the mills had productivity problems. It also had to be acknowledged that the production of sugar is an agroindustry and the success of the mill depends largely on the situation of the nearby cane field. Consequently, in appraising a government-controlled entity with a very specific set of problems, it is necessary that experts be involved, and not just financial experts.

The process of selling the mills occurred in four stages, subject to different sales conditions.

First bidding. In April 1988 the first call for bids was published in the country's newspapers for the sale of 100 percent of the federal government's shareholding interest in 20 of the country's sugar mills. Vertical integration of the mills, whether wholly or in part, was not permitted.

In this first bidding only seven mills were sold and most of the bids made the purchase conditional on the possibility of vertical integration. Regarding the rest of the mills, the bidding was declared void either because there were no offers or they were not in compliance with the bidding conditions. The lack of potential

buyers is explained in part by the fact that AZUCAR was still in charge of developing the industry, so that the 50 percent sales tax would not be eliminated for those mills that wanted to sell sugar directly in the market.

Second bidding. In September 1988 a public call for bids was issued for sale of 100 percent of the capital stock of 27 mills, including those not sold in the first bidding, the output of which totaled some 600,000 tons of sugar, according to the results obtained in the 1987–88 harvest. The mills were being sold in packages of two or more. The purchase offer per package or group of packages was not to exceed 350,000 tons of sugar. Only one of what was considered the best mills could be included in each package so that the packages would be financially balanced. The bids could be for more than one package, with an indication of preference. Also required was an investment plan for rehabilitating and modernizing each company's productive plant or for developing projects within the mills' sphere of influence.

In this second bidding buyers were allowed to use up to 80 percent of the mills' output for their own purposes, with the obligation of turning over the remainder to AZUCAR. Vertical integration permits the use of economies of scale and reduces the uncertainty concerning the supply of raw materials. Still, only six mills were sold, in two packages.

Third stage. This stage began in October 1988. By that time, the federal government had decided to include all of the mills it owned and to withdraw completely from the production of sugar in Mexico. The plan to sell in packages was retained, with the result that the "basic" ("good") mills could only be purchased by including in the bid mills that were "to be combined" ("bad"). The conditions of the third public bidding were very similar to those of the second concerning the investment and regional development programs and the possibility of integrating up to 80 percent of the output. However, FINASA was to be notified of integration plans for control purposes and to prevent the sale of sugar to third parties. In this bidding nine mills were sold in three packages.

Fourth stage. On May 25, 1990, the remaining mills were offered for sale in "balanced packages" put together by FINASA, based on financial position and location. The bidding conditions required that bidders agree to preserve the industrial units of the companies, comply with provisions governing relations between workers and employees and the suppliers of sugar cane, and comply with the joint agreements for the modernization of the sugar industry. Fifteen mills were sold in five packages, seven separately. Despite the fact that vertical integration was now possible, given the mills' financial and labor situation as well as the burden that keeping them open represented for the public treasury, to effect the sale of the remaining mills the federal government had to share risks with the purchasers by accepting "bonds indexed to the price of sugar" for up to 80 percent of the selling price of the package. The remainder was to be paid in cash.

In the analysis of the four stages of the sugar mill privatization process it was

observed that in a climate of public sector budget constraints, the financial position of the mills indicated that it would be expeditious, in the second bidding, to sell in packages in order to facilitate the privatization of mills in which there was no interest. For the same reasons, and because of the regional importance of the mills, the sale of shares to workers was not included in the privatization process. This would have necessitated additional public resources to finance such a purchase. Therefore, given that the mills were in a monopolistic position regionally (in addition to being monopsonistic) and in the privatization process the workers purchased no shares, the Monopoly Power-Worker's Share Hypothesis is rejected.

After the public sector withdrew completely from the sugar industry, its new role as regulator led it to make the sales of the mills conditional upon the submission of investment programs and the protection of the jobs created by this agroindustry. Moreover, if the investment programs were not carried out within the specified period of time, a monthly penalty equal to 2 percent of the total value of the promised investment would be imposed for as long as the noncompliance persisted.

In the final stage, the selling price was lower because of the more numerous conditions imposed on the sales, uncertainty about the permanence of a series of regulations such as the pricing system, the mechanics and amount of the subsidies, and the method of paying for sugar cane established in the Sugarcane Decree. Prospective buyers considered the regulations permanent and included in their calculations the risks and inefficiencies involved. For these reasons, and despite the flexibility in the method of payment, in the fourth bidding all of the packages but one were sold for less than the stated minimum.

Therefore, the fact that the mills generated profits was not enough for investors to offer a price higher than the reference price. The operating results are only one of the elements that the investors took into account in making their bids and, consequently, the Profitmaking-Minimum Reference Price Hypothesis is rejected.

The stock exchange was not used to sell the mills because they were not quoted in the securities market and their financial position would have made them unattractive as investment options. Despite this and the fact that participation in the last three biddings was made conditional upon the presentation of a program to modernize and rehabilitate the cane fields, there was no concentration of ownership. In fact, the concern not to reinforce regional monopolies was one of the criteria used in selecting the buyer. Therefore, the Closed Bidding Ownership Concentration Hypothesis is rejected.

The principal criterion used in the first bidding procedures was the percentage of vertical integration requested, since the larger it was, the smaller would be the reserves available to AZUCAR to regulate the market. Later, this aspect became irrelevant, and once the bids were approved, more weight was given to the price offered, taking into consideration factors such as the cash payment, the interest rate, and the time requested by the purchasers, as well as the moderniza-

tion and diversification programs. Therefore, the Buyer Selection Hypothesis is not rejected.

Complementary Policies

The privatization and deregulation policies in Mexico's sugar industry were not coordinated. The monopoly and monopsony of the government-controlled agency AZUCAR generated excessive costs for the public treasury, prevented vertical integration of the mills (private) with the industry and created no incentives for the mills to develop their own marketing channels. To solve this, in May 1990 (two years after the start of the privatization process) the federal government decided to abolish the 50 percent tax on the sale of sugar and to gradually dismantle the state-controlled agency. From then on, AZUCAR ceased to purchase the output of the mills in an effort to promote private marketing channels. A year later AZUCAR no longer had any control over production, and its involvement in marketing was minimal and on the wane. It was felt that the best long-term marketing strategy was free trade, both domestic and foreign. The problem with this arrangement was the storage costs during the six months when no sugar was produced, which formerly had been absorbed by AZUCAR. At the same time, this agency was gradually losing its responsibility for training, research, and development.

The federal government, with the support of growers and producers, enacted a new Sugar Cane Decree that established two sugar cane payment systems for recoverable sugar, eliminating the 2.64 percent maximum saccharose losses in the factory and the 8.3 percent minimum return to the grower. The two systems differed only in the technology used to measure the standard basic recoverable sugar. As a result, improvements in the quality of the sugar cane were encouraged, and the cross-subsidization between growers was eliminated.

Concerning the sugar pricing policy, in January 1991 an agreement was reached establishing a variable duty for imported sugar, based on a reference price (indexed to producer prices in the U.S.), below which sugar cannot enter the country. If the spot prices are above the reference prices, the importer pays no duty; if the spot prices are lower, he pays the difference between the "spot" price and the reference price. In addition, the price of sugar cane is tied to the price of sugar. Finally, wholesale prices in Mexico (FOB mill) would equal the reference prices plus transportation costs.

Based on the preceding information, the Profitability Promotion Hypothesis is rejected because the regulations were relaxed both to increase the profitability of the mills and to promote competition (i.e., the two objectives were not contradictory).

The new sugar cane payment mechanism deregulated the price of the industry's primary input. In addition, although no direct relationship has been identified between the privatization of sugar mills and the liberalization of public

input prices, the subsequent increases were viewed as part of the stabilization program, as in other sectors. Therefore, the Input Deregulation Hypothesis is not rejected.

Privatization and Efficiency Gains

For the analysis of efficiency in the privatized mills, the trend of plant output was taken into consideration. This indicator reveals the relationship between tons of sugar cane and tons of sugar produced. In this way, the average for the last eight harvests was estimated for each of the mills and a curve was plotted, adding or subtracting the standard deviation from said average. The value of the plant efficiency indicator for all of the mills in the 1990–91 harvest was compared with this curve. Table 3.4 provides a summary of the principal results.

Based on the relatively scarce evidence, the Higher Profit-Price Adjustment Hypothesis is rejected because the improved profitability of some mills was not explained by increases in the price of sugar. Moreover, the latter declined sharply due to a supply surplus in the market. Finally, the federal government continued mediating the negotiations of the private sector with the union to amend the contract (labor agreement), and some labor problems remain. Consequently, the Union-Efficiency Deterioration Hypothesis is not rejected.

Privatization and Fiscal Impact

The total amount of the sale of the 44 mills analyzed in this paper is 2,061.3 billion pesos (MMP) at the peso's May 1991 value. Despite the fact that this amount was not paid in cash, the sales contracts provide for the payment of interest on outstanding balances. For the purposes of this study, the sales prices stipulated in the contracts were used, which were deflated with the National Consumer Price Index.

In addition, given the characteristics of these industrial plants, the equipment and maintenance programs and the operating subsidies for unprofitable mills represented significant resources that the federal government no longer had to expend when these companies were privatized. To calculate this subsidy, the arithmetic average of the last five harvests was estimated for each of the mills before being deflated to 1991 prices. On average, the federal government spent 345.7 MMP each year just to subsidize the operating deficit of the mills. Remember that the subsidy was necessary to keep the guaranteed prices high and for social security purposes.

The savings to the federal government for each of the three discount rates used (5, 10, and 15 percent) were greater than the total amount earned from the sale of the mills.

It has been argued that selling the mills in packages brought in substantially

Table 3.4. Sugar Industry Efficiency Gains

Mills	Absolute	Percentage of total
Above the curve	17	38.64
On the curve	22	50.00
Below the curve	5	11.36
Total	44	100.00

Source: Author's calculations.

Table 3.5. Sugar: Comparative Analysis of Subsidies and Sales Prices

Sales price (billions of 1991 pesos)	2,061.3
Annual subsidies (billions of 1991 pesos)	345.7
NPV (5%)*	7,259.2
NPV (10%)	3,802.5
NPV (15%)	2,650.2

Source: Author's calculations.

* Net present value.

less income than would have been obtained had they been sold individually. For this argument to have any validity, it is necessary to compare the hypothetical sales price with the subsidies that the government no longer had to pay as a result of selling the mills. The loss to the government from selling the mills below their appraised value is defined as:

$$\text{Government Loss} = (\text{Total Appraised Value of the Mills Included in the Package}) - (\text{Sales Price of the Package})$$

Under three different scenarios for the "bad" mills, in which the government waits two, four, or six years to sell them separately from the package, we estimated that the loss to the government from selling the mills included in three of the five groups in packages is less than the total subsidies the federal government would have had to pay if it had decided to hold the mills longer in order to sell them individually. Consequently, the loss to the government from selling in packages was more than compensated by the subsidies it no longer had to pay.

Based on the analysis contained in this section, the Increased Investment Hypothesis is rejected because the reduction of the subsidies was greater than the increase in investment. It should be pointed out that since the mills were only recently sold, it is too early to evaluate the progress of the modernization and diversification programs to which the buyers committed.

The amount involved in the sale of the mills is not particularly large. Because of this, and given the stabilization context in which the privatization of the mills occurred, which resulted in a real reduction of public sector current expenditures, the Fiscal Gains-Current Expenditures Hypothesis is not rejected.

Finally, the Interest Rate and Debt Service Hypothesis is rejected because it is not relevant to the privatization of sugar mills, although it is still possible that the structural changes in the sector might in the future attract more foreign investment in the sugar industry.

Lessons and Recommendations

The above analysis provides the following lessons and recommendations:

- In the process of determining the value of the mills to be privatized, it was necessary to recognize the low productivity of the factors and not just their physical value, as well as the fact that the performance of the mill depends largely on the situation of the nearby sugar cane field. Also taken into consideration are the costs associated with the Contract Law (labor agreement) and the underuse of the installed capacity. Because of this complexity, it is recommended that the valuation of agroindustrial companies that are going to be privatized be undertaken by experts in the industry and not by financial experts.
- The financial and operating difficulties and the characteristics of the agroindustry made the mills undesirable. This explains why the privatization was carried out in stages and why it involved a gradual process of relaxing the terms of the sales. For example, the government had to allow for the possibility of vertical integration following the sale. The payment procedures were made increasingly flexible, and the federal government shared risks with the buyers by accepting “bonds indexed to the price of sugar.” It is recommended that the government ease certain sales conditions in order to reduce subsidies when they represent a disproportionate burden.
- It was essential to create balanced packages of mills in order to be able to sell “bad” companies along with “good” ones and thus make viable the sale of mills that generated no interest in previous biddings. Nevertheless, one of the goals in forming the packages was to avoid regional monopolies in order to prevent sugar from becoming more expensive in certain areas. It is suggested that part of the price that would result from permitting the formation of regional monopolies be sacrificed in exchange for the social benefit of not making the product more expensive.
- The sales price reflected not only the profitability of the plants but also the possibility of reducing the number of structural problems confronting

the mills. The fact that in some cases this price was higher than the valuation as a going concern reflects the expectation of an increase in the productive efficiency of these mills. In selecting buyers, a balance must be struck between the economic aspects of the offer and the buyer's demonstrated experience in the industry. It is important to consider the benefits of conditional vertical integration, which will permit the use of economies of scale.

- A serious problem that prolonged the process of selling some mills was the climate of uncertainty surrounding the regulations governing the agroindustry, which were being revised. Therefore, it is recommended that deregulation be undertaken before privatization since it gives the buyer a sense of security and contributes to obtaining a higher price for the companies.
- Deregulation of the sugar industry provided the basis for greater efficiency in the mills. Government-controlled trade was replaced by a system of free trade, the pricing policy was relaxed, and government subsidies were cut. Under the new pricing policy it was essential that a variable duty be imposed as a means of protecting producers from external shocks. It is recommended that the state focus its efforts on promoting markets that facilitate the exchange of information among the economic agents so that reconciliation of their various interests occurs without unnecessary distortions.

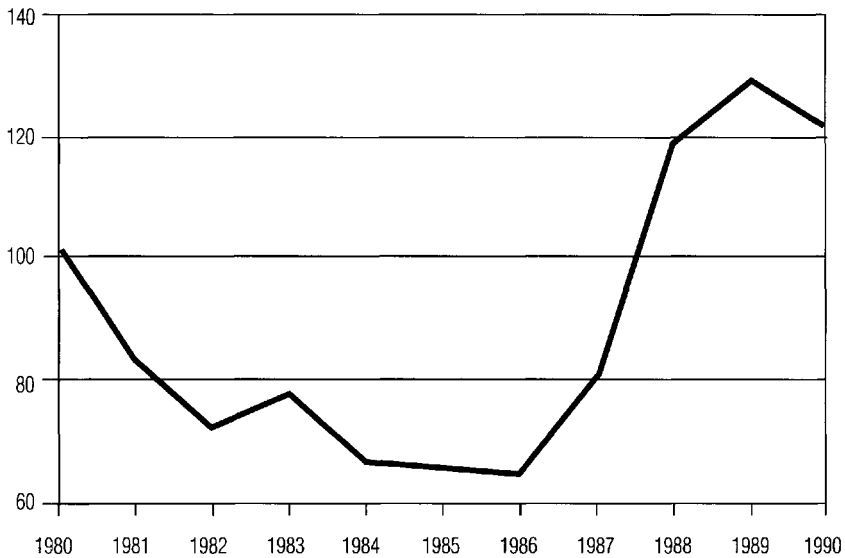
Compañía Minera de Cananea (CMC)

Background

The process of privatizing Compañía Minera de Cananea (CMC) began in January 1988 and ended in September 1990. The company is an open-pit copper mine located in the north-central section of the state of Sonora, 40 km south of the U.S. border. The extraction of ore in CMC began on September 30, 1899, when the Cananea Consolidated Copper Company, S.A., was founded in Nogales to work copper deposits using underground methods. The open-pit operation began in 1964.

The growth of the company in the early 1980s necessitated a plan to modernize the facilities of the mine and accelerate excavation, which was carried out with financing from abroad and from Nacional Financiera, S.A. (NAFINSA). Nevertheless, there was a downturn in the international price of copper at the start of that decade, with the result that the company began having cash flow and overleveraging problems so serious that it was unable to service its debt, which was the reason for its administration by NAFINSA until the company was declared bankrupt (see Figure 3.1).

Figure 3.1. International Price of Copper
(cents/lb)



Measuring the reserves for 1988 (Table 3.6) showed that CMC was one of the largest unworked copper deposits in the world, containing a total of 1,700 million tons of copper and representing approximately 5 percent of all the workable copper in the world. Given the capacity of the existing plant, it would take 50 to 70 years to process the known copper reserves.

CMC's importance does not end with the volume of production and its proven reserves. During the Mexican revolution of 1910 the town of Cananea was the center of one of the most intense labor movements within the armed resistance, which led to the nationalization of the company's capital structure and to growing labor problems that later hindered the performance and efficiency of the company. In addition, because of the remoteness of Cananea from the economic centers of the state of Sonora, the entire region came to rely on CMC, which provided it with free water, light, gas, electricity, sewerage, and paving services, among others. In exchange, the town provided CMC with the labor necessary for its operation.³

Before its privatization, the company supplied the city of Cananea with 20 percent of the water it took from the river and 90 percent of the water taken from

³ Thanks to the educational services that CMC has provided for the city of Cananea, it currently has one of the highest educational levels in the country.

Table 3.6. Minable Reserves in CMC, 1988

	Tons of ore	Tons concentrated	Tons of tailings
Last stope*	1,677,362	859,652	971,653
Satellite deposits	10,600	135,756	42,326
Total	1,687,962	995,408	1,013,979

Source: 1992 Annual Report of the Board of Mines.

Note: Thousands of tons, 0.40 percent copper mined and 0.15 percent copper recovered.

* See footnote 4.

Table 3.7. Total CMC Expenditures, 1988-90
(Millions of pesos)

Expenditure	1988-89	1989-90
Medical services	—	10,788
Education	387,594	454,500
Other services	243	—
Electricity	11,482	17,000
Water	2,649	—
Housing	507,531	459,000
Total	909,500	941,288

Source: CAIE with data from CMC.

the Ojo de Agua well, which in all represented a gift of 5,822,000 cubic meters of water per year. Likewise, it maintained the water supply system and connected private households to the system. In addition, CMC provided the community with special educational, medical, and housing services, the value of which in 1988 was five times the company's net profits. Mining activities were heavily protected by restrictions on the exploration and working of mineral resources in large areas designated as mining reserves and by the complicated procedures that had to be followed to obtain a lease to work unrestricted areas.

As is true today, labor relations between the company and the workers were governed by the Federal Labor Law, which limits the possibility of changing the working conditions set forth in the collective agreement and prevents the elimination of inefficiencies caused by it. The law provides that amendment of the collective agreement cannot be negotiated under conditions less favorable to the workers than those accorded in the existing agreements and that the employer or owner is *a priori* responsible for every labor dispute. Once the employee benefits affecting the company's efficiency were in place, the only way to eliminate or change them was through termination of the labor agreement, which could occur only as a result of

Table 3.8. Productivity Indices of the Major Mining Companies

Company	Sales/No. of employees	Sales/assets	Productivity index
C. Fresnillo	116.11	74.69	171
M. Carb. Río Escondido	26.86	140.49	153
C.M. Las Torres	23.89	129.59	149
Ind. Min. México	13.48	116.17	134
Peñoles	14.57	66.87	121
Exp. de Sol	15.94	8.95	82
Min. Met. del Norte	15.61	-4.64	72
C.M. las Cuevas	-12.58	7.45	48
CMC	-49.28	33.76	45

Source: *Management Today*, September 1991.

Table 3.9. CMC Financial Ratios before Privatization, 1987-89

Ratio	1987	1988	1989
Long term liabilities/net worth	12.9	0.1	0.1
Total liabilities/total assets	0.9	0.5	0.5
Long term liabilities/total assets	0.7	0.1	0.1
Current assets/current liabilities	0.2	0.1	0.1
Current liabilities/total liabilities	0.2	0.9	0.9

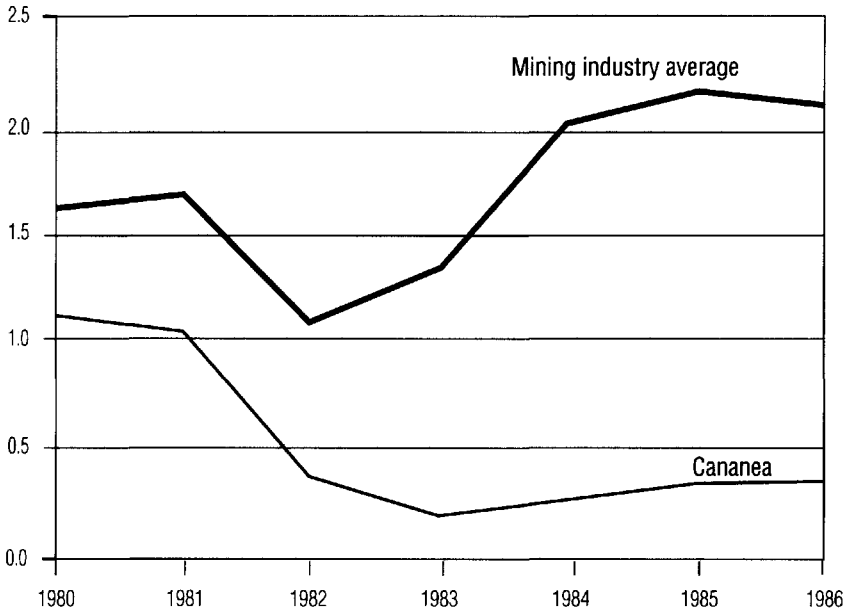
Source: CAIE with data from CMC.

bankruptcy legally declared by the competent authority—in this case, the Board of Conciliation and Arbitration (JCA) or the creditors.

To analyze CMC's efficiency, it is helpful to ascertain sales volume/employee and sales volume/assets ratios and to compare them with the major mining companies. Table 3.8 shows that the productivity of the human resources and assets of CMC was less than that of the major mining companies of Mexico. CMC had serious labor productivity problems due primarily to the terms of the collective agreement. On average, only three hours a day were worked, and absenteeism was very high. The existence of 400 worker categories led to a situation in which CMC had too many employees.

The financial ratios show that between 1987 and 1988 there was a decrease in the long-term liabilities, which is explained by the conversion of the latter to short-term liabilities, so that for 1989 the current liabilities represent 90 percent of the total liabilities (Table 3.9). The company's cash flow problem prevented it from meeting its financial obligations, and the only alternative was to file for bankruptcy (see Figure 3.2).

Figure 3.2. *Compañía Minera Cananea, 1980-86*
(Current assests/current liquidity)



The discrepancy between the short-term objectives of the directors of CMC and the appropriate long-term objectives for a copper company whose deposit has an approximate life of 70 years caused a coordination problem. The public administration in Mexico changes more or less regularly every six years. This caused a problem in both the management and the operation of the mine. Because of the six-year perspective, the directors were looking for a stope size that would make the company's operations profitable in the short term and they ignored the optimal stope size for regular, long-term operation of the mine and the metallurgical complex.⁴

Moreover, any attempt by the company to change the labor situation to increase efficiency would take between four and five years, the time required to stabilize worker-employer relations and to generate positive results for the company. For a public official with a shorter outlook, who considered the manage-

⁴ A stope is an open pit in which all of the operations necessary for removing the ore are carried out. Strip mining is a process whereby the surface material is removed to expose the ore.

ment of CMC as a possible springboard in his political career, it was not a good idea to go against a union as strong as CMC's.

The other problem was the lack of supervision of the directors by the owner of the company, the government. There was no incentive for management to improve the administrative operations of the company since developing an administrative system would reveal deficiencies and anomalies in its operation.⁵

As a public enterprise, CMC received subsidies from the federal government in the form of special electricity and water rates, and its operations were supported artificially with short-term loans from NAFINSA when the company was short of funds.

The government justified the privatization of CMC by pointing out that its activities were not one of the areas defined as strategic by the Political Constitution of Mexico. In addition, CMC, La Caridad, and Altos Hornos absorbed 96 percent of NAFINSA's loanable funds, so it was expedient to privatize these companies in order to recover some of the funds and free up these resources so that NAFINSA could fulfill its responsibility of financing small and medium-sized industries. CMC was a company with many advantages as far as private mining groups were concerned, for acquiring it represented the possibility of suddenly becoming one of the world's largest producers of copper and also of benefiting from complementary advantages in the areas of operations and administration.⁶

The Privatization Process

The process of selling CMC included two auction attempts and two public auctions.⁷ For the first two attempts, NAFINSA was appointed the agent bank in its capacity as majority shareholder. For the second two, FINASA took charge of the proceedings. The first two sales efforts were carried out through calls for bids, in which conditions were established for the formulation and consideration of bids. The last process was a public auction, after the company was declared bankrupt (see Table 3.10).

NAFINSA had financed the company's expansion plans and inefficiencies since 1981 with short- and long-term loans that, in January 1988, exceeded the

⁵ The literature on "moral risk" defines this situation as a problem of asymmetrical information and a divergence of objectives between shareholders and directors, which makes supervision difficult and causes employees to exert a minimum of effort.

⁶ For some mining groups, purchasing CMC represented the possibility of diversifying their mineral portfolio and thereby minimizing the risks to which they were exposed since the price of copper is not affected by the performance of gold and silver.

⁷ A public auction is an auction sale subject to a minimum reference price and conditional payments. The award is made by a competent judge on the basis of the best bid received. If in the auction the bidders do not meet the minimum reference price or any of the payment conditions, the procedure is repeated.

Table 3.10. CMC Privatization Process

<u>First Part</u>	<u>Second Part</u>
NAFINSA begins rationing credit	Bankruptcy of the company
First auction	FINASA appointed receiver
NAFINSA capitalizes part of CMC's debt	FINASA organizes the management of CMC
NAFINSA imposes operating criteria	First public auction
The winner of the auction does not comply with the payment conditions	Participants do not comply with the conditions of the public auction
The auction is annulled and the call for bids for a new auction is issued	A new public auction is announced
Second auction is declared void	Second public auction
	Grupo Industrial México (GMéx) is declared the winner

book value of CMC. This situation led NAFINSA, as the agent bank, to ask a price higher than the actual value of the company in order to recover the funds it had loaned. The result of this situation was that the first auction was annulled and a second call for bids was issued, which was declared void because the bids were below the price indicated.

To persuade the company to put its finances in order, NAFINSA began rationing the credit CMC needed to continue operating. This measure forced CMC to adjust its current expenditures. Because the collective labor agreement represented a major obstacle to correcting the financial situation through a reduction in staff, the adjustment was made in the areas of maintenance and development.⁸

When the privatization process began in 1988, CMC's capital stock was held as follows: 32 percent by NAFINSA, 24.7 percent by the Comisión de Fomento Minero, 43.1 percent by a trust fund organized within NAFINSA, and the remaining 0.2 percent by a number of small investors.

⁸ Development consists of strip mining in areas where ore has been discovered. The neglect of these two items necessitated the expenditure in 1991 of approximately 100 billion pesos to bring the company's extraction plan up to date.

Table 3.11. Capital Structure of the Issue
(Millions of May 1988 pesos)

	Series "A"	
NAFINSA		513,208,429,335
Trust Fund		85,863,431,808
INDEVAL		215,919,081
Subtotal		599,287,780,224
	Series "B"	
Trust Fund		575,578,856,853
Total		1,174,866,637,077

Source: CAIE.

By way of preparation, on May 13, 1988, CMC issued 11,748,666,371 ordinary shares with a par value of \$100 each, 51 percent of which were Series "A" and the remaining 49 percent Series "B." In the new structure of the company, NAFINSA acquired most of the shares and took control of the Board of Directors in March 1989 (Table 3.11).

In 1988 the cash value of the company was set at \$850 million, which was used as the minimum reference price for the first bidding held that same year. In 1989, after the declaration of bankruptcy, the minimum reference price for the sale of the assets of CMC was \$450 million (Table 3.12). The two cash values were determined on the basis of the financial statements for 1988 and the partial and final industrial appraisal certificates backed by the statement of assets.

Concentrator II and ESDE Plant II, both of which were built with loans granted by NAFINSA, represented 65.8 percent of the value of the company. The price of the assets in this stage of the process was 56 percent of the base price in the first auction and 0.92 percent above the average price offered in the process.

To cover the contingent labor liabilities, determined on the basis of 228 proceedings presented to the JCA after the declaration of bankruptcy, NAFINSA created a trust fund totaling 29,200 million pesos (MP).

Following is a description of the stages of the CMC privatization process.

First Call for Bids: January 13, 1988

The minimum reference price established by NAFINSA was the equivalent in pesos of \$850 million at the auction rate in force on the date of the call. The method of payment was either cash or through the purchase of government debt (see Table 3.13), within 15 days of notification that the bid in question had been selected.

The need to put its finances in order and alleviate the budget constraints preventing it from proceeding with the country's development plans led the government to include in the privatization process the option of reducing public debt

Table 3.12. Calculation of the Sales Price of CMC
(Millions of U.S. dollars)

Cost Centers	Cash value
Mine	\$ 49.59
Foundry	6.84
Foundry services	14.29
Concentrator I	26.11
Concentrator II	265.99
ESDE plant I	14.36
ESDE plant II	30.00
Presses	7.71
Administrative offices in CMC, Sonora	6.82
Various inventories in terms of the supporting elements for the appraisal	8.87
Administrative offices in Mexico City	0.07
Warehouses in CMC, Sonora	10.71
Investments in affiliates and subsidiaries	8.63
Total	450.00

Source: CAIE with data from Secretariat of Finance and Public Credit (SHCP).

through the purchase of instruments quoted, in the secondary market at a price of approximately 47 cents per dollar. This purchase alternative represented a permanent savings because it reduced the payment of interest and principal without affecting the price at which the debt was quoted since the allowable purchase amounts were marginal. Moreover, there was no need for the government to disburse any money to buy back the debt.⁹

The respondents to this call for bids were the major mining groups and one nonmining company, PROTEXA. On April 21 NAFINSA notified PROTEXA that it had won the competition with a bid of \$910 million in United Mexican States (UMS). The funds to finance the purchase of CMC would be granted through interim financing from First National Bank of Chicago. However, the bank transaction was canceled, and PROTEXA was unable to comply with the payment conditions. Through this transaction, NAFINSA hoped to recover the credits it had been granting to CMC since 1981. The objective was to sell the company for \$850 million in UMS, which was the equivalent of a disbursement by the purchaser of only \$399.5 million. Once the debt instruments were in the hands of NAFINSA, it would sell the government \$850 million in external debt with a

⁹ Bulow and Rogoff (1988) show that a country's voluntary buyback of debt benefits the creditor country more than the debtor since in the secondary market the debt is paid at its average value when it should be paid at the marginal value, which is less. They conclude that debt buybacks should be sufficiently small to avoid forcing up the price of the security.

Table 3.13. CMC: External Debt Instruments Accepted in the Privatization Process

Description of the instrument	Maximum acceptable amount (Millions of dollars)	Face value of instruments acceptable to NAFINSA (%)
ISR exempt debt		
Restructured—CONASUPO UMS and D.D.F.	700	100
UMS credits for 3,800 and 5,000 (new money and UMS credit granted in 1987)	400	100
Debt subject to ISR withholding		
BANOBRAS	75	98
BANCOMEXT	75	98
SOMEX	75	98
TELMEX	150	99
Others		
PEMEX	200	98
AHMSA	200	99
SERFIN	75	98
INTERNACIONAL	75	98

Source: CAIE with data from Secretariat of Finance and Public Credit (SHCP).

below-market discount, thereby minimizing the loss that writing off the loans to CMC would have represented.

Second Call for Bids: September 23, 1988

NAFINSA established as the minimum reference value the equivalent in pesos of \$910 million at the auction rate, which would include the value of the remaining liabilities, if any. The respondents to this call were Peñoles and PROTEXA. NAFINSA felt that the bids were too low and on November 8 declared the competition void. Moreover, it was not expedient to sell CMC after Mexicana de Cobre (MexCobre), which had the same characteristics, was offered for sale at a higher price.¹⁰

The first two biddings held by NAFINSA lacked clarity for the following reasons:

- The process was conducted with great privacy. However, privacy was necessary since the possibility of failing to privatize a company as large and as important as CMC could have raised doubts about the viability of the privatization process.

¹⁰ Mexicana de Cobre is located in Nacoziari, Sonora, a few kilometers from Cananea. It is the leading producer of copper in Mexico and has the country's most modern foundry.

- There was no prequalification of the prospective buyers, which led to the first bidding being declared void. If the qualifications of the potential participants in the purchase of CMC had been clearly established, the price set in the first bidding would not have been double the amount of the bid submitted by the mining groups, which caused confusion in the mind of the public about the actual value of the company.
- The privatization process was not guided by a single strategy. In each bidding the terms and conditions of the sale were increased, although there were never any contradictions.
- Adjusting the price of CMC based on the equivalent value in UMS quoted in the secondary market caused confusion.

First Auction Process: June 25, 1990

In August 1989 the company was declared bankrupt, so FINASA was appointed receiver,¹¹ possibly because it was a development bank with considerable experience in cases where labor was a major factor and disputes were frequent and also because it had participated as the agent bank in the privatization of the sugar mills.

During the process of privatizing CMC, one of the obstacles was the negotiations with the company's union. A month before the bankruptcy, the workers had begun the process of issuing a strike call for the purpose of reviewing wages and also to demand a series of additional benefits, which included:

- A 330 percent wage increase, including benefits;
- A work week of 40 hours, with payment for 56; and,
- Raising the number of justified absences from 105 to 125 days.

Although the Federal Labor Law specifies that exercising the right to strike suspends the negotiation of all collective disputes of an economic nature pending before the JCA, the first bankruptcy judge declared the company bankrupt since the strike call was never recognized by either JCA or by the union.

After a month of negotiations, on October 17, 1989, it was agreed that 719 unionized and contract workers would be let go. In addition, the miners would be allowed to purchase 25 percent of the shares of CMC. The company agreed to rehire 2,171 dismissed workers who would not receive severance pay but would have their seniority and their former wages reinstated and would be paid 50 percent of their wages until the mine reopened.¹²

¹¹ As stipulated by the Code of Civil Procedure, the receiver is the institution appointed by an authorized judge after a bankruptcy to sell off the company's assets.

¹² The labor problem that arose after the bankruptcy was of such a magnitude that it was necessary for the Secretary of Labor to become involved as mediator in the negotiations between the union and the receivers.

On November 7, 1989, the judge authorized the resumption of CMC's operations with an agreement between the receivers and the union, in which the following amendments were made to the collective labor agreement in force before the declaration of bankruptcy:

- 24-hour shifts in all production areas;
- Reduction of 400 worker categories to only six;
- Adoption of a new technology to increase productivity (for example, the system of dispatching trucks in the mine, which would improve internal logistics);
- Reduction of the number of justified absences;
- Closing of Concentrator I, which began operating in 1944, the carpentry shop, and the precipitates plant;
- 23 percent wage increase;
- Establishment of a system of promotions based on merit and not on seniority; and,
- External services contract.

With the new labor agreement some of the labor-related obstacles to increasing the company's long-term efficiency were removed. Still, the fact that the supply of labor was limited to the town of Cananea meant that the rules of play had to be changed and that the bad habits the workers had acquired after so many years of paternalistic rule had to be eliminated. With these changes, in the first two months of 1990 payroll expenses were reduced by 1.7 percent as compared to the first two months of 1989, and the number of overtime hours paid was reduced by 75 percent.

FINASA, however, went ahead with the liquidation process. On November 21, 1989, the first bankruptcy judge appointed an expert appraiser who determined that the minimum price for the assets was \$450 million. In this part of the process, the only bid was from a group of investors from the construction industry. The proposal was rejected because the payment terms did not satisfy the requirements of the SCHP.

Second Auction Process: August 20, 1990

The winner of the second auction was announced on August 27: Grupo Minera México (GMéx), which offered \$475 million in cash (i.e., \$25 million more than the last minimum reference price set) and presented complementary advantages. The Profitmaking-Minimum Reference Price Hypothesis could be rejected since CMC was not profitable.

After the bankruptcy, the processes were transparent, since in each of the public auctions the decision was made by the judge, who, pursuant to the Law on

Bankruptcies, determined the time and the requirements necessary for the auction sale of CMC.

The use of the financial market was not advisable because of the company's financial position and its labor problems, which would have placed it at a disadvantage with respect to other issuers on the Mexican Stock Exchange. Given the method employed and the errors that led to repeated attempts to sell, concentration of ownership was not avoided, and, therefore, the Closed Bidding Ownership Concentration Hypothesis cannot be rejected.

The four calls for bids did not include the prequalification of prospective buyers. Because the bidders were not prequalified, the privatization process included prospective buyers without the necessary financing. One of the solutions to this problem is to set a penalty so large that the benefit of bidding to see if the purchase goes through without first obtaining financial backing is smaller than the cost of not complying with the conditions if selected.

Once the sale of CMC was concluded, the new owner offered to sell only 5 percent of the shares to the workers, instead of the 25 percent agreed to following the bankruptcy. However, the actual participation allowed to the union was approximately 3.9 percent. This was because MexCobre, as the major shareholder of CMC, granted the union the option of selling 5 percent of all its shares (78.8 percent of the company's capital stock). As a result, and despite the fact that the original agreement was not fulfilled, the Monopoly Power-Worker's Share Hypothesis is not rejected since CMC has a certain degree of monopolistic power in the domestic market.

The purchase of CMC necessitated a credit from Generale Bank, N.V., a Belgian institution, which on September 20, 1990, granted interim financing in the amount of \$115 million to finance partially the purchase of the mine. This credit was granted to Mexicana de Cananea, whose new shareholders were the Belgian company Acec Union Minière (21.2 percent of the shares) and GMéx (78.8 percent) through its affiliate MexCobre. In addition, credit agreements were concluded with Banamex, S.N.C.; Banca Serfin, S.N.C.; Bancomer, S.N.C.; J.P. Morgan; CitiCorp, N.A.; BHF Bank; and Banque Indosuez for a total of \$376 million. Based on this analysis, the Buyer Selection Hypothesis is not rejected because throughout the process the criteria that governed the selection of the buyer were the price offered and the investment commitments.

Complementary Policies

Copper is a homogenous good whose price is determined by international supply and demand. In the copper industry, market frictions caused by transportation and transactional costs make commercial relations difficult between the different links in the productive chain (mine-foundry-refinery), resulting in monopolistic

competition throughout the world.¹³ In this context, there are incentives for the vertical integration of companies in order to exploit complementary advantages and thus increase their monopolistic power, which they exploit in certain regional segments.¹⁴

CMC and MexCobre, producers of 88.6 percent of the nation's copper, were sold to GMéx, resulting in the integration of the CMC mine with the MexCobre foundry and increasing the former's market power through cost reductions made possible by synergetic advantages. This analysis seems to be borne out by the increased profits earned by CMC in the first year of operations, despite the persistence of labor problems.

The establishment of mechanisms to regulate industries such as copper, in which the expected benefit depends on the degree of integration and the erratic behavior of prices, jeopardizes the industry's viability when prices fall if, by setting prices in peak periods, it is not possible to accumulate funds for periods of low profitability. This is why regulation and effective competition were not perceived as problems for CMC, since the international price was an active restriction which would limit the company's monopolistic power in the long term. Because of this, it was not necessary to sacrifice profitability to guarantee stability in the supply and the price of copper in the domestic market; consequently, the Profitability Promotion Hypothesis is rejected.¹⁵

Nevertheless, on September 27, 1990, new regulations were issued in connection with the Regulatory Law of Article 27 of the Constitution concerning mining affairs, which removed the barriers to legal entry for the purpose of working natural resources and promoting foreign investment in this sector.¹⁶

It should also be mentioned that the privatization of CMC was followed by deregulation of the water and light rates. Therefore, the Input Deregulation Hypothesis is not rejected.

There is no way to monitor fulfillment of the obligations contracted by the buyer of the company nor to ensure that the expansion and community benefit

¹³ The cost of concluding contracts for the sale of copper is high because of the complexity of establishing penalties based on the type and quantity of impurities and because of clauses covering price fluctuations.

¹⁴ High transportation costs generate local competition, which creates a monopolistic structure in certain regional segments near consumers (Salop, 1979), a phenomenon that disappears as the regional segments begin to overlap.

¹⁵ In Chile, a contingency fund was created to protect the mining sector from decreases in the price of copper, the objective being to prevent regional crises and the disappearance of the sector. According to one theory, the copper market is contestable (Baumol, Panzar, and Willig, 1982) since the monopolistic power of a company in a certain region is constantly threatened by the possible entry of companies already established in the copper industry, for whom penetrating another region would not involve sunken costs. Given an infinite perspective, the current net value of the profits is zero due to price fluctuations.

¹⁶ However, the large amounts of capital needed for the exploration and operation of mines constitute entry and exit barriers, the latter of which cause instability in the copper market.

plans are carried out. Despite the fact that in the conditions governing the auction sale and the public auction it was requested that the bid be supplemented by community support and development programs, it is important to emphasize that one of the causes of inefficiency in the company was the cost of the primary services CMC provided for the town of Cananea. Requiring the winning company to allocate more resources than it is accustomed to giving could lead to a financial crisis. For this reason, and because there is no way of enforcing the buyer's commitments, such plans are not credible. Moreover, towns as large as Cananea cannot continue relying on the company. Therefore the tendency will be for the government to assume responsibility for providing the primary services and promoting the economic development of this mining region in order to minimize the risk that in the future CMC might lose its ability to support the town economically, thereby generating a regional crisis.

Privatization and Impact on Efficiency

The error of planning to work a stope of the size selected when the mine was publicly owned generated excessive costs for CMC. Whereas MexCobre removed 1.5 tons of material for every ton of copper, CMC removed four tons of material per ton of copper. The cost per metric ton removed was \$1.20, and considering that 3.2 million tons were removed each year, the excess costs generated by the improper size of the stope totaled \$7.8 million per year, which represented 23 percent of the profits recorded in 1991.

For CMC, the level of efficiency was determined by the workers. Despite the fact that after the bankruptcy an agreement was reached to replace certain clauses that worked against the company's efficiency, the collective agreement was still in force. This caused a series of problems for CMC, since the collective agreement contained no system of penalties and incentives obligating the workers to complete their work within a given period of time. Because of this, the workers behaved much as they did before the bankruptcy. There was absenteeism, work performed according to the categories that existed before the bankruptcy, and opposition to the contracting of services outside the company. In these circumstances, average productivity was below the level required by the company (Table 3.14).

To purchase CMC, GMéx received loans guaranteed by a certain production and export level, calculated on the basis of the capacity of the plant and the time estimated to reach this capacity, with a transition period similar to that accorded MexCobre. However, after a three-month transition period, the company became involved in disputes with workers that ended with a shutdown of the mine and the concentrator in June 1991, causing the company losses of approximately \$20 million.

For a more detailed analysis of the impact of the labor situation on the

Table 3.14. Average Productivity per CMC Worker in Each Production Area

Month	Mine	Concentrator	Foundry	Refinery
October 90	33.4	53.0	18.6	26.2
November	34.0	40.0	14.5	23.7
December	26.7	34.8	15.7	22.0
January 91	25.7	33.6	17.6	21.4
February	29.8	31.8	18.6	20.7
March	30.1	46.6	19.4	22.5
April	36.3	46.9	16.6	20.8
May	44.7	49.5	18.5	21.5
June	40.3	7.7	15.8	21.2
July	48.2	24.2	17.4	21.5
August	45.9	55.0	14.6	20.7
September	42.5	51.3	15.7	20.7
October	47.0	28.5	15.7	20.7

Source: Author's calculations with data from CAIE.

Note: The average output per operating area is calculated taking into account the number of workers and their output per area.

company's efficiency, we can look at CMC's operations based on the average output of labor in each production area: mine, concentrator, foundry, and refinery (SX-EW plants).¹⁷

There are 876 workers involved in the mining process, and it is here that the greatest productivity problems have occurred, since on average this area worked at only 66 percent of its capacity in 1991. In November 1990, during the transition period, the company experienced systematic declines in productivity due to labor disputes (see Figure 3.3). There are 480 workers in the concentrating area. In 1991, the concentrating plant worked at 58.9 percent of its capacity. In a more pronounced manner than in the mine, between October 1990 and February 1991, the plant's average output declined, with even more precipitous drops in June and October 1991 (see Figure 3.4).

The fact that the average productivity of the labor force declined in the mine and in the concentrator is explained by the following. In June 1991, for the purpose of purchasing nineteen 170-ton trucks and one 240-ton truck, the company required the supplier of this equipment to service the trucks inside the mine. However, the workers opposed the entry of third parties onto the premises of CMC to perform services for the company, since this was expressly prohibited by the collective labor agreement. This caused the shutdown of the mine and of the

¹⁷ The concentrating plant cleans the material from the stope. The SX-EW plants use hydrometallurgical processes to clean the copper from the mine. The product obtained with this process is 100 percent pure copper, ready for industrial use.

Figure 3.3. Average Productivity Per Worker in Mining, 1990-91
(Copper tons per worker)

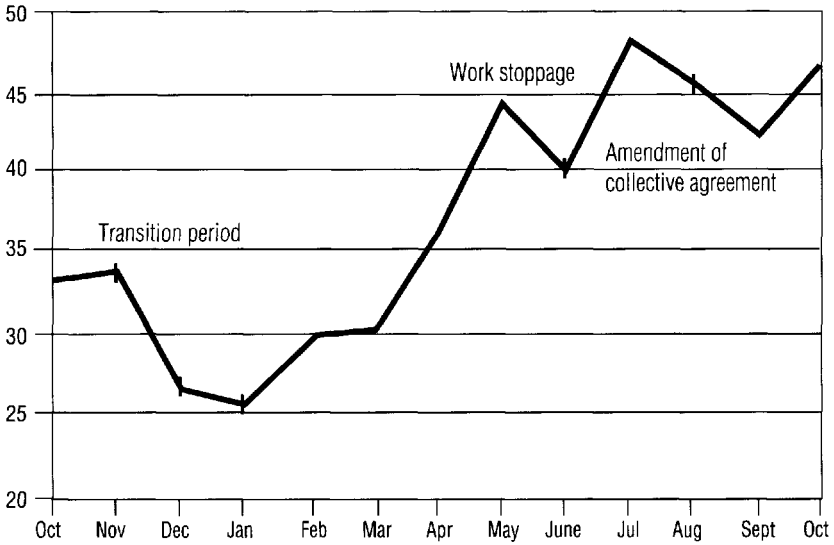
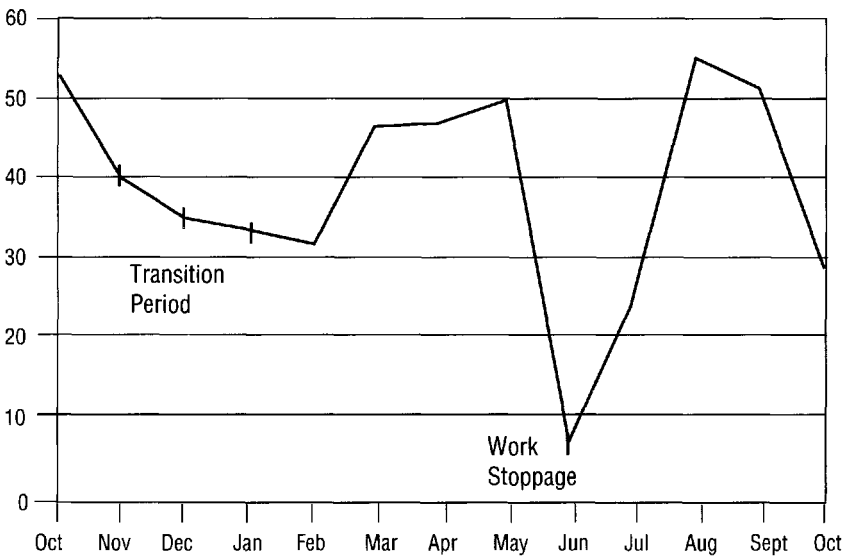


Figure 3.4. Average Productivity per Worker in Concentrator, 1990-91
(Copper tons per worker)



concentrator. The work stoppage was declared illegal by the JCA, since the agreement signed after the bankruptcy specified that the company was free to contract outside services.

At CMC, the collective labor agreement was revised every two years in August. Although in theory the purpose of the revision was to balance the relationship between the production factors, it was actually used by the union as a means of pressuring for better benefits. As a result, between July and August average productivity declined.

For the same reasons, in 1991 the foundry operated at 87.8 percent of its capacity, with declines in productivity in October 1990 and in April, June, and August 1991. Despite the fact that the trends of the average output of the mine and of the concentrator are similar, the declines in foundry productivity were smaller because, in relative terms, the foundry is less labor-intensive: only 205 workers are employed there (see Figure 3.5). The SX-EW plants are capital intensive, so the average output of the labor force remained higher than the company required. In these plants there are 128 workers (see Figure 3.6). Based on the foregoing analysis, the Union-Efficiency Deterioration Hypothesis is not rejected.

Because of the low productivity of the workers and the idle capacity this caused, CMC had to renegotiate its export financing commitments when it failed to satisfy the quota to which it had agreed. In addition, CMC was forced to renegotiate its debt to delay payments.

On the other hand, with the purchase of CMC, GMéx reinforced the integration of its copper treatment process by joining the MexCobre foundry with the copper concentrates supply capability of CMC. With this new industrial structure, GMéx generated a series of complementary advantages and strengthened its bargaining power with its customers and suppliers.

As far as suppliers are concerned, MexCobre and CMC primarily require lime, reagents, balls and bars for crushing, and explosives. With the combining of these two companies, the volume of purchases from suppliers increased, making possible discounts representing 1.3 percent to 1.9 percent of the cost of production. Another important savings was in the area of transportation and treatment costs. With respect to the cost of transportation, there is a difference of 12 centavos per pound of copper concentrates in Cananea to San Manuel (Magma Copper), where the nearest customer after MexCobre is located, than to move them from Cananea to Nacozari (MexCobre). The combining of CMC and MexCobre generated a savings in transportation costs of \$5.7 million, which represents 25.4 percent of the total concentrate sales in 1991 and 17.5 percent of the net profits of fiscal year 1991.

The treatment cost is the amount charged by refineries for the loss of a percentage of copper in the refining process. For example, Japanese refineries impose a treatment charge of 26 centavos per pound of copper concentrate, while MexCobre charges 14 centavos per pound. This savings of 12 centavos repre-

Figure 3.5. Average Productivity per Worker in Foundry, 1990-91
(Copper tons per worker)

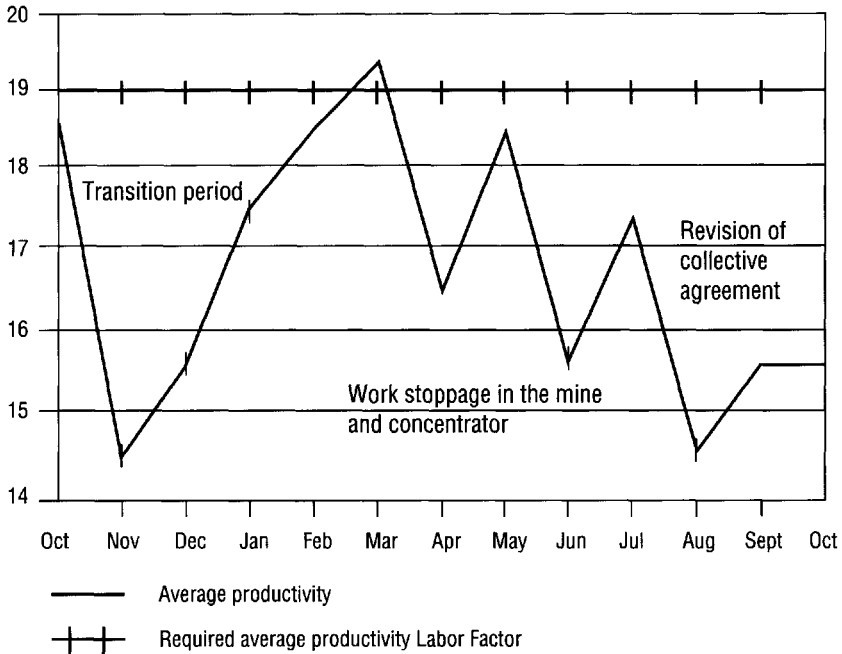
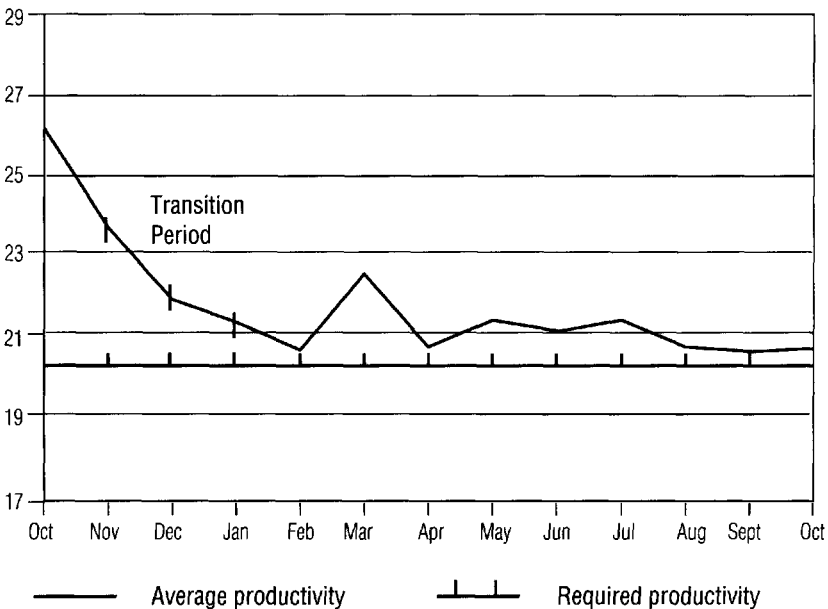


Figure 3.6. Average Productivity per Worker in SX-EW Plants, 1990-91
(Copper tons per worker)



sents 17.1 percent of the cost of producing a pound of refined copper at CMC and 15 percent of the net profits earned in 1991. Consequently, the increased profitability of CMC is explained by reduced costs and the exploitation of complementary advantages, since prices are determined by the international market. Therefore, the Higher Profit-Price Adjustment Hypothesis is rejected.

Privatization and Fiscal Impact

The federal government received no income from the sale of CMC. At the time of the bankruptcy all of the shareholders lost their right to a share of the assets because all of the proceeds of the sale went to the creditors. Since the credits granted to CMC by NAFINSA were mortgage-secured debt instruments, the latter was in the position of a preferred creditor, so that after the sale was concluded the judge declared NAFINSA a preferred creditor and ordered the payment of 1,438 billion pesos, which were to be applied to part of the mortgage credit. These funds were deposited in the Treasury of the Federation.

On December 18, 1988, the Board of Directors of NAFINSA acknowledged to the National Banking Commission the write-off of its shareholding investment in Cananea in the amount of 415 MMP in the direct portfolio and 666 MMP of the balance of the deferred reserve authorized for 1989, plus 91 MMP and \$36 million in the bad loan portfolio. This caused NAFINSA losses of 1,172 MMP and \$36 million. It should be pointed out that if the company had not filed for bankruptcy, it might not have been possible to recover the amount of the company's assets, resulting in a net fiscal loss, even without including the amount of liabilities not recovered by NAFINSA.

With the privatization of CMC, investment in the company increased and subsidies were eliminated. The Increased Investment Hypothesis, which states that the increase in investment was greater than the decrease in subsidies, is not rejected. The Fiscal Gains-Current Expenditures Hypothesis is not rejected because the proceeds of the sale were used to reduce liabilities and did not cause an increase in current public expenditures. Finally, the Interest Rate and Debt Service Hypothesis is rejected because the sale of CMC involved a minor direct inflow of capital, which had no effect on the loanable funds market.

Lessons and Recommendations

The above analysis provides the following preliminary conclusions, which may throw light on future privatization processes:

- The appointment of NAFINSA as the first agent bank prolonged the privatization process. By financing high-risk investments, NAFINSA had

participated in the mismanagement of CMC, which is why it tried artificially to justify a price higher than the actual value of the company. Moreover, NAFINSA failed to handle the labor problems in the proper manner. Therefore, it is recommended that the sale not be entrusted to an institution that has been involved in the mismanagement of the company. The agency in charge of the privatization of a mine with labor problems must have experience in these matters and must seek the opinion of experts in the field to establish a realistic price for the company and avoid using the book value as a reference.

- It would have been better to allow the company to file for bankruptcy at the beginning instead of trying to sell it to the highest bidder without even checking to see if the bidder would have problems paying the offered price. To sell the company to the highest bidder, knowing that its financial position would prevent it from paying its debts, undermined the credibility of the privatization process. Prolonging the privatization process is perceived as increasing the investment risk, which causes prospective buyers to adjust their offers because of the reduced cash flow of the company to be privatized. It is recommended that companies with financial and labor problems not be offered for sale at inflated prices because the failure of the sale ultimately causes fiscal losses.
- Another factor prolonging the privatization process was the failure to prequalify prospective buyers. It is recommended that competitive bidding processes include a prequalification phase to determine the credit rating of prospective buyers, especially those not familiar with the economic activity in question. Prequalification also can include a penalty for bidders who, having been declared the winners of the competition, do not fulfill any of the requirements established in the bidding conditions.
- In the case of city-companies such as Cananea, wholesale dismissals cause social and economic disequilibrium at the regional level. The need to maintain a percentage of overemployment for a time must be recognized along with the importance of developing and creating jobs. The company and the government could establish an industrial park to help alleviate the economic dependency of the town on the company.
- Filing for bankruptcy permitted the formation of a new company with a labor agreement that eliminated the sources of labor inefficiency and authorized the intervention of judicial institutions to solve disputes between the government and the union within a legal framework. Nevertheless, the lack of an authority to ensure compliance with the agreement once the company was privatized resulted in labor practices being made to conform to the collective agreement, thus preventing the expected gain in efficiency. When the company to be privatized encounters cash flow problems caused by the inefficiency of the labor force and, in addition, is not

independently able to fulfill its obligations, it should declare bankruptcy as would a private company in such circumstances.

- Substantial revisions of the collective labor agreement were possible because of the company's bankruptcy. In Mexico, the Federal Labor Law limits the possibility of modifying collective agreements under conditions less favorable to the workers. The only way to make substantial modifications is through termination of the agreement, which is only possible through the declaration of bankruptcy. The labor problem of government-controlled enterprises stems from the inflexibility of the Federal Labor Law with respect to modifying collective agreements. This protects the benefits and gains of workers without considering whether they are detrimental to the efficiency and profitability of the enterprise. For this reason, it is recommended that the restriction preventing the revision of collective agreements in less favorable conditions be eliminated and that companies be allowed to request revision of the agreement when it is the cause of their financial problems.
- The sale of CMC made GMéx the only national-scale producer of copper. However, the structure of the national market it faces is contestable since the constant threat of foreign producers forces the company to keep the price near the international price. The profits earned by the company allow it to survive in periods when prices are below average costs. The amendment of the regulations of the Mining Law removed the barriers to outside participation, which strengthened the competitive structure of this industry. In industrial sectors where prices are determined internationally and companies hold a local monopoly, regulations are unnecessary if the structure of the sector is contestable. In sectors where the markets are contestable, as is true of the mining and metallurgical sector, it is recommended that the legal barriers to outside participation be removed so that the industry will be regulated by market forces alone.
- Bankruptcy allowed the government to receive payment equivalent to the amount of the sale of the assets, which it used to offset the fiscal loss. The bankruptcy process assures the minimization of fiscal losses since, in the case of public enterprises with solvency problems, the value of the assets generally exceeds the value of the enterprise as a going concern.

Tereftalatos Mexicanos (TEMEX)

Background

Tereftalatos Mexicanos (TEMEX), privatized in November 1988, is a petrochemical company involved in the production and sale of purified terephthalic acid

Table 3.15. National and Foreign Sales of Purified Terephthalic Acid (PTA), 1983-88
(Thousands of tons)

	1983	1984	1985	1986	1987	1988
National market	84	95	94	106	124	136
Export market	80	94	117	108	94	92
Total	164	189	211	214	218	228

Source: CAIE with data from Banca Serfin, *Prospecto Informativo*.

Table 3.16. TEMEX: Financial Indicators of Productivity before Privatization, 1983-88

	1983	1984	1985	1986	1987	1988
Net profit/net worth	0.14	0.16*	0.22*	0.24	0.20	0.18
Net profit/sales	0.13	0.14	0.23	0.26	0.21	0.27

Source: Prepared by CAIE with data from TEMEX and Banca Serfin.

*Figures calculated considering the effects of inflation on the denominator (B10).

(PTA), which is used as a raw material in the manufacture of synthetic polyester fibers. The company was organized in 1970 when Celanese Mexicana and Nylon de México suggested that the federal government invest in a plant to produce PTA, an initiative backed by Grupo Financiero e Industrial Somex and NAFINSA. In 1973 Amoco Chemical Corporation's Mitsui and Hercules technology was acquired, which was considered state-of-the-art because it offered relative advantages in terms of both cost and quality and was widely used throughout the world in the production of PTA. Construction of the plant began the following year. The plant opened in 1978 with an installed capacity of 135,000 tons per year, which by 1988 had been increased to 225,000 through the introduction of technological advances and the elimination of inefficiencies.

In 1979 TEMEX took its first steps into the export market and soon became an export company and a net generator of foreign exchange. As Table 3.15 shows, the total sales volumes of TEMEX grew steadily in the years before privatization, going from 164,000 tons in 1983 to 228,000 in 1988, which represented an increase of 39 percent. Exports represented between 40 percent and 55 percent of the total sales, with Korea and Taiwan as the company's most important customers.

When TEMEX was offered for sale, the Secretariat of Energy, Mines, and Parastatal Industry (SEMIP) had approved plans to double the company's installed capacity, and the expansion had begun. TEMEX had projected that the second plant would start operating in late 1991, giving the company an installed capacity of 460,000 tons of PTA per year. These plans were based on the perception of a growing worldwide preference for PTA over DMT in the manufacture of polyester and the lack of any foreseeable input that could displace PTA.

Table 3.17. TEMEX: Financial Ratios before Privatization, 1985-88
(Percentage)

	1985*	1986	1987	1988
Long-term liabilities/total assets	7.6	6.9	6.2	3.6
Short-term liabilities/total assets	40.8	42.5	33.8	30.6
Total liabilities/total assets	48.4	49.4	40.0	34.2
Long-term liabilities/net worth	14.8	13.7	10.3	5.4
Current assets/short-term liabilities	40.8	42.5	33.8	30.6

Source: Prepared by CAIE with data from TEMEX and Banca Serfin.

*Current assets, total assets and net worth calculated taking the effect of inflation into account.

Table 3.18. TEMEX: Number and Type of Employees before Privatization, 1984-88

Personnel	1984	1985	1986	1987	1988
Contract	337	335	338	338	338
Unionized	260	260	268	261	268
Total ¹	597	595	606	599	606

Source: Banca Serfin, *Prospecto Informativo*.

¹Includes fee-paid personnel and personnel involved in the project.

As far as the regulatory framework is concerned, it should be pointed out that the Mexican Constitution defines basic petrochemistry as a strategic area reserved for the state (Articles 25 and 28), and the Regulatory Law of Article 27 of the Constitution grants *Petróleos Mexicanos* (PEMEX) a monopoly on petroleum derivatives that can be used as basic raw materials in industry. Paraxylene, which is the main input used in the production of PTA, is classified as a basic petrochemical, and PEMEX has therefore played an important role in its development, production, and sale and has supplied it at prices lower than the international price.

Nevertheless, PEMEX often failed to fulfill its contracts to supply paraxylene and TEMEX was forced to import it at higher international prices since it had no contracts with other suppliers, which unexpectedly increased its costs and made the company less competitive. The discount PEMEX offered (which made the price of paraxylene similar to the transfer price that vertical integration would make possible) provided no security.

It should be noted that before privatization, TEMEX received 30 percent discounts on raw materials supplied by PEMEX and on electricity, in addition to obtaining tax credits and exemptions for exports under the Tax Promotion Certificates system (CEPROFIS). Offsetting these fiscal costs were the profits TEMEX generated, which enabled the federal government to earn dividends proportional to its shareholding interest in the company and to collect regular corporate taxes.

TEMEX was unique among the public enterprises to be privatized because of its sound financial position, stable labor relations and high level of technology and productivity, which are explained by the government's limited involvement in running the company. Table 3.16 shows significant levels and a certain upward trend in the financial indicators of productivity before privatization. Table 3.17 indicates that except for the current assets/short-term liabilities ratio, the trend of the other ratios could be viewed as capitalization of the company and, consequently, an increase in its value.

In the five years before privatization, the variation in the total number of employees was small, and in the year of the sale was less than 2 percent (see Table 3.18), which proves that no personnel changes were made to make the company more attractive. Moreover, the labor structure, the method of working, and TEMEX's training and education programs were all satisfactory prior to its privatization.

Despite these positive characteristics, TEMEX could not escape privatization because:

- The production of PTA was not an area of strategic production reserved for the federal government;
- The government lacked the financial resources to expand TEMEX's capacity without cutting back on other activities;
- A private company could use economies of scale, complementary advantages, and other benefits to increase the company's productivity; and,
- Although the federal government would lose its share of the dividends, it was hoped that it would be able to collect more taxes as a result of the increased production, sales, and profits following privatization.

In October 1988 the capital stock of TEMEX consisted of 11,225,000 common and ordinary shares with a par value of \$100.00 each in domestic currency, fully subscribed and paid in, divided into three series: A, B, and B1. There were eight shareholders holding one or more types of shares. The government's interest—including the holdings of NAFINSA, the federal government, Fomento Industrial Somex, and the Carlos Arocha Morton Trust Fund—was 52.23 percent.

Privatization Process

TEMEX was sold by auction. On June 17, 1988, the Secretariat of Finance and Public Credit appointed Banca Serfin to take charge of the valuation, preparation, and sale of the holdings of the federal government and its agencies. Serfin was selected because of its sales experience in the petrochemical sector as well as its excellent record as an intermediary. Together with the International Finance Corporation (IFC), Serfin confidentially assessed the value of the government's

interest in order to establish a minimum sales price, which was estimated at \$14.59 per share (the exchange rate used was 2,273 pesos per dollar). This also represented the present value of future flows, according to a conservative estimate based on a 15-year asset depreciation period, modification of the program to begin increasing the installed capacity, and a 12 percent discount rate.

Once approval was given to SEMIP's proposal to relinquish control of TEMEX and to retain a minority government interest through PEMEX, Serfin published a call for bids on September 26, 1988 in the major newspapers, announcing the start of the sales process and inviting interested investors to request a description of the company and the bidding conditions. A decision was made not to use the Mexican Stock Exchange to privatize TEMEX since it was a medium-sized company not quoted on the exchange. On October 21, 1988, the SHCP issued "Additional Conditions for Bidding on Shares," which contained the following objectives:

- To provide continuity for the company's petrochemical projects;
- To avoid the creation of monopolistic structures;
- To assist in the integration of the industrial network;
- To promote technological development and the generation of foreign exchange;
- To channel resources for the development of projects for the export of petrochemicals;
- To encourage the formation and participation of new investor groups;
- To use business and technological skills; and,
- To protect the interests of the minority shareholders.

To make the package more attractive, it was necessary to offer a majority interest in the capital stock. This was not possible, however, since the federal government's total interest, excluding the 10 percent to be held by PEMEX, was only 42.22 percent. Therefore, there were discussions with the IFC to encourage it to add its shares to the public package, mention of which would be made in the call for bids. On September 23, 1988, a commercial agency agreement was signed by the IFC and Serfin for the sale of 1,900,000 shares, which represented 16.93 percent of the capital stock of TEMEX. The terms of the sales agreement between the IFC and Serfin stipulated that the sale would go through if the amount offered exceeded the minimum reference price, even if the highest bid were not chosen. In this way, a minimum percentage of 59.15 percent was offered for sale by adding the federal government's total interest (42.22 percent) and the IFC's holding (16.93 percent).

The company's articles of incorporation gave the other shareholders a preferential right to purchase, which meant that if any shareholder wished to sell shares he was obligated to notify the other shareholders in writing of the best offer received

and to give the latter a period of 60 days following the notice to purchase the shares, in proportion to their shareholding interest in the company, at the price stated in the notice. To avoid a long and tedious process, the articles were amended so that if the preferential right to purchase were not exercised, the seller would have the right to sell the shares freely, in accordance with any agreements expressly entered into with the shareholders or subject to the terms mentioned, provided that the sales price was not less than that indicated in the written offer. With this amendment, the shareholders who waived their preferential right were still protected since they could stipulate special conditions in the agreements they entered into with the seller to renounce their preferential right to purchase.

Since the government preferred the buyer to be a group not involved in the petrochemical industry in order to avoid creating a monopoly (although it did want the company to be of such a size and with operations of such a scale as to enable it to succeed in the sector), agreements were entered into with Celanese Mexicana (COPRISA) and Amoco, waiving their preferential right to purchase under conditions set forth in the agreements. The Special Commission appointed by the SHCP to make decisions about the sale felt that it was not proper to sell the company to COPRISA because, presumably, it was only interested in guaranteeing its own supply of PTA. On September 23, 1988, an agreement was concluded with COPRISA stipulating that:

- COPRISA waived its preferential right to purchase;
- COPRISA would have the right to participate as another additional investor in the public offering of 59.15 percent of the capital stock and to make a second offer no later than seven days after being notified of the best offer;
- Even if COPRISA matched the offer, the federal government was not obligated to sell to it; and,
- If COPRISA did not wish to buy, the federal government could sell its share of the public package, although at the buyer's decision.

Similarly, on August 19, 1988, an agreement was signed with AMOCO, stipulating that:

- Amoco waived its preferential right to purchase and agreed not to offer its share to any party not approved by Serfin;
- The buyer would guarantee Amoco a seat on the Board of Directors, although it would retain its 8.55 percent interest, which is less than the amount specified in the articles of incorporation;
- Amoco could buy the public package; and,
- Serfin would notify Amoco of the amount of the best offer and would allow it a maximum of seven days to decide whether it wanted to better the offer or to sell.

As a result of these agreements, it became possible for outside, national, and foreign groups to participate in the auction, while at the same time the entire process was made more competitive, more transparent, and quicker to complete. In these circumstances, the group best qualified to gain a foothold in the market, exploit complementary advantages and use economies of scale would be able to indicate these capabilities in the price offered, and the federal government would obtain the best possible price.

Of the 15 companies that participated in the auction, Cementos Mexicanos, S.A. (CEMEX) stood out because it was a solid business group that, if selected, would be expanding into a new field, a consideration that won it supporters on the Special Commission appointed for the sale. On the other hand, PETROCEL, a member of the Grupo Industrial ALFA, had more experience in the field and a productive plant that would enable it to exploit synergetic advantages. PETROCEL had offered the highest price, which made it the winner. The purchase price was \$22.26 a share, which was higher than the reference price and about 50 percent higher than the offer submitted by COPRISA, its closest competitor. This price reflected both the buyer's awareness that TEMEX was a profitable company with excellent growth prospects and that it expected to reap substantial benefits. Consequently, we cannot reject the Profitmaking-Minimum Reference Price Hypothesis, according to which the sales price is higher than the reference price for every company that generates profits, it being further acknowledged that not only do current profits play an important role in this conclusion but so does the real possibility of future success in the market.

PETROCEL acquired the 59.16 percent offered in the public package and bought COPRISA's shares, raising its interest to 81.45 percent of the capital stock with a total investment of approximately \$500 million. Amoco owns 8.55 percent of the shares, and PEMEX, the remaining 10 percent.

The Mexican Constitution gives unionized workers the right to participate in the purchase of the company they work for. At TEMEX there was a group of contract workers interested in submitting a bid. Serfin gave them the necessary administrative support. It also exempted them from the obligation of making the 100 MMP deposit required to obtain information about the company and to be considered a candidate in the competitive bidding. However, the workers did not have the necessary collateral to guarantee the payment obligations, and they were unable to obtain financing. The federal government did not offer to stand surety for the workers because it was in the midst of an economic adjustment program that required reducing the fiscal deficit.

The Closed Bidding Ownership Concentration Hypothesis, which establishes concentration of ownership when the stock exchange is not used, is not rejected since with the sale of TEMEX the national production of raw materials for polyester passed into the hands of a single group. Because the successful group had the most experience in the field and scaled down the expansion project to make it more congruent with market conditions, the Buyer Selection Hypothesis is rejected.

Table 3.19. Domestic Price and Theoretical National Price of PTA, 1988–91

Year	Domestic price (US\$/ton)	International price (US\$/ton)	Tariff (%)	Theoretical national price ¹ (US\$/ton)
1988	555	580	15	667
1989	634	701	15	806
1990	612	637	15	733
1991	578	590	15	679

Source: Elaborated by CAIA with data from PETROCEL-TEMEX.

¹The theoretical national price is the sum of the international price and the import duty.

Complementary Policies

Responding to criticism in the press that a monopoly might be formed, PETROCEL suggested two measures to combat the fear of lack of competition:

- Reduce the import duty on PTA (which was 37 percent in 1986 and 15 percent in 1987) to zero; and,
- Agree to supply PTA to national industrial consumers with a discount on the import price if they export their products.

These suggestions influenced the choice of PETROCEL as the best candidate. The first measure was not adopted; the duty was left at 15 percent to avoid the possibility of dumping by U.S. companies. Although there is no national producer of PTA, companies can buy it abroad at the international price plus freight charges and duties. At present, PETROCEL-TEMEX's share of the world market is 6 percent, whereas TEMEX alone formerly had a 2 percent share and PETROCEL 3.5 percent. It is the third largest producer of PTA and the second of DMT. Despite the fact that it is larger, PETROCEL-TEMEX cannot set the international price of PTA; it is determined by Amoco. The second measure was adopted; therefore, the emergence of a single national producer did not lead to the creation of a monopolistic market structure, given the moderate tariff. Moreover, the possibility of competing more aggressively in the world market and improving the country's supply of this raw material was enhanced.

PETROCEL-TEMEX's monopolistic power was not increased and its unit profit margin fell in the three years following privatization, a reflection of the increased cost of inputs and the company's internal chain competition strategy. Table 3.19 shows that after privatization, the theoretical national price was higher than the domestic price for all years, confirming that PETROCEL-TEMEX did not take full advantage of the margin provided by the tariff.

Another way of assessing the trend of the company's monopolistic power is

Table 3.20. PETROCEL-TEMEX: Trend of the Unit Profit Margin after the Sale, 1988–91
(Millions of 1990 pesos)

Year	Total cost	Output (tons/yr.)	CMe/ton PTA	Price/ton PTA	(P-CMe) CMe
1988	303,832	225,000	1.35	1.92	0.42
1989	334,012	224,000	1.49	1.98	0.33
1990	311,644	231,000	1.34	1.72	0.28
1991	337,277	250,000	1.34	1.47	0.09

Source: Prepared by CAIE with data from PETROCEL-TEMEX.

to compare the profit margin percentage over time, assuming similarity between the trend of the marginal cost and the average cost. Table 3.20 shows that the profit margin declined after privatization, suggesting that the real increases in public inputs and external competition in PTA and polyester fibers have regulated the domestic market. When the Economic Solidarity Pact entered into force in December 1987, prices were frozen (except for increases in public prices) and it was not until 1989 that they were decontrolled, so that the opportunity of taking advantage of a high international price for PTA was lost.

In August 1989 the regulations of the Petrochemical Commission were reformed, establishing commercial information standards and reclassifying secondary petrochemical products with a view to eliminating problems in the industry having to do with vertical integration, technological innovation, and the high volume of imports. However, none of the reforms benefited TEMEX, since paraxylene continued to be produced only by the public sector.

The Monopoly Power-Worker's Share Hypothesis is not rejected, since TEMEX operated in competitive markets and did not have to distribute shares among the workers. In addition, since competition with the exterior was promoted and raw materials subsidies were eliminated following privatization, the Profitability Promotion Hypothesis is rejected. Given the increases in the net price per kilogram of paraxylene that PEMEX charged national companies, which were on the order of 100, 56, and 13 percent in 1988, 1989, and 1990, respectively, the Input Deregulation Hypothesis cannot be rejected.

Privatization and Efficiency Gains

In deciding to expand the installed capacity of TEMEX, PETROCEL replaced the public administration's plans to expand by leaps and bounds with gradual growth more attuned to the world market. On May 21, 1991, the SEMIP resolution authorizing PETROCEL-TEMEX to produce up to 345,000 metric tons of

Table 3.21. PETROCEL-TEMEX: Physical Indicators of Productivity after the Sale, 1988–91

Year	Output (tons/yr.) (1)	Index of raw materials consumption (2)*	(1)/(2)	Tons/ employee	Man hrs./ ton
1988	225,235	0.86	261,901	370	7.57
1989	224,075	0.84	266,756	433	6.47
1990	231,116	0.82	281,849	456	6.14
1991	250,343	0.81	309,065	537	5.21

Source: Prepared by CAIE with data from PETROCEL-TEMEX.

*Index developed by PETROCEL-TEMEX with 1980 base.

PTA a year was published in the *Diario Oficial*. Meanwhile, greater stimulus was given to investment in technology, and a goal was set to achieve world leadership in the supply of raw materials for polyester fibers.

Table 3.21 shows that the physical indicators of productivity rose in the years following privatization. The growth of the quotient of output over the raw materials index was 18 percent in 1988–91, while in the previous four years it was 13 percent, which indicates an increase in the company's productivity after the sale.

A special comment is in order regarding PEMEX, which, despite being the seventh-largest producer of paraxylene in the world, did not grow at the same pace as the petrochemical industry and now lacks the capacity to satisfy the national demand for this input. Although there was never any formal agreement, ALFA was prepared to negotiate with PEMEX concerning its participation in a project called AROMATICOS, the objective of which was to increase the production of paraxylene as well as other basic petrochemicals, so that national production would satisfy demand and make PEMEX the world's second-largest producer of this input. Paraxylene accounts for 65 percent of the total cost of producing PTA, and currently 40 percent of it is imported. Therefore the project would significantly reduce PETROCEL-TEMEX's production costs if a sales price were set equal to that of its chief competitor, Amoco, whose integration in the sector extends to drilling for oil, and whether or not the supply were guaranteed.

Paraxylene is produced by refineries in conjunction with other basic chemical products that are reused in the refining process to maximize the use of resources. Consequently, for backward/vertical integration to be profitable for PETROCEL-TEMEX, it would have to include drilling for and refining petroleum. Producing a single product such as paraxylene is inefficient since the refining process implies a level of optimization that requires daily adjustment and involves other basic petrochemical products. Experience shows that the groups formed solely to produce paraxylene went bankrupt (KEMTEK in Canada and Phillips Petrol in Puerto Rico), and the ones that survive are those that become involved in refining (such as Saint Croix in the United States). Despite the advan-

tages and the interest of industrial groups, the project was shelved because it was impossible to reconcile the interests of PEMEX and the prospective private investors.

In the same way that backward integration in refineries is scarcely feasible for legislative reasons, forward integration is hardly viable in Mexico because of heavy competition from Asian cloth manufacturers. At present, the country has no competitive product for export, and the domestic market is not large enough. There is no skilled manpower, and the cost of training labor to work at the level of the Koreans is high. In these circumstances, the new management of TEMEX adopted a policy of ultimately promoting the competitiveness of its principal national customers, the textile industry. The strategy has been to foster chain competition by charging national companies a low price in order to encourage the competitiveness of polyester fabric manufacturers and of the textile and clothing industries.

As a result of the merger and the new management, various cost reductions have been possible due to several factors:

- An increase in the company's bargaining power with world suppliers of paraxylene.
- Greater involvement in the polyester inputs market. Freight charges for exports were cut by 25 percent as a result of the increased bargaining power.
- Better internal logistics. The transportation costs involved in the supply of inputs were reduced because of the strategic location of the plants and the internal reorganization to consolidate supplies.
- Reduction of administrative and sales expenses. The centralization and coordination of the decisions of both companies with a common interest led to more efficient administrative and sales methods. The plant's capacity was increased without increasing the number of employees and more emphasis was placed on maintenance and control.
- Larger output. The government lacked confidence in the management of the company and as a result its foreign trade policy was conservative. However, PETROCEL has a competitive, open approach, which was communicated to the personnel of TEMEX, increasing their productivity.

Table 3.22 shows that the impact of synergetic advantages on the financial data are similar to the physical indicators of productivity: the net-profit-to-net-worth ratio and the total-assets-to-sales ratio grew in the two years following privatization.

Although the acquisition of TEMEX provided complementary advantages that helped to lower costs, these advantages became even more important when unforeseen factors adversely affected the company's competitiveness. The cost of energy rose with privatization and exceeded the amount paid by Amoco.

Table 3.22. PETROCEL-TEMEX: Financial Indicators of Productivity, 1988–90
(As of December 31)

	1988	1989	1990
Net profit/net worth	0.13	0.16	0.19
Net profit/total assets	0.06	0.10	0.11
Net profit/sales	0.10	0.17	0.18

Source: Elaborated by CAIE with data from PETROCEL-TEMEX.

Electricity is second in importance after paraxylene as a production factor and, after the sale, the company found itself at a disadvantage in terms of the price paid by its competitors. In 1987 its cost was 2.5 centavos/kwh, and in 1991, it was 5 centavos, while in the United States the cost was 3 centavos/kwh. Moreover, the slight drift in the exchange rate with respect to inflation caused an increase in the cost of labor, which doubled (in dollars) from 1987 to 1991.

In short, there were outside factors that made it difficult to derive any benefit from the company's complementary advantages. These included the real appreciation of the peso, the fact that electricity was more expensive than it was in Texas, the high cost of various inputs other than paraxylene, the price controls in effect until May 1990, and high real interest rates. If, in order to equalize the economic conditions and thus distinguish the synergetic advantages, the incentives granted until 1988 are included in the operating profits for 1991, it is seen that the latter increased TEMEX's operating profits from \$23 million in 1987 to \$25 million in 1991.

The Increased Investment Hypothesis cannot be rejected since within two and a half years after privatization the new owners of TEMEX had increased the installed capacity by almost 40 percent. This expansion involved a sizable investment that was larger than the reduction in subsidies and the increase in tax receipts, which at that time totaled approximately 170 MMP (1990 pesos).

The Higher Profit-Price Adjustment Hypothesis is rejected, since price controls and reduced subsidies prevented the company from making a profit by increasing its prices. Moreover, given that TEMEX was unique among publicly administered companies because it had good relations with labor problems before and after the sale, the Union-Efficiency Deterioration Hypothesis is rejected.

Privatization and Fiscal Impact

Since the share price was higher than the reference price and TEMEX was at the time the largest company to be privatized, its sale represented significant revenue for the government. Moreover, it was hoped that the exploitation of comparative advantages would raise the level of production and increase the company's mar-

ket share, thereby increasing tax receipts. Therefore, to evaluate the fiscal impact of privatization, we estimated the net present value (NPV) of the revenue from privatization, assuming that if the company had remained under public control, the subsidy would have been about 15 percent.

Given an infinite perspective and the fact that the sales price of the block of shares was 367,745.6 MP (1990 pesos), the NPV of the fiscal impact of privatization was 564,987.77 MP (1990 pesos). A look at the operating results of the companies in question shows that the difference in profits under private and public administration widens over time, with the former taking the lead, so that if the profit differential were extrapolated instead of being assumed constant from the sixth year forward (as was the case in our calculations), the NPV would be even greater.

The Fiscal Gains-Current Expenditures Hypothesis cannot be rejected since the privatization of TEMEX did not affect public financing decisions and no impact on current spending was observed. The Interest Rate and Debt Service Hypothesis is rejected since the successful bidder is a national group and there is no evidence of an accompanying flow of foreign capital.

Lessons and Recommendations

The preceding analysis provides the following lessons and specific recommendations:

- The sales price was higher than the minimum reference price because the buyer expected to be able to exploit a significant number of synergetic advantages. However, the irregular supply of basic raw materials by PEMEX, which subverted the credibility of the commitments of the government-controlled enterprise, was a negative factor in assessing the company's worth. To maximize the sales price of a company that competes internationally and, at the same time, must rely on a public sector monopoly for its supply of the basic raw material, that supply must be guaranteed through a market mechanism that is perceived as irreversible.
- The basic principles governing selection of the winner of the auction sale were, first, the price offered and, second (and far less importantly), the synergetic advantages that would make a national producer internationally competitive. The potential monopolistic power of the buyer was not considered relevant, given the openness of the economy. With a tariff of only 15 percent, there were no significant barriers to international trade, which encouraged domestic producers to become more efficient. In privatizing a company that will become a domestic monopoly, it is recommended that all barriers to foreign trade be removed to prevent conflict between productive and allocative efficiency criteria.

- Although the buyer suggested lowering the tariff to zero percent, this was not done, basically because of the fear of dumping. However, tariffs should not be used as an “antidumping” measure. If the legislation and the mechanisms against unfair practices are ineffective, one way of solving such problems would be through bilateral tariff reductions to promote efficiency.
- The benefit to the government is derived from the significant future growth of this company, which will mean greater tax revenues, exceeding even the sales price. Therefore, the synergetic advantages to be gained in selecting the buyer were more important than the negative effect on the offered sales price of the narrowed monopolistic margin represented by trade liberalization and the elimination of subsidies. It is recommended that privatization be accompanied by policies that promote efficiency because even when the maximization of fiscal revenues is an objective, it can be achieved by increasing the tax receipts through the higher levels of the company’s output.
- The lack of integration toward basic petrochemistry has prevented higher levels of profitability because the price paid for paraxylene is higher than it is for competitors and the supply of this input is uncertain. It is suggested that integration in the supply of raw materials be permitted to reduce the final price of the product and to increase the international competitiveness of the privatized company.
- The existence of substantial complementary advantages following privatization allowed TEMEX to cope with the freezing of the price of the product and increases in the cost of inputs as part of the macroeconomic adjustment program. Therefore, it is recommended that the macroeconomic program not be undertaken at the same time as the privatization process, and if this is not possible, the existence of synergetic advantages must be a crucial element in selecting the buyer.

Teléfonos de Mexico, S.A. de C.V. (TELMEX)

Background

The privatization of TELMEX is significant because of the company’s status as the largest state-controlled monopoly privatized to date, the importance of the basic telephone service it provides to other sectors of the economy, the difficulty of arranging the sale given the company’s size, the productive and allocative efficiency problems encountered as a result of the lack of investment in the sector, and the considerable impact on public finances and macroeconomics generated by the transaction. In addition, TELMEX had the largest market value of any company on the

Mexican Stock Exchange (BMV). It was the third largest company in Mexico and the second largest telephone company in Latin America.

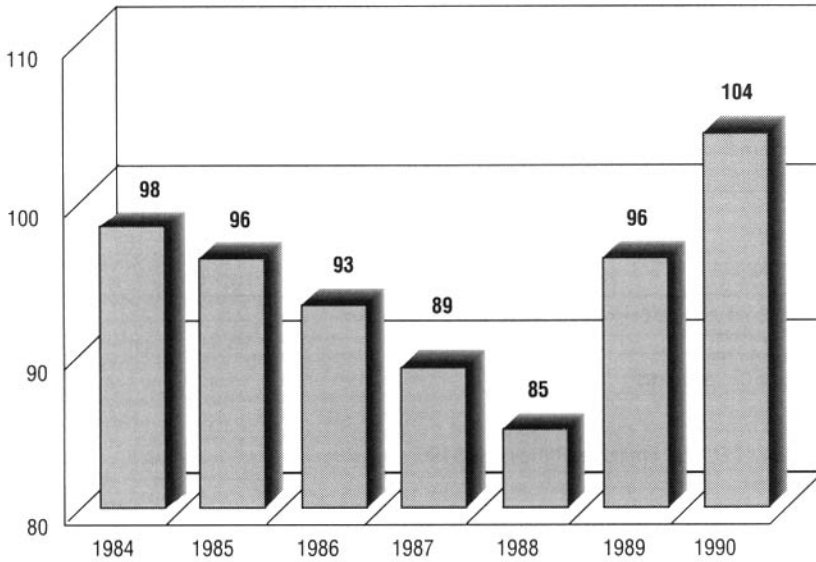
There were a number of constraints that made the regulation of TELMEX difficult. The setting of TELMEX rates was not based on any productive or allocative efficiency criteria, causing distortions such as freezing the cost of public telephone calls at 20 centavos from 1952 until the early 1980s (real decline of 94 percent). The federal government would make up the difference between the rate and the cost of some services, especially local telephone service, by buying shares it had originally sold to new users at a price below the one at which it had sold them, deducting from the total cost the profit earned in the transaction. It also used the company's reserves (especially its depreciation reserves) for the subsidies and relied heavily on foreign loans. Rates were increased in 1976 to reduce the company's external indebtedness and to implement plans to expand telephone service, with the largest increases in long distance rates, primarily international calls.

In addition, until 1989, users paid taxes that were much higher than those charged in other countries. These included: (1) the special tax on production and services (IEPS), which varied from 22 percent on long-distance international calls to 72 percent for local business service; and (2) a 15 percent value-added tax (VAT), applied to the sum of the telephone charge and the IEPS. Because of this policy of taxing TELMEX services, the funds TELMEX needed for modernization and expansion were diverted to other uses. In addition, the use of different tax rates for different services reinforced allocation of the company's resources to long distance services.

Moreover, regulation generally impeded progress in the telecommunications field in Mexico because TELMEX was the only company allowed to provide services related to basic telephone service, which prevented private investors from filling market niches such as radiocommunications, the use of radio waves, network circuits, telecommunications networks, private networks, and telecommunications terminal equipment.

Public control of the company also contributed to the deterioration of productive efficiency, since profitability was not a primary objective. Inadequate negotiations with workers resulted in a collective labor agreement with more benefits than were granted by any private company. TELMEX has one of the largest work forces in Mexico, and at the time of privatization 64 percent of its employees belonged to the Sindicato de Telefonistas de la República Mexicana (STRM), while another 18 percent were members of other unions.

In the first 10 years of government control, the number of employees grew 6.2 percent annually on average; in the 1984–88 period this figure reached 8 percent. The rapid growth in the number of employees compared to the modest increase in the number of new lines resulted in a steady decline in the number of lines installed per employee until 1988 (see Figure 3.7). As shown in Table 3.23,

Figure 3.7. TELMEX: Telephone Lines per Employee, 1984-90

in November 1990 the number of TELMEX employees was twice the international standard. Consequently, the lack of investment in TELMEX because of its public ownership and relationship with labor appear to be the most important reasons for the company's low level of productive efficiency. Another contributing factor was the company's slowness in updating its technology.

Still, the results were positive. Net profits exceeded assets, net worth, and operating income increases (Table 3.24). Of particular note was the average annual growth of TELMEX receipts from 1975 to 1982—over 10 percent, after adjustment for inflation—as a result of the high international long distance rates. The next three years (1982–85) were characterized by modest gains due to the slowdown of the Mexican economy. In 1985 profits rebounded, and in 1989 the rates for local service and for reconnection were increased, free calls for business users were eliminated, and the average number of lines in service grew 8.4 percent, resulting in an increase of 126.54 percent in the total real receipts of TELMEX in 1990.

TELMEX was profitable from a bookkeeping point of view because of the monopolistic market structure, which enabled it to keep rates high for international long distance service, despite its low productivity (see Table 3.25).

With respect to allocative efficiency, the monopolistic situation of TELMEX enabled it to charge long distance rates that were much higher than the marginal cost and the international rate. As receipts grew, the subsidization of local service

Table 3.23. International Physical Indicators
(Telephone companies)

	Number of employees (thousands)	Employees/ 1,000 lines
Nynex	97.4	5.18
Telefónica Española	66.1	6.02
Southwestern Bell	64.0	4.84
U.S. West	69.8	n.a.
TELMEX	49.2	9.60
Bell Canada ¹	51.4	n.a.
Northern Tel ¹	48.8	n.a.

Source: CAIE with data from Banco Internacional, TELMEX: *Perfil Básico*.

n.a. = not available.

Note: November 1990.

¹Figures up to December 1988.

Table 3.24. TELMEX Financial Ratios, 1985–90
(Percentage)

Year	Net profit/ net worth	Net profit/ total assets	Net profit/ operating income
1985	4.1	2.0	8.4
1986	5.9	2.8	13.5
1987	6.7	2.8	14.4
1988	20.1	11.1	42.2
1989	11.7	6.9	23.3
1990	20.3	11.6	36.2

Source: Prepared by CAIE with data from Banco Internacional, SHCP and TELMEX: *Prospecto informativo para la colocación de acciones "L."*

increased. To correct this situation, in 1986–90 the real prices for basic rent and measured service were raised 113.5 percent and 1,240 percent, respectively, and international long distance rates were lowered. Nevertheless, in 1990 the latter were still significantly higher than their marginal cost (see Table 3.26). Domestic long distance rates kept increasing in real terms, moving even farther from their marginal cost.

Despite the monopolistic margin, the growth of the number of lines in service in the 1970s (12.5 percent per year, on average) was partially financed with external resources. Moreover, in the subsequent decade the government was unable to allocate funds for the expansion and modernization of TELMEX. Consequently, the growth of the number of telephone lines averaged only 6.9 percent, and rural telephone service was expanded by 6.2 percent. The number of new lines kept pace with the growth of the population but not the increased demand

Table 3.25. International Productivity Indicators, 1990
(Telephone companies)

Company	Receipts per line	Receipts per employee
Bell Canada*	608.0	n.a.
Nynex	849.7	130.0
U.S. West	733.2	132.2
Southwestern Bell	748.0	130.2
Telefónica Española	744.4	123.6
TELMEX	383.2	31.6

* Figures up to December 1988.

Source: CAIE with data from the Value Line Investment Survey, 1989.

Table 3.26. TELMEX: Pricing under Monopoly Status, 1987-90
(1990 pesos)

Year	International Long Distance		Domestic Long Distance	
	Marginal cost	Price ¹	Marginal cost	Price ²
1987	849.5	38,302	815.6	2,624
1988	347.9	29,448	1,205.2	2,646
1989	270.3	26,751	683.2	3,308
1990	401.8	17,808	1,664.9	5,130

Source: Author's calculations with data from the Secretariat of Transport and Communications and the International Bank.

¹The price of a dialed, seven-minute call from Mexico City to New York City (includes only the part of the price received by TELMEX).²Charge for a dialed call to a distance of 450 km during daylight hours.

for telephone service resulting from the growth of income in the economy. There were 10,000 towns without telephone service, about 60,000 of the country's public telephones were out of order, and a large number of requests for repairs and new lines went unanswered. The insufficient national coverage and the widening gap between urban and rural telephone service reveal a disproportionate social cost.

Thus, in 1989, despite the fact that Mexico was one of the countries with the largest number of telephones, the density of telephone service was barely 5.1 for every 100 residents (Table 3.27), which put it in 23rd place in Latin America and in 83rd place worldwide.

In 1985-89, TELMEX's contribution to public finances averaged about 1.02 percent of the total revenue of the consolidated public sector, emanating from four major sources: collection of the IEPS, the insignificance of which in the total revenue of the federal government (1.4 percent in 1989) did not justify the distor-

Table 3.27. Indicators of TELMEX Allocative Efficiency, 1984–90

Year	Telephones/ 100 residents	Lines in service/ 100 residents	Towns with service ¹	Localities with rural telephone service ²
1984	8.6	4.4	5,286	7,328
1985	9.1	4.5	5,542	7,564
1986	9.3	4.7	5,759	7,875
1987	9.7	4.8	6,107	8,423
1988	10.0	5.0	6,195	8,698
1989	10.8	5.1	7,343	10,024
1990	12.0	6.1	10,246	12,883

Source: Secretariat of Communications and Transportation (SCT).

¹Up to 1986, includes data from TELMEX, TELNOR and TELNAL. After 1986, includes only data from TELMEX and TELNOR because TELNAL was merged with TELMEX.

²Includes data from TELMEX and Telecomunicaciones de México.

tions it caused in the telephone rates; collection of the VAT, which from 1983 to 1991 consisted of a 15 percent charge on the final price of the service (including the IEPS); income tax (ISR), at an average rate of 35 percent on the company's profits in the two decades before privatization; and 56 percent of the company's net profits. Although the federal government occasionally did not exercise its rights to the profits, they continued accruing, significantly raising the value of both the company and the state's capital assets.

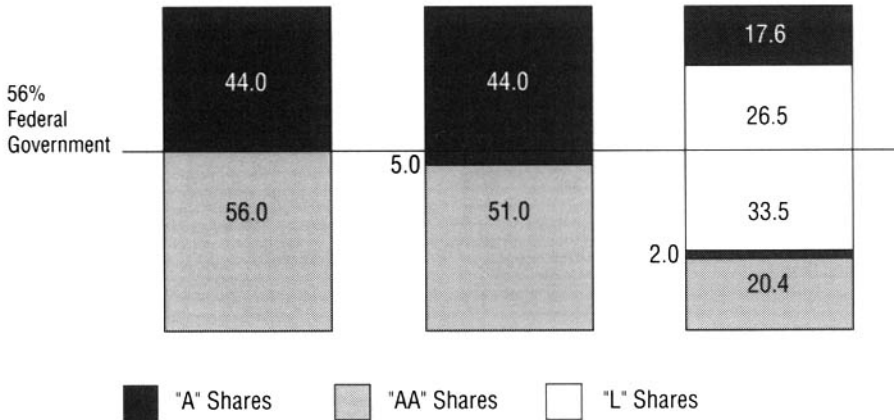
In 1989 it was found that the necessary growth of TELMEX in the next five years would require an investment of \$10 billion, funds which the public sector could not allocate because social programs in other areas were higher on the list of priorities. Moreover, selling the company would ensure growing tax receipts due to the expansion of telephone service, in addition to the income generated by the sale of the federal government's shares.

Therefore, on September 18, 1989, the Mexican government announced its decision to privatize TELMEX and its 19 subsidiaries. At that time the federal government owned 56 percent of the capital stock, represented by exclusive ("AA") shares. The remaining 44 percent were open subscription shares ("A"), which were distributed among the users of the telephone service (who had been able to purchase them since 1953), banks (in mutual funds), and brokerage firms. It should be pointed out that the assets TELMEX owns for basic telephone service are nearly three times greater than the assets of all 19 of its subsidiaries. The most important company was Teléfonos del Noreste (TELNOR).

Privatization Process

To fulfill the privatization objectives, three types of preparatory measures were taken. First, the capital structure of TELMEX was modified, with the federal

Figure 3.8. TELMEX: Shareholding Structure before Privatization (Percentages)



government's shares distributed as shown in Figure 3.8. In the first phase of this restructuring, 5 percent of the capital stock of TELMEX held by the state was exchanged for series "A" shares. The next step was capitalization of the profits accrued in the first quarter of 1990, which were 1.5 times the amount of the capital stock, creating a new series of shares, known as the "L" series, with limited voting rights. The owners of an "AA" share (in this case, the government) and an "A" share now had the right to 1.5 shares of the new "L" series. With this restructuring, the government owned all of the "AA" shares before privatization and 2 percent and 33.5 percent of the capital stock in series "A" and series "L" shares, respectively.

Second, a number of financial reorganization transactions were carried out. The level of liquidity was increased (see Table 3.29, current assets/short-term liabilities), the company's collection policy was improved, and most of its liabilities were converted to long-term liabilities. In 1989, 64.5 percent of TELMEX's debt was with foreign banks. However, in March 1990, when the federal government's external debt was restructured, 16.2 percent of the liabilities that TELMEX had with foreign banks (\$471.5 million) was transferred to the federal government on the same terms and conditions as the credits assumed. Later, TELMEX purchased Mexican foreign debt to exchange it for all of these liabili-

Table 3.28. International Comparison of Allocative Efficiency
(Telephone companies)

Country	Lines in service per 100 residents (January 1, 1989)	GNP per resident in 1988 (dollars)
Argentina	9.9	2,640
Brazil	5.8	2,280
Chile	4.9	1,510
Colombia	6.8	1,240
Costa Rica	9.0	1,760
France	45.6	16,080
Japan	41.7	21,040
Mexico	5.1	1,820
Morocco	1.2	750
Poland	7.8	1,850
Portugal	17.8	3,670
Spain	28.1	7,740
United States	52.7	19,780
Uruguay	11.3	2,470
Venezuela	7.8	3,170

Source: Siemens AG, International Telecom Statistics (January 1, 1989); International Bank for Reconstruction and Development.

Table 3.29. Financial Position of TELMEX, 1986–90

Year	Long-term liabilities/ total assets	Short-term liabilities/ total assets	Total liabilities/ total assets	Long-term liabilities/ net worth	Current assets/ short-term liabilities
1986	40.8	8.1	51.7	86.5	113.2
1987	35.2	7.4	55.2	80.7	226.5
1988	21.6	7.7	43.5	39.2	187.8
1989	18.7	5.6	40.7	31.6	294.8
1990	19.7	7.0	42.6	34.2	275.4

Source: CAIE with data from SCT.

ties. The company's short-term liabilities represented only 5.6 percent of its total assets before the sale.

It also obtained \$473.5 million in future income through the securing of its accounts receivable in the international securities markets, and it sold \$150 million in bonds. With these two transactions and the repurchase of its foreign debt, TELMEX reduced its liabilities and earned a profit of \$200 million.

Third, its labor agreements were revised. The collective labor agreement was modified in 1989 and in April 1990. One of the major changes in the first

revision was the elimination of 57 labor agreements that stood in the way of the efficient allocation and management of human resources. With the creation in 1989 of a master agreement covering all employees and simplifying the work rules, these obstacles were eliminated. The number of general work areas was reduced from seven to five, and the number of labor categories was decreased from over 1,000 to 140. During the privatization process, firings and layoffs were discontinued and only some of the personnel were relocated.

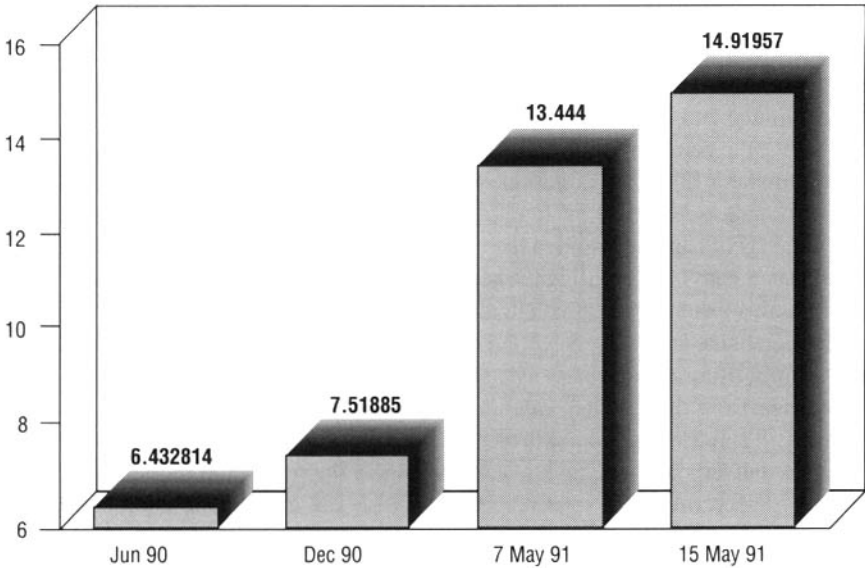
Once the company was ready to be sold, two outside consultants were hired, one to make a financial valuation, which was delivered to the bidders, and the other to make a technical evaluation.

The agent bank determined the value of each of the subsidiaries of TELMEX and the company's assets using the net cash flow method. An important assumption made in this valuation was that only the capital stock would be used to finance the expansion of the company. Nevertheless, to incorporate the tax discount that would result from using indebtedness as a source of financing, the marginal tax rate was subtracted from the discount rate used. Pursuant to TELMEX's collective labor agreement and Mexico's labor laws, the company had a series of obligations to its workers that led the agent bank to acknowledge a figure of \$400 million (approximately 10 percent of the total receipts of TELMEX in 1990) in addition to the company's liabilities under the heading labor liabilities.

Since the size of the transaction made it difficult to sell the federal government's controlling interest in TELMEX in the stock exchange markets, an auction procedure was selected. The problem with this was that the objective was to keep the controlling interest in the hands of Mexican investors and, in a prequalification study of the prospective buyers, it was found that there were no Mexican bidders with companies large enough to pay the price (at the time, \$4 billion) in addition to honoring the investment obligations. To ensure the participation of such buyers the new capital structure was created. But then in June 1990, the company's market value on the BMV rose to \$6 billion, which made finding a Mexican investor even more difficult (see Figure 3.9). A decision was then made to allow the participation of foreign investors through the creation of a trust fund, so that the Mexican investors would gain control of the company with only 10.4 percent of its capital stock. The sale was carried out in three stages.

First stage. This consisted of the sale of shares for a controlling interest. The shares with full voting rights offered for sale, known as "AA", constituted 51 percent of the common shares and 20.4 percent of the capital stock. In addition, the government gave the controlling shareholders the option of buying series "L" shares for 5.1 percent of the capital stock. This option could be exercised any time before December 20, 1994, by paying for each series "L" share the same price offered for the controlling shares plus the interest said sum would earn from December 20, 1990, until the date on which the option was exercised. If the average price of the series "L" shares on the BMV during any 30-day period of

FIGURE 3.9. TELMEX: Trend of Market Value, 1990-91
(Billions of U.S. dollars)



operations was more than twice the price offered per “AA” share, the option would either have to be exercised or forfeited. The controlling shareholders could not assign their rights to the series “AA” shares before December 20, 1995, except in the circumstances defined in the Certificate of Concession, which calls for the continuation of national control. The series “L” shares acquired by exercising the option could not be sold before December 20, 1992. Although the conditions governing the trust fund constitute a “restriction,” the purpose of which is to promote improvements in productivity, those improvements could have been achieved by allowing competition in the provision of telephone service because cost reductions would have been sought in order to gain a bigger share of the market by offering a better service at a lower price. This argument is validated by the growth of TELNOR, which, despite having only 3 percent of all the lines in the country, operates far more efficiently than TELMEX; consequently, the size argument does not apply.

At the same time, with a soft loan from the federal government of \$325 million granted through a Mexican development bank, increasing principal payments and a maximum term of 8 years, STRM purchased 4.4 percent of the capital stock of TELMEX (1.76 percent in “A” shares and the rest in “L” shares). The workers can pay off the loan with the profit earned from the block of shares, since

annual installment payments will be made only if the value of the shares (determined on the basis of the price of the last 10 closing quotations on the BMV) increases during the course of each year, once the amount of interest paid has been deducted. This credit-redemption criterion has the disadvantage of reflecting fluctuations in the national stock exchange that have nothing to do with the actual value of the company. The officers and nonunionized employees of TELMEX, using a loan from the company, acquired 1.4 percent of the capital stock in "L" shares through a trust fund established by the government for a five-year period.

Therefore, the Monopoly Power Worker's Share Hypothesis is not rejected, since TELMEX is a monopoly and shares were sold to the workers. The reason for this was to encourage them to participate in raising the level of productivity since they would benefit directly from the company's profitability.

Second stage. On May 14 and 15, 1991, an initial offering of the "L" shares was made in the international financial markets and in Mexico, equivalent to 16.2 percent of the capital stock of TELMEX, including the option offered to each of the underwriting syndicates to purchase, at the same price, up to 15 percent more "L" shares, equivalent to 2.1 percent of the capital stock. The total offering in Mexico was for 1.1317 percent of the capital stock of TELMEX in series "L" shares at \$1.3625 per share. In the international markets 13.2 percent of the company's capital stock was offered, represented by 70 million American Depository Shares (ADS), which corresponded to 1.4 billion series "L" shares. The bid price was \$27.25 for each ADS. The agent of the Mexican government was the same bank entrusted with the sale of the controlling interest and the coordinator, Goldman Sachs & Co.

To obtain a high share price, in addition to using various underwriting syndicates and selling the shares in various international financial markets, each syndicate was given a bonus option (i.e., a second level of demand was created). The "AA" and "A" shares can be converted into "L" shares at any time and, beginning in the year 2001, the "L" shares into "AA" shares, up to an amount such that the total of the "AA" and "A" shares does not exceed 51 percent of the capital stock of the company. It is important to mention that the 10-year period for the "L" shares affords protection for the controlling shareholders and that if the period had been shorter, the price obtained in the sale of "L" shares would have been higher because a larger number of groups interested in the subsequent management of the company would have appeared. Table 3.30 shows the income earned in the secondary offering.

The fact that it was possible to sell this portion of the TELMEX shares in the financial markets was due primarily to three factors. The most important was the structural change in Mexico, including the expansion of foreign investment options. Second was the country's improved growth prospects, which led to an increase in the number of issuer investment projects. In these circumstances,

Table 3.30. Income from the International Public Offering of TELMEX "L" Shares

	"L" shares (millions)	ADSS ¹ (millions)	Income	
			(million)	(Billions of pesos)
Mexico	138 ² 150 ³			538.50 ¹ 587.50 ²
U.S.	800	40.00	1,040.00	
Canada-Europe	477	23.85	620.80	
Japan	100	5.00	130.20	
Total	1,665	68.85	1,791.60	1,126.00

Source: Financial Services International (ISEFI).

¹American Depository Shares.

²Shares sold in the Mexican Stock Market.

³Shares sold to nonunion employees.

foreign investors look forward to capital gains resulting from a steady rise in the share prices of Mexican companies. Finally, the share prices (price-profit and price-book value) of Mexican companies, including TELMEX, are lower than the share prices of international companies in the same sector due to the smallness of the national securities market. It is hoped that their market value will increase as the market itself grows.

Therefore, the Closed Bidding Ownership Concentration Hypothesis is not rejected because use of the financial market, especially the international market, in addition to the competitive bidding procedure, prevented the concentration of capital. It is possible that the majority shareholders acquired a large part of the company after recovering from the initial outlay. Also apparent was the growth of the domestic financial market and the increased presence of national companies abroad involved in the sale of TELMEX "L" shares.

The structure of the capital stock following the sale of the "L" shares is indicated in Table 3.31. It is interesting to note that the federal government was still a significant shareholder in a company whose value had increased greatly.

Third Stage. As of April 1991, a date still had not been chosen for the sale of the remaining TELMEX "L" shares owned by the federal government, which represented approximately 9.5 percent of the company's capital stock. These shares would be held for at least 180 days to prevent declines in the market value of the TELMEX shares, as well as in the BMV Index of Prices and Quotations, because of its significant role therein.

The participation of groups in the bidding for the controlling interest in TELMEX was structured so that the selection of a winner from among the firms qualified to participate would be determined solely on the basis of the price and investment criterion. The purpose of this was to make the process as transparent as possible. The call for bids specified the conditions that interested investors

Table 3.31. TELMEX: Structure of Share Capital, May 15, 1991
(Percentage capital stock)

Shares	"AA"	"A"	"L"	Total
Grupo Carso and Seguros de México	5.8		1.7	7.5
Southwestern Bell	5.0		1.7	6.7
France Télécom	5.0		1.7	6.7
National Investor Group	4.6			4.6
Workers		1.8	2.6	4.4
Officers			1.4	1.4
Federal government		0.2	10.1	10.3
Securities market ¹		7.0	51.4	58.4

Source: Financial Services International (ISEFI).

¹Includes the national and international markets.

were required to fulfill, the most important of which were sufficient net worth to carry out the plans for the expansion of TELMEX (billions of dollars), sound financial status, and familiarity with telephone operations.

The 12 foreign firms interested in purchasing TELMEX all had in common the fact that their principal activity was the provision of basic telephone service. Southwestern Bell and Nynex gave evidence of being more efficient than their competitors. The private Mexican companies qualified by the Secretariat of Finance and Public Credit to participate were the brokerage firms Inverlat and Accival; Grupo Carso, which had experience in the industry and in the stock exchange; and the industrial groups GIASA and Gentor.

Once the companies were individually qualified, they were able to form groups (including foreign companies) to submit bids for the controlling interest. Three groups were formed: Accival Casa de Bolsa, together with GTE and Telefónica de España; Grupo Carso, Southwestern Bell, and France Cable & Radio; and the Gentor Group. The next step was an in-depth analysis of the bids received, which was conducted by the SHCP and the agent bank, and submission of the bids to the Expense-Financing Commission, which determined the winner.

The variables taken into account in selecting the successful group were overall objectives, organization, personnel and labor relations within the companies, engineering and proposed expansion of the system, quality of service, maintenance, marketing techniques, new services, and research and development. However, since price was the determining factor, the winning bid was submitted by Grupo Carso, France Cable & Radio, and Southwestern Bell. This bid was higher than the other bids, higher than the valuation of the agent bank, and \$609.8 million higher than the total market value of the capital of the company in December 1988, which was \$1.148 billion. The main reasons for the substantial revaluation of TELMEX were the reduction of the discount rate as a result of the lower risk

involved in placing the company under private control and the climate of macroeconomic stability.

Therefore, the Profitmaking-Minimum Reference Price Hypothesis is not rejected, since TELMEX was sold for more than the reference price set by the agent bank and because it is a company that generates profits. The increase in the price of the company is explained by the lowering of the discount rate used in the valuation of TELMEX and the sales mechanism selected.

Following are some of the characteristics of the groups that submitted a bid to buy TELMEX:

- Grupo Gentor offered \$700 million (2,074.4 MMP) for the Mexican component only. The equivalent share price, including the bonus option on the "L" shares, was \$0.6345.
- The bid submitted by Acciones y Valores, GTE, and Telefónica de España was \$1.687 billion (5 trillion pesos). The equivalent share price of this bid, including the option, was \$0.78. They submitted their bid as a mixed group, in which the foreign partners would each own 5 percent and the Mexican investor 10.4 percent. Although the Spanish telephone system is ranked ninth in the world because of the number of lines per resident and its high efficiency level, the obsolescence of the Spanish telephone system was one of this group's disadvantages. Telephone density in Spain is higher than it is in Latin America, but much lower than in industrialized countries such as France and the United States, which placed it behind France Telecom and Southwestern Bell. Moreover, although GTE had the capital and the technical qualifications to acquire Teléfonos de México, it might have had problems because on July 12 it had announced the purchase of U.S. Cellular Telephone for \$6.2 billion.
- Grupo Carso, together with Southwestern Bell and France Télécom, was the winner of the competitive bidding, having offered \$1.734 billion (5,138.7 MMP), including the option on the "L" shares for 5.1 percent of the capital stock of the company, plus cash dividends equal to 20.4 percent of the capital stock, up to a total amount, at present value, of \$23.6 million (69.9 MMP). Thus, the total payment offered for administrative control of the company was \$1.757 billion (5,208.6 MMP). The equivalent "AA" share price of this bid, including the option, was \$0.8126. This price was 6.6 percent higher than the maximum reached by TELMEX shares on the BMV in the preceding 12 months. However, six months after privatization, the market value of the shares held by the controlling group was 2.1 times higher than the price paid.

In 1990, the shares of Grupo Carso were worth a total of \$1.797 billion, its profits exceeded \$51.8 million and its companies employed approximately 18,500

people. France Cable & Radio, a subsidiary of France Télécom, one of the world's largest telecommunications companies, had more than 155,000 employees in 1990 and operated 28 million telephone lines in France (compared with the 5.5 million lines operated by TELMEX). It demonstrated an ability to modernize the French telecommunications system, which grew in the 1970–89 period at an average annual rate of 11 percent, with one of the most advanced levels of digitalization in the world. It took the lead in Europe in introducing new technologies such as digital switching, satellite communications, and the use of fiber optics for long distance service.

In 1990 Southwestern Bell International Development Corporation had 11.3 million lines and 64,000 employees. It became an independent corporation in 1984 when the Bell telecommunications system was broken up. It is a vertically integrated company and the owner of eight subsidiaries involved in telecommunications research and development, equipment sales, publications, and cellular technology. In the United States, it serves 95 percent of the households requesting service and is a leader in local telephone service, cellular technology, and radiolocation. Among its international competitors, it is in the front ranks in terms of labor productivity. Southwestern had one difficulty in participating in the bidding because there is a U.S. judgment (Final Modify Judgment) prohibiting the participation of its telephone companies in other companies that provide long distance service. It obtained a waiver from the U.S. authorities, with certain restrictions that do not affect its participation in TELMEX, since in Mexico competition is prohibited until 1996, when the other two groups can participate on an individual basis. Its role in expanding the national system and modernizing the new services was significant and compensated for the obstacle mentioned above.

Since the foreign investors who were participants in two of the three groups formed had experience in the sector, greater weight was given in the selection of the successful bid to the viability of the proposed investment project, based on the performance of the companies in the group. Therefore, the Buyer Selection Hypothesis is not rejected.

Complementary Policies

The new owners were assured that TELMEX would be the sole provider of local telephone service, at least until 1996, so that it could expand its local coverage without the threat of competitors in long distance service, which was more profitable. Below are some of the most important aspects of the changes made in the regulations applicable to TELMEX as a result of its privatization:

- In late October 1990, Telecommunications Regulations were issued, based on the LVGC and the International Telecommunications Agreement of the International Telecommunications Union and its Regulations. Before

Table 3.32. TELMEX: Impact of Tax and Rate Changes (Percentage)

	Prior tax rate	Change in the cost to customers	Net change in TELMEX receipts
Local Service			
Residential	60.0	5.0	68.0
Commercial	72.0	5.0	81.0
Domestic Long Distance			
Residential	32.0	42.0	87.4
Commercial	42.0	42.0	101.6
International Long Distance			
Residential	22.0	-33.0	-18.0
Commercial	22.0	-33.0	-18.0

Source: Author's calculations with data from the Secretariat of Finance and Public Credit.

this time, there were no regulations governing telecommunications, and the existing regulations were not updated to account for technological advances.

- An amendment was made to the Certificate of Concession, in which TELMEX investment commitments were set forth and the term of the concession was extended to 50 years. Among the terms are the following: the company is regulated as a monopoly, with a prohibition against exclusivity in certain services such as cellular technology, private systems, and the manufacture of equipment and ground stations for satellite communications; a system of ceiling prices is established to regulate rates; interconnection negotiations between TELMEX and other providers of telecommunications services are regulated; TELMEX and other companies are authorized to transmit any type of signal except radio and television signals over the systems subject to the concession; the process for the approval of equipment and compliance with technical standards is streamlined; and, finally, the opening of international long distance service to competition in 1996 is provided for (this condition is subject to elimination of the subsidy that transfers this service to local telephone operations).
- The IEPS that TELMEX had to remit to the federal government for each of the services was incorporated in the rates so that it is now part of the company's receipts. A telephone service tax (IST) was created, calculated as 29 percent of the company's total receipts, and resulting in the increases shown in Table 3.32. Sixty-five percent of this tax can be used

for investment purposes when the amount of the investment is greater than the first payment owed by the company. The possibility of taking this credit is one of the most effective ways of increasing telephone service coverage, because it encourages the company to invest more than 29 percent of its total receipts. By adding the telephone service tax to the 2 percent tax on assets (which is collected from all companies), TELMEX would have a minimum marginal tax rate of 35 percent, like all other companies.

When the company was privatized (57 percent), competition was introduced in the provision of value-added services, and various telecommunications fields were opened to foreign investment. These included provision of telephone interconnection equipment, data transmission equipment, private systems, fiber optics, satellite support services, cellular telephone systems, digital connection, transmission equipment, and television, as well as value-added services. Only satellites and telegraph services were left under state control. However, there are not many companies other than TELMEX in the telecommunications field in Mexico. Therefore, SCT has the power to regulate the rates for services outside the sphere of basic telephone operations and is not subject to rate regulation, if it is determined that the existing competition is not sufficient to permit the decontrol of prices. Consequently, TELMEX could exercise monopolistic power by setting the corresponding rates. Nevertheless, the receipts for these services are insignificant, so that in reality they do not affect the income earned from the basic telephone service monopoly.

Given that a competitive market structure was not permitted, the reason for setting specific goals and establishing a system of ceiling prices is to prevent further deterioration in telephone service coverage. Between 1989 and 1994, TELMEX must achieve an annual growth of 12 percent in the number of lines in service. This means doubling the number of existing lines and achieving a telephone density of seven lines per 100 residents, as well as expanding rural service by 100 percent so that before 1994, all towns with more than 500 residents will have access to telephone service. It also means installing more than 80,000 urban public telephones in public housing developments so that the availability of public phones per resident will be four times greater than currently. The complete modernization of this company will also require a 60 percent expansion of the long distance infrastructure, as well as the replacement of 480,000 obsolete lines, 65 percent of which will be digitalized, in order to improve the quality of service and to bring the system up to international standards.

The purpose of the system of prices and rates established in the Certificate of Concession is to keep constant, in real terms, the price of a range of services—basic rent, local service, and national and international long distance service—weighted to reflect the current volume of consumption of each service in the

immediately preceding period. Starting in 1996, the price of services will be reduced by 3 percent per year to enable users to benefit from the productivity and efficiency gains made by TELMEX. Starting in 1999, and every four years thereafter, the SCT will determine the amount by which the system of ceiling prices will be adjusted. This should at least enable the company to obtain an internal rate of return on its receipts for the services it provides, equal to its average weighted capital costs. In this way, the investment commitment required of the buyers is made feasible, since it corrects some distortions in prices and rates, especially the subsidization of local calls by long distance calls.

Because TELMEX kept its privileges as a monopoly, controlling it by regulating its rates was difficult without causing price distortions and interfering with the company's efficiency. However, regulating the company by means of ceiling prices moved the system toward optimal relative prices (Ramsey). By keeping the real level of prices for the different telephone services constant, relative prices tend to reflect various elasticities, depending on the service and type of user, and are higher in those cases where there is less price elasticity. In addition, it is hoped that the use of cross-subsidies will be limited, except in certain special cases (such as rural telephone service) where they are justified not only for reasons of income distribution but also from the viewpoint of economic efficiency. If, by 1995, the company fulfills the 12 percent annual growth commitments, under the quality parameters indicated, regulation will have been successful.

Although TELMEX can determine its own rate structure, the SCT has the power to change it, in accordance with the bases established in the concession and when it is in the public interest (as determined by the authorities). In the first quarter of 1991 TELMEX rates and prices increased 11.78 percent, in keeping with the growth of inflation from June to November 1990, which was permissible according to the Certificate of Concession. However, in subsequent adjustments the increases approved were lower than inflation and, therefore, the company was not able to reduce the long distance rates as much as it had originally planned. Consequently, it may be necessary to wait awhile before opening the market to external competition if cross-subsidization is not reduced to an efficient level. Service coverage would have been easier to regulate if competition had been allowed, although the sales price would have been sacrificed. Therefore, the Profitability Promotion Hypothesis is not rejected because effective competition was sacrificed, although the reason for this was not to increase the company's profitability but rather to obtain a higher sales price, expedite the process, and expand local telephone service.

On the other hand, the existence of the telephone monopoly as a government-controlled enterprise caused distortions in the structure of the telecommunications inputs and equipment market because the company, lacking clear criteria, used two national suppliers and imported the rest of the raw material mostly from the United States (60 percent) and Japan (20 percent). Price and financing

are the two most important factors that influence the demand for telecommunications equipment. With privatization, the company's policy on suppliers changed so that suppliers of telephone industry inputs acquired greater presence in Mexico. Consequently, the new management will have more financing options to fulfill its expansion and modernization objectives. Since these inputs are not supplied by the public sector, the sale of TELMEX was not directly accompanied by changes in their prices. However, like other companies, it was affected by the adjustment of public prices under the stabilization program. Therefore, the Input Deregulation Hypothesis is not rejected.

Finally, despite the changes in the regulation of TELMEX, no changes of any kind were made in the LVGC, which provides the SCT a great deal of latitude in regulating and monitoring fulfillment of the concession. The company is required to submit certain technical telecommunications plans to the SCT for publication, and it is authorized to require that TELMEX change them in response to requests submitted by interested third parties. Moreover, the company is required to report each quarter to the SCT concerning the progress of its expansion programs. Finally, the company's by-laws specify that the SCT will have the right to appoint a Proprietary Member and an Alternate Member of the Board of Directors of TELMEX. In accordance with the concession, that provision must remain in the company's by-laws until August 1993.

Privatization and Efficiency Gains

Representing the holders of series "AA" shares on the new board of directors are seven representatives of the foreign partners (three for France Télécom and four for Southwestern Bell) as well as the Secretary of Communications and Transportation and the Manager of the State-Owned Enterprises Divestment Unit of the Secretariat of Finance and Public Credit. The remaining board members are Mexican shareholders. The functions of the foreign members are limited to technical advice and support, while Grupo Carso is responsible for the financial administration of the company. The technological modernization of the company will be delayed between three and nine years, so there is no reason to suppose that there will be any friction between the labor union and the new management. However, there is still no evidence sufficient to reject the Union-Efficiency Deterioration Hypothesis.

It is likely that the effect of the new private administration on productive efficiency will be positive because of the definition of objectives aimed primarily at the company's performance and to the amount of investment, which is larger than it would have been under public administration, together with the limited growth of the labor force. The figures for 1991 show progress over the preceding year. The number of employees per thousand lines dropped from 9.6 in December 1990 to 8.5 one year later. Similarly, the financial performance of the com-

Table 3.33. TELMEX Financial Ratios, 1989–91
(Percentages)

Year	Net profit/ net worth	Net profit/ total assets	Net profit/ operating income
1989	11.7	6.9	23.3
1990	20.3	11.6	36.2
1991	28.7	18.7	42.9

Source: CAIE with data from SCT.

pany in the first year of private management was excellent (Table 3.33). This was primarily because of the real 23.6 percent reduction in the payment of the telephone service tax, since it was possible to use 65 percent of the tax for investment purposes, and the exchange of debt between the company and the federal government. In 1991 real receipts increased 21.1 percent as compared to the preceding year, and operating expenses grew less than 7 percent. As a result, in 1991 the company's net profits registered an annual increase of 77.8 percent in real terms.

The Higher Profit-Price Adjustment Hypothesis is not rejected, since the growth of receipts, driven by rate adjustments, was more significant than the reduction of average operating expenses. This is not surprising, considering that the work force, the principal component of TELMEX costs, remained practically constant.

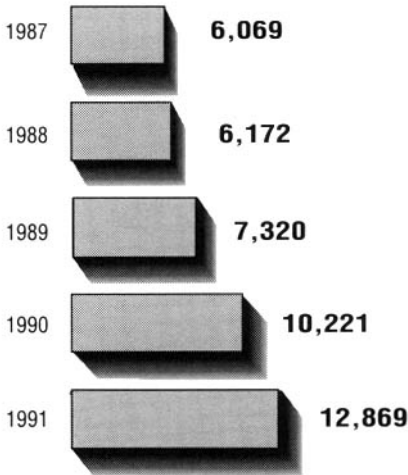
With respect to the trend of allocative efficiency, in 1991 the number of lines in service increased 12.5 percent and the number of communities served 25.9 percent as compared to the end of 1990 (see Figure 3.10), which exceeded the company's growth commitment. In addition, TELMEX began construction of the first 13,500 km of the fiber optic system it agreed to build in the Amendment to the Certificate of Concession. This will be the main system for long distance service.

Preliminary conclusions indicate that regulation by quantity (goals for telephone service coverage) was more effective in controlling the exercise of TELMEX's monopolistic power than setting rates in cooperation with the SCT, since separating the determination of rates from the procedure set forth in the Amendment to the Certificate of Concession led to a substantial increase in the company's profits in its first year of operation as a private monopoly.

Privatization and Fiscal and Macroeconomic Impact

The proceeds from the sale were larger than the authorities had expected. In February 1992 they received approximately \$4 billion, whereas they had hoped to collect a total of \$2 billion. This is even more remarkable considering that the government still held some of the company's shares, which, in the month in question, were valued at more than \$14 billion.

Figure 3.10. TELMEX: Number of Communities with Telephone Services, 1987-91



According to our estimates, and given an infinite perspective, the net present value of the fiscal impact was negative if the benefit derived from the reduction of interest rates is not accounted for, which was a contributing factor in the sale of “L” shares abroad. This result incorporates the company’s future profits, assuming that it maintains the same rate of growth in the number of lines in service as it did before privatization and applying the real increments in the rates set forth in the Amendment to the Certificate of Concession. This assumption was very important in measuring government revenue for two reasons: It was feasible to do so under the public administration because the level of telephone prices was kept constant in real terms and the impact on user purchasing power was nil, and it isolated the effect of privatization on the amendments to the regulations. Therefore, the sacrifice in efficiency caused by the decision not to sell the enterprise as a series of smaller companies was not justified by the price obtained.

Given that the company has not received any direct subsidies and that substantial investments have been made in the short time since privatization, the Increased Investment Hypothesis is not rejected.

A Contingency Fund was established with the proceeds from the privatization of TELMEX because of the climate of uncertainty in the international oil market caused by the Persian Gulf crisis. The proceeds from the sale of other companies and banks after the privatization will also go to this fund. Nevertheless, at the close of the third quarter of 1991 the proceeds from the sale of the telephone

Table 3.34. Mexican Government Contingency Fund
(January–September 1991)

Sources of funds	Billions of pesos
TELMEX	14,603
National currency	4,700
Foreign currency	9,903
Banks	6,200
Other Industrial and Service Firms	500
Total	21,303
Uses	
Amortization of internal debt	20,000
International reserves	1,303

Source: CAIE with data from SHCP.

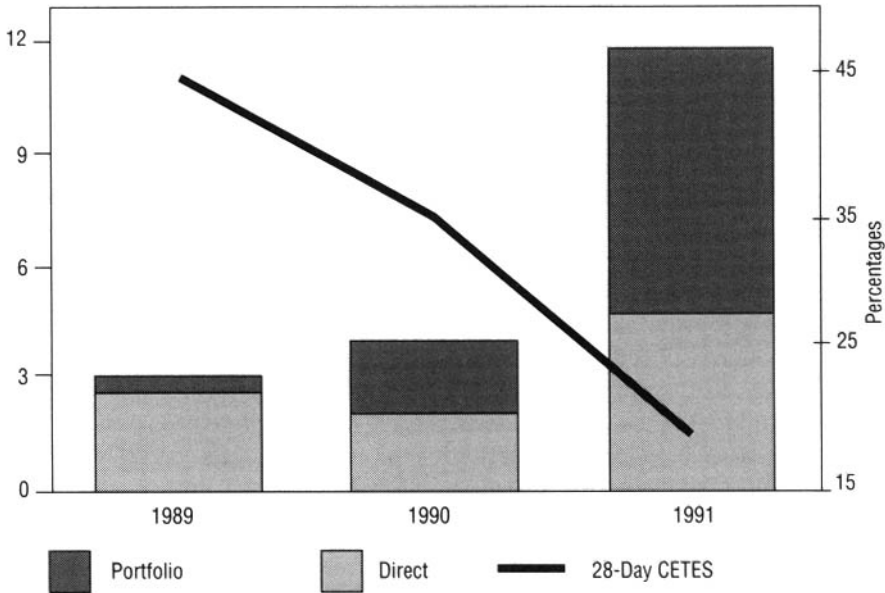
company represented 68.5 percent of the fund. On October 1, 1991, most of the money in the Contingency Fund was used to extinguish the internal debt of the public sector. As a result, there was a real 10.5 percent reduction in internal indebtedness between December 1990 and October 1, 1991, at which time it totaled 159 trillion pesos (Table 3.34).

The positive impact on public finances is the most important justification for using the resources of the Contingency Fund to extinguish internal indebtedness. Because of this, interest expenses declined by about 3.2 trillion pesos annually, according to official estimates. Thus, approximately 96 percent of the total expenditures (including financing of the private and social sectors through the development bank) can be covered with budgeted income (not including the sale of state-owned enterprises). It is very likely that the indirect impact of the privatization of TELMEX will more than make up for the net fiscal loss from the sale, resulting in a permanent fiscal gain.

Given that the proceeds from the sale of TELMEX were not used to increase current expenditures, the Fiscal Gains-Current Expenditures Hypothesis is not rejected. However, it is probable that the official view of the revenue from privatization focused more on its origin (capital earnings) than on whether it involved a temporary gain; consequently, these funds were used to reduce the internal indebtedness of the public sector, thereby decreasing capital expenditures.

The rest of the foreign currency resources of the Contingency Fund accumulated before the close of the third quarter of 1991 (\$426.6 million) were allocated to the international reserves, which contributed to the accrual of \$1.847 billion in the July-to-September period and brought the total reserves to \$16.27 billion.

Figure 3.11. TELMEX: Foreign Investment and Interest Rates
(Billions of U.S. dollars)



When the first steps were taken to prepare for the privatization of the company in 1989, there were rapid increases in the price of TELMEX shares. In 1990 the price increased 79 percent on the BMV, after adjustment for inflation, which is equal to nearly seven years of real interest at the leading money market rate. This contributed to the lowering of internal interest rates, which attracted a substantial amount of portfolio investment. In the third quarter of 1991, of the total balance of foreign resources invested in variable income securities, 60.8 percent was concentrated in TELMEX and the rest in the shares of only nine companies. It also appears that TELMEX helped other prestigious, high-quality Mexican firms gain access to international markets with greater frequency and on better terms. This phenomenon represents another positive, indirect impact on the payment of public sector interest (see Figure 3.11). In view of the foregoing, it is obvious that as far as TELMEX is concerned, the Interest Rate and Debt Service Hypothesis is not rejected.

Social Evaluation

Because of TELMEX's importance, the appropriate social evaluation methodology is the one explained in the introduction to this chapter. The results are based on two estimates and one assumption: The shadow price used to value one peso

held by the successful bidder, in terms of consumption, was estimated at 0.92. This was determined on the basis of the net profits of companies owned by the investors of the Carso group as a proportion of their net worth. Given that the exact value of marginal social welfare measured in units of consumption and based on a unit increment in government revenue equals the weighted average of the shadow prices of the various uses that the government makes of said revenue, the value of r_g is estimated as the weighted average of the interest rates on public internal debt. This is valid because the proceeds from the sale of the controlling interest in the company and from the initial sale of "L" shares were used to extinguish public internal debt and the interest no longer owed actually represents additional revenue. The resulting value of the shadow price of one peso held by the government was 1.1. The assumption is that the private sector makes the investments agreed to in the Certificate of Concession.

Based on the above premises, the social value of the company after privatization is 17 percent higher than if it had remained under government control, given that the private sector's expansion plans represent a significant increase in TELMEX's working assets, which would not have been possible with the criteria used by the public sector for the allocation of resources. Moreover, the private sector would have to make less than half of such investments for the social value of TELMEX to be greater under public control than it would under private administration. The difference between the shadow prices of the government and of the private sector, together with the larger outputs expected under private administration, substantially increased the social value of the taxes the federal government would collect following privatization.

It is clear, then, that from the social point of view, the sale was positive, meaning that it increased the net welfare of the Mexican people. This even justifies the fact that the public sector sustained a net fiscal loss, excluding the indirect effects of privatization on the payment of interest.

Lessons and Recommendations

The study of the privatization of TELMEX provides the following lessons and recommendations:

- One of the most important elements of the negotiations with the workers was the option they were given to participate in the purchase of the company through a development bank loan. Since there was no union opposition to the sale, this option was crucial to the acceptance of the changes in TELMEX's collective agreement. Mexican law gives unionized workers a preferential right to acquire the shares of a company when its sale has been approved, but this provision was not sufficient since, in general, the workers did not have the necessary credit standing. Therefore an acces-

sible financing mechanism was necessary. The purchase option was fundamental in promoting greater efficiency for two reasons. First, worker participation in the capital of the company provided an incentive for improved efficiency and quality. Second, by reducing the number of labor categories and work areas, management was able to make a more efficient allocation of labor resources. This also contributed to obtaining a higher sales price than would have been possible had the level of efficiency remained low. Therefore, it is recommended that workers be granted financing commensurate with their credit standing so that agreements can be reached with unions to ensure greater productive efficiency and the benefits this implies for the functioning of other sectors.

- Mexican labor law imposes on companies a number of obligations that are more stringent than the laws of other countries. In the case of the sale of TELMEX, the contingent labor liabilities were substantial and this reduced the sales price. It is therefore recommended that the labor laws be amended to eliminate excessive worker benefits, which are an obstacle to obtaining a higher sales price and attracting foreign investors.
- The federal government successfully used the national and international financial markets for part of the sale of TELMEX. Although the favorable macroeconomic conditions were fundamental to acceptance of the shares, the company's financial position and the mechanism used to create a second level of demand through the use of various underwriting syndicates and the bonus option were determining factors in the transaction. In short, when privatization involves large amounts of financial resources, it is recommended that the national financial market be used as a sales mechanism only in the case of those companies that are profitable, or that the company's finances be put in order before privatization. At the same time, the sale of shares abroad is successful in a stable macroeconomic environment. Otherwise, nonacceptance of the shares could have caused a drop in the price, which would have adversely affected the government's profit (or even resulted in a loss) and, in any case, concentration of ownership would not be avoided.
- The restructuring of the capital stock of TELMEX and the amendment of the law to allow the participation of prominent national industrial groups and foreign partners with a high level of technological expertise were more important in ensuring growth and modernization than the conditions governing participation in the auction. Therefore, when the privatization of a company involves a substantial sum of money and the sector to which it belongs is one in which the state has long held a monopoly, it is recommended that the laws governing foreign investment be amended to allow the participation of foreign partners with technological expertise in order to ensure modernization and expansion.

- The amendments in the regulations did not promote competition. The difference between the marginal cost and the price of long distance services is substantial and, therefore, regulating the services TELMEX provides by means of a system of ceiling prices is not an effective way of controlling the company's monopolistic power, at least not in the short term. Moreover, if the laws are not amended to reduce government participation in the decisions of the company, the cross-subsidies between the services may not be eliminated, thereby delaying the opening of the market. Probably, the breakup of TELMEX would have made it easier to control the company's monopolistic power and would have more effectively promoted improvements in efficiency. Although the net direct benefit to public finances did not justify the sacrifice in allocative efficiency, the indirect benefits to the balance of payments and the government's liabilities through the reduction of interest rates were significant. It may be advisable, therefore, to sell a company as a monopoly in countries where macroeconomic stabilization is an economic policy objective with a higher priority than the allocative efficiency goals of the telephone service. In all other cases a breakup is preferable.
- The restructuring of public finances with the proceeds from the sale of TELMEX in this period was an obvious choice. However, it appears that the reduction in future income will not be offset by the additional receipts obtained from expanding the telephone service. Therefore, using the funds to reduce the government's internal debt was a wise step that increased the indirect fiscal benefit of the sale by lowering domestic interest rates. It is recommended that when the possibility of a net fiscal loss exists, the funds be used to increase indirect benefits thereof.

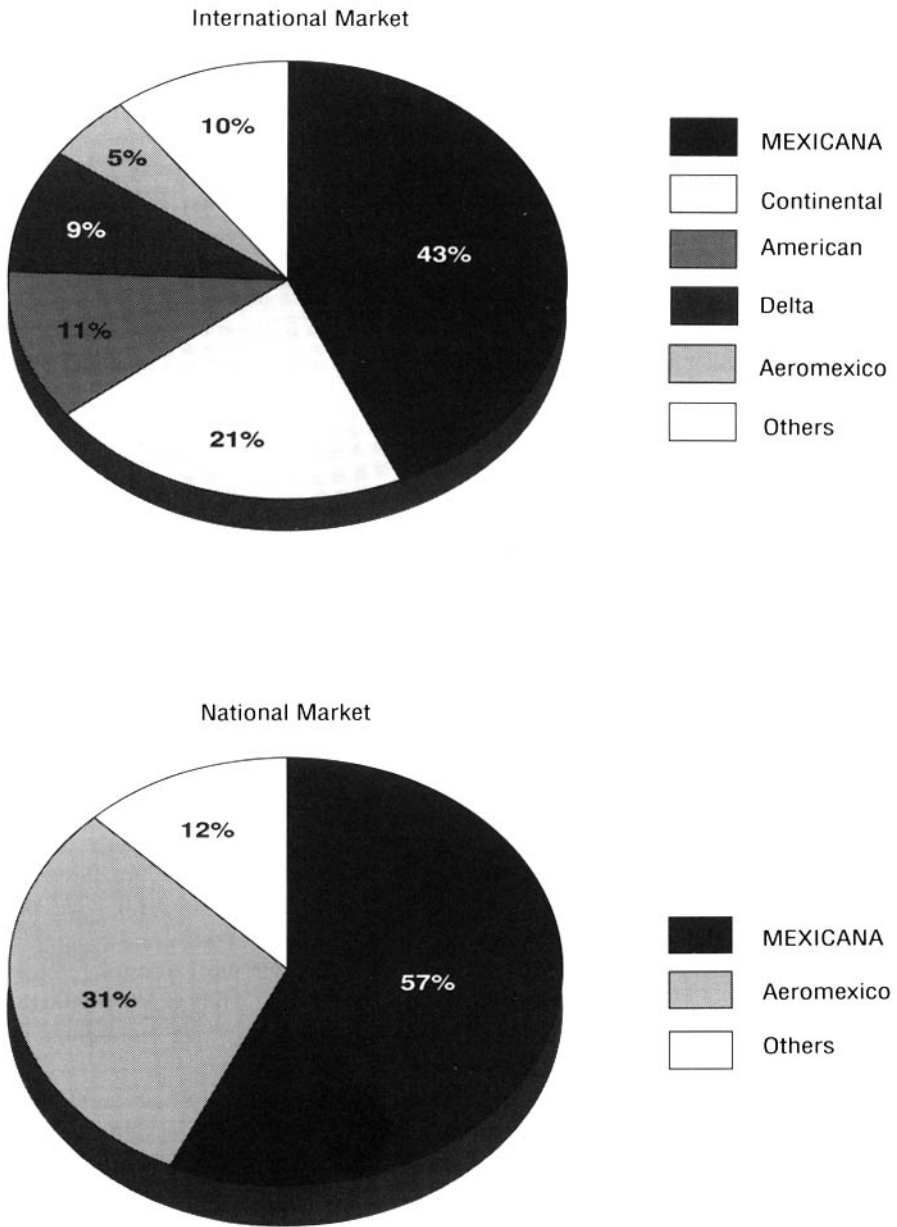
Compañía Mexicana de Aviación, S.A. de C.V.

Background

Compañía Mexicana de Aviación (MEXICANA), privatized August 22, 1989, had in 1988 the largest share of the domestic passenger market (57 percent) (Figure 3.12) and of the international market on the Mexico-United States and Mexico-Central America routes, as well as between Mexico and certain Caribbean countries (43 percent). In the latter market it competed with Continental Airlines (21 percent of the market), American Airlines (11 percent), Delta Airlines (9 percent) and Pan American (4.6 percent). When it was privatized, MEXICANA ranked 47th among airlines with the largest incomes.¹⁸

¹⁸ See *Fortune Magazine*, September 1990.

Figure 3.12. MEXICANA: Market Share in 1988



Before privatization, MEXICANA's main source of income was the international market. In 1988 this market represented 38 percent of the total number of passengers carried by the company and accounted for 55 percent of its receipts, while the domestic market (62 percent of the passengers) contributed only 37 percent of receipts, with the remaining 8 percent coming from tourist services, reservations, and connections with other airlines. Most of MEXICANA's passenger market consisted of tourists, so that demand was subject to considerable income elasticity, which made it extremely sensitive to changes in economic activity.

MEXICANA's employees were organized into four unions (flight attendants, pilots, aircraft workers, and U.S. employees), which had considerable bargaining power and had obtained benefits well in excess of those established by law. Between 1983 and 1987 the number of employees grew an average of 2.5 percent per year, while passenger demand declined. As part of the reorganization policy implemented before privatization, slightly more than a thousand employees were cut from the payroll in 1988.

Before privatization, the stock was considerably dispersed: 50.12 percent of the shares were held by the federal government and the rest by a large number of brokerage firms (the one with the largest interest held 4 percent) and a few families who later participated in the process as prospective buyers. It is interesting to note that 29.9 percent of the shares were held by investors whose individual interest represented less than 2 percent of the company's capital stock.

The National Air Transportation System Guidelines published in 1988 eliminated exclusivity on routes where there was sufficient demand to justify service by two or more airlines. The fares for domestic flights were approved by the General Directorate of Fares, and the fares for international flights were determined by bilateral agreements between countries. However, the airlines were able to give discounts based on market conditions and subject to certain limitations.

MEXICANA did not contribute in any significant way to public finances since profits were not redistributed while the company was under state control, and it was subject to the tax system like any other company. Nevertheless, because of its financial position, it paid taxes only in 1988 and 1989. Still, it was not a burden on the federal government since it received no direct subsidies and the ones it did receive from PEMEX were no different than those granted to other Mexican airlines. However, in 1988 the price per liter of jet fuel was higher in the domestic market than it was in the international market, which represented an additional expense of 25.3 billion of pesos.

Concerning the physical efficiency indicators, in the 1985-88 period, the number of passengers per kilometer increased 15 percent. The passengers-kilometer per employee indicator shows that labor productivity fell off in 1986 and exhibited only a slight improvement in 1987. The increase in 1988 was the result of the market captured by MEXICANA following the bankruptcy of Aeroméxico and the reduction in staff. The seats-kilometer per employee indicator declined in

Table 3.35. MEXICANA: Indicators of Company Operations, 1985–88

	1985	1986	1987	1988
Passengers transported (thousands)	8,954	8,072	7,857	8,439
Passengers-kilometer (millions)	9,764	9,440	10,004	11,259
Occupancy factor (%)	60.2	58.2	62.0	69.3
Tons-kilometer cargo (millions)	84	82	92	99
Kilometers flown (millions)	94	95	93	86
Seats-kilometer (millions)	16,219	16,205	16,146	15,927
Seats-kilometer per employee (thousands)	1,249	1,177	1,157	1,249
Passengers-kilometer per employee (thousands)	751	686	717	847

Source: CAIE with data from MEXICANA.

1986 and 1987 because of an increase in staff as compared to installed capacity (Table 3.35).

The company's financial statements show that after two consecutive years of operating losses, in 1987 and 1988 the company earned a profit. Nevertheless, adding the statements for the 1985–88 period results in an accrued net loss of 380,505 million pesos (1990 pesos). Moreover, the value of the assets at 1990 prices decreased due to the fact that under state control virtually no investments were made in the company (Table 3.36).

Analysis of the financial ratios reveals that the company's ability to pay declined in the period before privatization. In 1985 the current ratio indicates that MEXICANA had 82 centavos available for every peso of debt, while in 1988 it had only 47 centavos for this purpose, since in the interval the short-term debt rose from 32 percent to 58 percent of the total liabilities. Moreover, the capital-debt and leverage ratios show that when efforts were made to sell the company, the liabilities were reduced to make it more attractive (Table 3.37).

Consequently, the improvement in the profitability indicators in 1988, such as the net profit/income and profit/net worth ratios, reflects the increase in the number of passengers resulting from the bankruptcy of Aeroméxico and changes in the monetary position brought about by the revaluation of monetary assets and liabilities. As is common in the airline industry, operating expenses as compared to total receipts were very high in the period in question, given the intense competition in the market. In the period 1983–88 the average cost per employee, seat-kilometer, and passenger-kilometer in 1990 pesos rose at average annual rates of 11.3 percent, 9.3 percent, and 6.3 percent, respectively.

In short, MEXICANA was a large company with a commanding share of the domestic and international markets and little market power due to the regulation of its fares. In addition, it had a large number of employees organized into four unions that enjoyed substantial bargaining power and a collective labor agreement that prevented optimizing the use of the work force. Before privatization,

Table 3.36. MEXICANA: Financial Statements before Privatization, 1985–88
(Millions of 1990 pesos)

Income Statement				
	1985	1986	1987	1988
Operating income	2,032,560	2,042,777	2,044,801	2,648,032
Operating expenses	1,971,033	2,131,719	2,015,472	2,391,931
Operating profit	61,527	(88,942)	29,329	256,101
Total financial cost	549,707	330,685	0	(332,403)
Nonoperating income	(1,434)	(8,020)	(1,118)	(31,504)
Before tax profit (loss)	(486,746)	(411,607)	30,447	620,008
Taxes and P.T.U.	504	79	5,222	126,802
Net profit (loss)	(487,250)	(411,686)	25,225	493,206
Statement of Condition				
	1985	1986	1987	1988
Current assets	703,387	419,615	408,697	428,743
Fixed assets	3,478,474	3,979,845	3,576,071	2,570,336
Total assets	4,181,861	4,399,460	3,984,768	2,999,079
Short-term liabilities	854,841	1,037,884	1,133,253	904,012
Long-term liabilities	1,786,992	1,707,128	1,247,219	664,721
Total liabilities	2,641,833	2,745,012	2,380,472	1,568,733
Net worth	1,540,028	1,654,448	1,604,296	1,430,346
Total liabilities + capital	4,181,861	4,399,460	3,984,768	2,999,079

Source: Audited financial statements and author's calculations.

steps were taken to reduce the relative weight of the company's debt, with the result that total liabilities went from 63 to 52 percent of the total assets. In addition, the work force was reduced by about 1,000 employees and negotiations were entered into with the unions to eliminate some of the benefits that were keeping operating costs high. Nevertheless, the efficiency of inputs did not change substantially. At the same time, the company's ability to pay declined and, except for 1988, the share of debt in the financing of assets increased.

Privatization Process

The government's justification for the privatization of MEXICANA was that the growth of demand for air transportation would require heavy investments in the purchase of aircraft, and the public sector did not have the necessary resources; therefore, it was looking for a way of capitalizing the company. On March 3, 1989, the SHCP appointed Banco Internacional, S.N.C. as the agent for the execution and formalization of the MEXICANA privatization process. Before

Table 3.37. MEXICANA: Financial Ratios before Privatization, 1985–88

	1985	1986	1987	1988
Ability to pay				
Curr. assets/curr. liabilities	0.82	0.40	0.36	0.47
Acid test:				
Current assets—inventory/curr. liabilities	0.72	0.35	0.29	0.44
Financial soundness				
Capital stock/liabilities	0.58	0.60	0.67	0.91
Profitability				
Net profit/income	-24.0	-20.1	1.23	18.63
Net profit/capital	-31.6	-24.9	1.57	34.48
Net profit/total assets	-11.6	-9.3	0.60	16.44
Leverage				
Total liabilities/total assets	63.2	62.4	69.7	52.3
Total liabilities/net worth	171.5	165.9	148.4	109.7
Others				
Op. expenses/total income	97.0	104.2	98.5	90.3
Op. profit/total income	3.0	-4.3	1.4	9.7
S.T. liabilities/total liabilities	32.4	37.8	47.6	57.6

Source: Audited Financial Statements and author's calculations.

this, two attempts had been made to sell the company on the Mexican Stock Exchange, but the bids were below government expectations. The solution proposed by Banco Internacional was to decrease the government's participation by capitalizing the company and giving control to the private sector. The agent bank determined the value of the company and adjusted the projected operating receipts for the 1989–99 period by figuring in depreciation and working capital. The result was that the value of the company varied between 68 and 84 percent of the book value.

Because of MEXICANA's size, the Bank proposed privatizing the company in two stages. In the first, the government would not dissociate itself from the company. In the second stage, it would sell its shares. The plan did not include the possibility of employee participation in the purchase of MEXICANA shares, possibly because it was not considered necessary. Therefore, the Monopoly Power-Worker's Share Hypothesis is rejected since MEXICANA operated in an oligopolistic market and there was no distribution of shares to its employees.

In the first stage a holding company was created known as Corporación Mexicana de Aviación (CMA), to which the federal government contributed 49.9 percent of its

MEXICANA shares on a one-to-one basis. A capital increase was then announced and, through Banco Internacional, new investors were invited to subscribe. Prospective buyers were prequalified before the submission of bids, so that only those companies with a good business reputation and a clear financial and legal record with the SHCP were eligible to participate.

To sell the shares, an auction was held, in which investors could subscribe all or part of the capital increase. The proposals had to include, as a minimum, a capital contribution of \$70 million, growth plans, and technological and administrative advances, as well as the price at which the shares were valued. The criterion for selecting the winning bid was the price offered for the shares in comparison with their book value and the proposed growth plans. In the event that an identical price was offered, the bid with the largest capital contribution would be selected.

On August 7, 1989, the agent bank received seven offers, and on August 24 the bank announced that the winner was Grupo FALCON. This group's bid established a price 1.07 times the book value of MEXICANA shares and proposed a very ambitious investment plan. At the time of its privatization, MEXICANA was earning a profit, and the price offered by the winning group exceeded the government's reference price; therefore, the Profitmaking-Minimum Reference Price Hypothesis is not rejected.

The winning group consisted of investors representing both the tourism and the air transportation industries without experience in the management of an airline. Because of its composition, the group had a very positive credit rating which was to become important later on. The two majority shareholders of Grupo FALCON are Chase Manhattan Bank (35 percent) and Grupo Xabre (33 percent) (Table 3.38). It should be pointed out that Xabre controls FALCON, since Mexican law prohibits the control of national companies by foreigners.

In the second phase of this first stage and by means of a new capital increase, small investors in MEXICANA were invited to go to the Mexican Stock Exchange to exchange their MEXICANA shares for shares in CMA, at a ratio of one to one. The government exchanged the rest of its MEXICANA shares for CMA shares, reducing its interest to 40 percent. After these transactions, the winning group was to hold 25 percent of the corporation, and the minority shareholders 35 percent. Table 3.39 shows the movement of the shares in each of the phases of the first stage.

The bank created a trust fund (Trust Fund 1) that would expire on August 30, 1992, with 14.9 percent of the government's MEXICANA shares serving to guarantee Grupo FALCON the option of buying these shares before the deadline.¹⁹

¹⁹ During the first seven months of 1992, Grupo FALCON purchased shares on the Mexican Stock Exchange and acquired 6 percent of the government's shares, which gave it control over the company. An interesting aspect is that the owners of TAESA and Aeroméxico also bought MEXICANA shares on the stock exchange. In October 1992 the remaining shares of Trust Fund 1 still had not been sold.

Table 3.38. Composition of Grupo FALCON

Shareholders	Investment (millions of U.S. dollars)	Percentage of participation
Xabre, S.A. de C.V.	46.0	32.9
Eliás Sacal	15.0	10.7
Carlos Abedrop Dávila	7.0	5.0
Fam. Name Yapur	2.0	1.4
Roberto Canizzo C.	1.4	1.0
National Investment Total	71.4	51.0
The Chase Manhattan Bank, N.A.	50.0	35.7
D.B.L. Americas Dev. Assoc. L.P.	10.0	7.1
G.O. III Ltd. (J. Goldsmith)	8.5	6.2
Foreign Investment Total	68.6	49.0
Total Investment	140.0	100.0

Source: Secretariat of Finance and Public Sector Credit (SHCP).

Although the purchase option was not exercised, Banco Internacional did exercise its voting right. In addition, it created another trust fund (Trust Fund 2) for five years with 25.1 percent of the government's CMA shares, which were necessary for FALCON to gain control of the company. These shares would vote in accordance with FALCON's instructions.

The first stage of the privatization process lasted three months, and at the end of that period the government still held 40 percent of the shares. The second stage of the process began in early 1992 with negotiations on the price of the shares held by the government.

Before its privatization, 49.9 percent of the shares of MEXICANA were dispersed among a large number of investors. Following its purchase of the government's shares, FALCON held 65 percent of the shares and the interest of the other shareholders was reduced to 36 percent. Therefore, the Closed Bidding Ownership Concentration Hypothesis is not rejected. Since the selection criterion was to choose the bidder that offered the best price and investment plan, rather than the bidder with the experience in the sector, the Buyer Selection Hypothesis is not rejected. It is important to note that the funds contributed by the winning group to the holding company as a capital increase were used to capitalize MEXICANA, to buy other companies in the aviation sector, and to purchase new equipment.

Table 3.39. First Stage of the Airline Privatization

	Compañía Mexicana de Aviación, S.A. de C.V.			Corporación Mexicana de Aviación		
	Shares	Percentage	Amount ²	Shares	Percentage	Amount ²
Before privatization						
Government	113,119,148	50.1	205.95	—	—	—
Minority shareholders	112,591,432	49.9	204.86	—	—	—
Total	225,710,580	100.0	410.81			
Phase one¹						
Government	56,691,503	20.1	110.42	56,427,645	49.9	109.91
Minority shareholders	112,591,432	39.9	219.32	—	—	—
New investors	—	—	—	56,653,356	50.1	110.35
Corporación Mexicana de Aviación	113,081,001	40.0	220.26	—	—	—
Total	282,363,936	100.0	550.00	113,081,001	100	220.26
Phase two						
Government	—	—	—	113,119,148	40.1	220.33
Minority shareholders	—	—	—	98,653,804	34.9	192.17
New investors	—	—	—	70,590,984	25.0	137.50
Corporación Mexicana de Aviación	282,363,936	100.0	550.0	—	—	—
Total	282,363,936	100.0	550.0	282,363,936	100.0	550.0

Source: Author's calculations with data taken from Banco Internacional.

¹The shares were valued at 1.07 times their book value.

²Millions of 1989 pesos.

Complementary Policies

Following the deregulation of routes in 1988, competition increased. Foreign airlines continued competing on the basis of passenger service and fares, which included discounts of up to 40 percent. In the domestic market in 1988 there were eight trunk and regional airlines with scheduled service, which carried 6.3 percent of the total number of passengers. In 1989 there were 13 companies with a combined market share of 9.3 percent, and in 1990 two new airlines appeared that carried 9.1 percent of the total number of passengers. In 1991 Servicios Aerogane S.A. de C.V. and AeroMonterrey S.A. de C.V., which are owned by Corporación Mexicana de Aviación, began operations. Nonscheduled services, especially charter flights, increased in frequency, with the result that the market share of such services was 4 percent in 1989 and 6 percent in 1990, with the upward trend continuing.

It is important to note that after its privatization in 1988, Aeroméxico pursued a strategy that enabled it to recapture the domestic market share it had in 1987 (44 percent). This strategy included eliminating unprofitable routes, which resulted in 87 percent of the traffic being carried on 60 percent of the routes served, selling obsolete aircraft, rehiring the most efficient personnel, and focusing on the business market by offering good service and a much better on-time performance than its competitors (97 percent in 1991). In contrast, MEXICANA provided service and on-time performance similar to its foreign competitors (86 percent in 1991). In early 1992, Aeroméxico announced the first frequent flyers program, and MEXICANA responded by launching a similar program in March. Therefore, the privatization of MEXICANA was accompanied by greater effective competition and the Profitability Promotion Hypothesis must be rejected.

Initially, passenger service was the only possible area of competition, since airfares had been regulated since July 1991. A new level of competition began with the liberalization of airfares and the complete deregulation of domestic routes, which led to competition in prices and increased competition to capture the market on routes that had previously been served by only one company. Moreover, when a new agreement was signed with the United States in October 1991, the Mexican government decided to open the country's airline routes completely, so that U.S. and Mexican airlines could fly anywhere in the two countries.

Concerning deregulation of the prices of inputs supplied by the public sector, it should be remembered that as part of the stabilization program the price of jet fuel was decontrolled in 1988 and airport and auxiliary services fees were adjusted in December 1990.²⁰ Although this policy was not part of the actual process of privatizing MEXICANA, the Input Deregulation Hypothesis cannot be rejected.

²⁰ In January 1991, a final adjustment of 0.65 percent was made. Currently, the price of jet fuel is determined using a formula that takes the international price into account.

In fulfillment of the investment plan proposed in its bid, Corporación Mexicana de Aviación purchased several related service companies and airlines: Empresa de Servicios de Tele-reservaciones (purchased jointly with Aeroméxico); Datatronic (electronic equipment maintenance); Turboreactores (engine maintenance and repair); and AEROCARIBE and AEROCOZUMEL (regional airlines operating in the southeastern region of Mexico). In addition, it signed a purchase order for 22 Airbus A320 aircraft and leased 14 A320 aircraft with an option to buy. As of November 4, 1992, 16 aircraft had been delivered. In 1991 it also founded AeroMonterrey S.A. de C.V., which operates as a regional airline serving the northeastern part of the country, and Servicios Operativos Aéreos, S.A. de C.V., which operates as an aircraft leasing company and owns the aircraft operated by AeroMonterrey. Investments in related companies enabled MEXICANA to utilize synergetic advantages and to reduce its operating costs by purchasing aircraft.

Privatization and Efficiency Gains

One of the first actions of the new management was to appoint a General Manager and to dismiss the managers in the first two levels of its organization. However, the new manager was not familiar with the industry and because of this made mistakes that caused a decline in the quality of services. Some of these errors were opening and closing routes frequently, closing routes that were unprofitable but which connected with others that were, and making expenditures that improved the company's physical appearance but did nothing to improve passenger service. In 1990 and 1991 the quality of service provided by MEXICANA was lower than it was before privatization. In 1990 the number of canceled flights and late departures increased.

Consequently, in the middle of the first quarter of 1991, the general manager was replaced and steps were taken to improve service. For example, aircraft seatbacks were equipped with televisions, better food was served and on-time performance was improved. Still, the level of service was inferior to that provided by Aeroméxico.

Table 3.40 shows some indicators of the productivity of MEXICANA employees in the year following its privatization, compared to other companies. The table indicates that MEXICANA had more employees per aircraft, the smallest number of passengers carried per employee, and the least number of seats-kilometer per employee. These data suggest that MEXICANA's payroll was much larger than that of its competitors.

To remedy this situation, in the 1989–91 period the number of employees was reduced to 10.3 percent below the 1988 level. In early 1992, the company announced that there would be no further reductions in staff and that a no-growth policy would be followed. The reason for this announcement lies in the strength

Table 3.40. Comparison of Indicators per Airline Employee, 1990

Company	Employees per aircraft	Passengers-kilometer per employee (thousands)	Operating cost per employee (thousands of US\$)	ASK* per employee (millions)
MEXICANA	236	1,018	75	1.5
AEROMEXICO	142	1,228	104	1.6
Alaska	87	1,232	n.a.	2.3
American	155	1,440	127	1.9
Continental	175	1,879	162	2.5
Delta	146	1,464	139	2.4
Northwest	115	2,316	207	2.3
United	152	1,741	153	1.6

Source: ICAO. World Civil Aviation Statistics. 1990.

n.a. Not available.

*Ask indicates the number of seats per kilometer flown.

of the MEXICANA labor unions, despite which the Union-Efficiency Deterioration Hypothesis is rejected, due to the fact that under government control the unions had the same bargaining power. In the case of MEXICANA, the collective agreements provided that each worker would only do the work for which he had been hired, which put the company at a disadvantage as far as Aeroméxico was concerned, since in the latter company employees could perform a variety of tasks. To eliminate this disadvantage and because the company was still operating at a loss, 4,000 employees were laid off in October 1992, and the collective labor agreements were renegotiated, with the result that the unions relaxed the rules, permitting greater efficiency in the allocation of personnel.

Table 3.41 shows that the number of seats-kilometer per employee grew in the years following privatization as a result of fewer employees and more aircraft. The number of passengers per employee grew 9 percent in 1990 and decreased 9.6 percent in 1991. The wide variations in this indicator are due to the high level of income elasticity in the demand for tourist air transportation.

Concerning allocative efficiency, the number of passengers-kilometers transported grew 8 percent in 1990 but decreased in 1991 as a result of the Persian Gulf War. The share of MEXICANA and Aeroméxico in the domestic market in 1983-87 increased, with the result that the former's share climbed to 47 percent and the latter's to 44 percent. In 1988 MEXICANA's share grew to 57 percent as a result of the bankruptcy of Aeroméxico. In 1989 MEXICANA's share fell to 50 percent and has remained there ever since, while Aeroméxico's share returned to prebankruptcy levels, at the expense of the smaller companies. In the international market, routes were reassigned and in 1991 the share of international flights in total income was approximately equal to that of the income on domestic routes (in 1988 this ratio was

Table 3.41. Mexico: Airline Operating Indicators, 1987-91

	1987	1988	1989	1990	1991
Passengers transported (thousands)	7,857	8,439	8,338	8,821	8,549
Passengers-kilometer (millions)	10,004	11,259	11,006	11,906	10,743
Percent change	62.0	12.5	-2.2	8.2	-9.8
Occupancy factor (%)	93	69.3	67.0	68.0	59.8
Kilometers flown (millions)	16,146	86	92	100	n.a.
Seats-kilometer (millions)	1,157	15,927	16,350	17,497	17,977
Seats Kilometer per employee (thousands)	717	1,249	1,257	1,496	1,539
Passengers-kilometer per employee (thousands)		847	933	1,018	920

Source: Secretariat of Communications and Transportation and author's calculations.

Table 3.42. ASK Operating Cost, 1989

Company	Operating cost per ASK (US\$)	Ratio compared to MEXICANA
MEXICANA (MX)	0.044	—
AEROMEXICO	0.050	114
Alaska	0.062	141
American	0.050	114
Continental	0.047	107
Delta	0.053	120
Northwest	0.055	125
Pan American	0.052	118
Trans World	0.049	111
United	0.055	125
USAir	0.067	152

Source: CAIE with data from Banco Internacional, S.N.C., MEXICANA: *Prospecto Informativo*.

55 percent to 37 percent in favor of the international routes). In January 1992 a commercial agreement was signed with Avensa de Venezuela pursuant to which the two companies jointly operate daily flights on the Caracas-Panama City-Mexico City route (sharing costs and profits).

Table 3.42 shows that in 1989 MEXICANA had the lowest seat-kilometer (ASK) operating cost. This was possible because wages in Mexico were relatively lower and they compensated for the large number of employees. Nevertheless, in 1990 and 1991 the company sustained losses of approximately 100 MMP a year. This situation is explained by the fact that in 1990 fares were not adjusted to keep pace with rising costs. Table 3.43 shows that prominent among MEXICANA's major expenses in 1989 and 1990 were inputs supplied by the state (fuel and airport charges).

Table 3.43. MEXICANA Expenses, 1989–90
(Thousands of U.S. dollars)

Expense	1989		1990		Change %
	Amount	% of total	Amount	% of total	
Reservations	150,068	20.3	163,758	18.3	9.1
Fuel	119,434	16.1	199,411	22.3	67.0
Maintenance	117,454	15.9	132,883	14.9	13.1
Airport charges	107,111	14.5	158,214	17.7	47.7
Crew	43,408	5.9	50,911	5.7	17.3
Total	537,475	72.7	705,177	78.9	31.2

Source: CAIE with data from the MEXICANA.

As a result, profitability ratios declined in 1990 and 1991 due to administrative problems, reduced demand in the international market, and strong domestic competition. A comparison of the current ratio with the 1985–88 period reveals that the company did not improve its cash position in the 1989–91 period (Tables 3.44 and 3.45). In 1991 it had 43 centavos in short-term assets for every peso of current debt, while in 1989 it had 47 centavos. It is important to stress that MEXICANA continued the policy of increasing short-term as opposed to long-term indebtedness. In 1990, for every peso of overall debt that it had, 85 centavos represented short-term liabilities. At the end of 1991, the company began replacing its short-term liabilities with long-term debt. It is hoped that these negotiations will be concluded by the middle of the second quarter of 1992. Consequently, there is no reason for rejecting the Higher Profit-Price Adjustment Hypothesis in MEXICANA's case, since the company did not become more profitable after privatization by increasing its fares.

Privatization and Fiscal and Macroeconomic Impact

In the first stage of the privatization process, in July 1992, the government received no revenue from the sale of shares since the funds were used to capitalize CMA, no profits were distributed and there was no fiscal impact because no direct subsidies were granted. However, after privatization, the jet fuel subsidy that the airline companies received for domestic flights was eliminated, and the average price of jet fuel was raised 68 percent for international flights. This increase was due primarily to the rise in international prices resulting from the Persian Gulf conflict. Nevertheless, in 1991–92 the price of fuel was adjusted downward.

In 1989 and 1990 the Airports and Auxiliary Services (ASA) fee and the Airline Communication Services fee were increased. In 1990, the increase was

Table 3.44. MEXICANA: Financial Statements before and after Privatization, 1985-91
(Billions of 1990 pesos)

	1985	1986	1987	1988	1989	1990	1991
Profits (Losses):							
Operating income	2,032.56	2,042.78	2,044.80	2,648.03	2,444.13	2,525.20	2,331.32
Operating expenses	1,971.03	2,131.72	2,015.47	2,391.93	2,408.53	2,714.00	2,436.73
Operating profit	61.53	-88.94	29.33	256.10	35.60	-188.80	-105.41
Total financial cost	549.71	330.69	0.00	-332.40	-1.89	-92.78	-10.40
Nonoperating income	-1.43	-8.02	-1.12	-31.50	-28.38	7.90	3.76
(Loss) Profit before taxes	-486.75	-411.61	30.45	620.00	65.87	-103.92	-98.77
Taxes and P.T.U.	0.50	0.08	5.22	126.80	29.60	8.20	4.65
Net profit (loss)	-487.25	-411.69	25.23	493.20	36.27	-112.13	-103.43
Balance Sheet:							
Current assets	703.39	419.61	408.70	428.74	354.70	398.54	427.49
Fixed assets	3,478.47	3,979.85	3,576.07	2,570.34	2,211.02	1,886.06	1,880.79
Total assets	4,181.86	4,399.46	3,984.77	2,999.08	2,565.72	2,284.60	2,308.28
Short-term liabilities	854.84	1,037.88	1,133.25	904.01	856.09	1,042.38	993.37
Long-term liabilities	1,786.99	1,707.13	1,247.22	664.72	287.06	188.94	299.65
Total liabilities	2,641.83	2,745.01	2,380.47	1,568.73	1,143.15	1,231.32	1,293.02
Net worth	1,540.03	1,654.45	1,604.30	1,430.35	1,422.57	1,053.28	1,015.26
Total liabilities + capital	4,181.86	4,399.46	3,984.77	2,999.08	2,565.72	2,284.60	2,308.28

Source: Audited financial statements and Mexican Stock Exchange.

Table 3.45. MEXICANA: Financial Ratios before and after Privatization, 1985-91

	1985	1986	1987	1988	1989	1990	1991
Ability to pay							
Current ratio	0.82	0.40	0.36	0.47	0.41	0.38	0.43
Acid test	0.72	0.35	0.29	0.44	0.36	0.35	0.28
Financial soundness							
Capital stock/liabilities	0.58	0.60	0.67	0.91	1.24	0.86	0.79
Profitability (percentage)							
Net profit/income	-24.00	-20.10	1.23	18.63	1.48	-4.44	-4.43
Net profit/capital	-31.60	-24.90	1.57	34.48	2.54	-10.65	-10.19
Net profit/total assets	-11.60	-9.30	0.60	16.44	1.41	-4.90	-4.48
Leverage (percentage)							
Total liabilities/total assets	63.17	62.40	69.70	52.30	44.55	53.90	56.02
Total liabilities/net worth	171.5	165.90	148.40	109.70	80.36	116.90	127.36
Others (percentage)							
Op. expenses/total income	97.00	104.20	98.50	90.30	98.54	107.48	104.52
Op. profit/total income	3.00	-4.30	1.40	9.70	1.46	-7.48	-4.50
Short term liab./total liab.	32.40	37.80	47.60	57.60	74.89	84.66	76.83

Source: Author's calculations based on audited financial statements.

91 percent. This meant that the fees were higher than those charged at the international airports with which Mexico had the most contact. Since then the fees have remained constant.

Based on the foregoing, we estimated the fiscal impact, assuming an infinite perspective, the macroeconomic environment indicated in the introductory section, the strategy followed in the privatization process, and the decision of the company not to pay dividends until 1994. It was also assumed that deregulation would increase the fares for domestic flights 10 percent due to the fact that they were 10 percent below the fares charged in the United States for internal flights; the terms of the sale will be adhered to (i.e., the prices agreed to in 1989 will be maintained [present value of the government's shares = \$618.713 MP]); the government will sell the shares to Grupo FALCON; the purchase of AIRBUS aircraft will reduce operating costs 3 percent; subsidies will be eliminated regardless of who controls the company; and passenger demand will increase at rates similar to the growth of GDP. In these circumstances, the present value of the fiscal impact was \$1,352 MMP (1990 pesos).

Since the purpose of the privatization of MEXICANA was to increase investment in the company, and of the macroeconomic policy to eliminate subsidies, the Increased Investment Hypothesis is not rejected. There is not enough evidence to reject the Fiscal Gains-Current Expenditures Hypothesis since the sale of the government's shares is still not complete and no funds have been received directly in connection with this privatization.

Finally, the first stage of the privatization of MEXICANA had no effect on interest rates because Grupo FALCON's investments in the company are insignificant as far as the financial market is concerned. Nor is it likely that completing the sale of MEXICANA will have any effect on interest rates; consequently, the Interest Rate and Debt Service Hypothesis is rejected.

Lessons and Recommendations

The privatization of MEXICANA provides the following lessons and recommendations:

- MEXICANA needed substantial investments to regain its growth capability; therefore, the government's strategy to attract funds consisted, on the one hand, of amending the regulations of the Foreign Investment Law to enable foreigners to hold up to 49 percent of the capital stock and, on the other, of capitalizing the company through shares of a corporation created specifically for this purpose. These two actions made it possible to expand the fleet of aircraft and to purchase companies that provide related services. The fiscal impact of the privatization of MEXICANA was limited since the subsidies were reduced independently of the

privatization process. Therefore, it is recommended that when the main problem of the company to be privatized is lack of capital, steps should be taken to increase investment, even if it means deferring fiscal revenue.

- Lack of experience in the airline industry, the brief period of time allotted for the preparation of bids, and the selection criteria used to maximize the price of the controlling interest led prospective buyers to offer a high price for the block of shares without adequately analyzing the situation. The prices offered by groups with experience in the aviation industry were lower. Nevertheless, the government has the option of selling the shares it still holds to another group if it concludes that the current managers are not performing satisfactorily. In that case, the share price could be less than the one originally offered by the current managers. Therefore, the government should maximize not only the price of the original controlling interest but also the price anticipated at any point in the divestment process:

$$E[P] = xP_m + (1 - x)P_b$$

where x is the probability that the original group of buyers will mismanage the company, P_m the minimum price that would be obtained in this case, and P_b the maximum price that could be collected in the opposite case.

- As a result of the restriction on foreign investment and the amount of funds required, the strategy in the first stage of the privatization process enabled the government to supervise the performance of the buyer group and to retain the option of selling its shares to any investor. Because those in control of the company are not majority shareholders, they have an incentive to increase their efficiency so that the government will sell them its shares. If it is concluded that there are no buyers with sufficient financial standing to purchase the company, it is recommended that capitalization be used to obtain the above benefits.
- There was a discrepancy between increases in the price of state-supplied inputs and the regulation of airfares. Even though the government had launched a macroeconomic adjustment program almost two years earlier, the buyer group failed to take this into account in its bid. It therefore seems advisable, when privatization is to take place within the context of a stabilization program, that prospective buyers be made aware of the parameters the government will follow with respect to prices and regulation. Otherwise, the company might sustain losses resulting in the deterioration of service and obstruction of the company's growth.
- Regulation of the airline industry before privatization precluded the possibility of contestable markets. The National Air Transportation System Guidelines generated greater competition, which benefited the consumer

by providing a wider range of fares and a larger number of airline companies to choose from. When a market is contestable, setting fares and restricting the number of licenses can cause distortions; therefore, it is better to deregulate the industry.

- The MEXICANA unions have a great deal of bargaining power, which impedes efficiency because the payroll cannot be trimmed to optimum levels. The federal labor law establishes the need to follow a negotiation procedure when an unproductive employee is to be dismissed. Before privatization, the government negotiated with the unions for a reduction in staff and the elimination of some benefits. The company's finances were significantly harmed by fiscal reform whereby the employees of MEXICANA were required to pay taxes on the 50 percent of their wages that had previously been exempt, as well as by the power of the unions (threat of a strike). It is advisable to establish a mechanism to restrict the union's bargaining power and to remove legal obstacles that impede efficiency, thereby increasing the probability of the buyer's success.

Conclusions

One of the most important conclusions to be drawn from the analysis of the privatization of sugar mills in Mexico is the need for coordination between deregulation and privatization policies. In order to obtain the highest possible price, a sense of security must exist regarding the various factors that affect the industry to which the company or companies to be privatized belong. In particular, it is recommended that deregulation occur prior to initiating the sales process.

On the other hand, when the privatization process involves a group of companies with different operating characteristics and levels of efficiency, it is possible to sell those companies in which there is no interest by creating balanced packages. In this way, not only are the subsidies to such companies substantially reduced but jobs are preserved as well.

The privatization of CMC was not typical of the privatization process in Mexico. Its deteriorated financial position, caused by mismanagement, as well as the inefficient and adversarial relationship between the company and the union, with historical roots reinforced by several decades of paternalism, led the company into bankruptcy and its subsequent privatization.

Furthermore, the close dependency between the city of Cananea and the company created a hostile environment which, two years after privatization, still exists. Nevertheless, the new owners of CMC continue providing primary services for the city, although they have tried to persuade educational institutions, private companies, and government agencies to move to Cananea so that the interdependency of the company and the city might eventually be reduced.

The study of CMC makes it clear that the privatization of companies subject to union and financial pressures will be a lengthy process, which could jeopardize the viability of any privatization program.

TEMEX was a medium-sized public enterprise that operated efficiently, was part of an industry that was in the process of being deregulated, and had access to a growing international market. However, this was not enough. The group with the winning bid offered a scale of production and business experience that the public sector would never have attained. Despite the fact that in the years following the sale the company's profits were diminished by forceful economic policy measures such as raising the prices of inputs, curbing exchange rate drift, and controlling the prices of the end product, the physical productivity indicators confirm the existence of synergetic advantages.

The privatization of TELMEX provided many economic benefits, although there was no immediate improvement in the quality of telephone service. The preparatory measures and the sales mechanism utilized were especially important. The long-term restructuring of its liabilities and the replacement of 57 labor agreements with one master agreement made the purchase of TELMEX a more interesting proposition, which attracted investors with growth-oriented companies. In view of the foregoing, it is very likely that privatization itself increases a company's productivity. TELMEX's new tax structure eliminated the distortions caused by the different rates applied to telephone services, in addition to encouraging the company to invest more than 29 percent of its total receipts in order to take credit for 65 percent of the IST. This contributes to the expansion of telephone service, which in turn benefits other sectors of the economy.

The privatization of TELMEX benefited society because the public values TELMEX more as a private company than it did when the company was government-owned, due to the larger investments. Furthermore, given the larger share of social spending in overall public sector expenditures, the revenue generated by privatization and later through taxes helps to increase social well-being. Consequently, seeking a high price for the company was justified and the procedure chosen for the sale of both the controlling interest and the "L" shares helped to ensure the attainment of this objective.

It is important to mention that because TELMEX is a monopoly, coordination with the complementary policies substantially increased economic efficiency in the industry, once the SCT's arbitrariness in setting the rates for basic telephone service had been eliminated, given that the strategy established in the Amendment to the Certificate of Concession naturally led to "optimum" relative prices in the market because they maximize social well-being.

When it was privatized, MEXICANA had a relatively large number of employees and a number of financial problems that were temporarily mitigated by the additional income earned as a result of the bankruptcy of Aeroméxico. Although it generated no additional revenue for the government, the capitalization

Table 3.46. Results of Testing the Hypotheses

Hypothesis	NOT REJECTED			REJECTED		
	ING.	CMC	TELEX	ING.	CMC	TELEX
Monopoly Power-Worker's Share	*	*	*	*		*
Profitmaking-Minimum Reference Price			*	*	*	
Closed Bidding Ownership Concentration		*	*	*		
Buyer Selection	*	*	*			*
Profitability Promotion			*	*	*	*
Input Deregulation	*	*	*	*		
Increased Investment	*	*	*	*		
Fiscal Gains-Current Expenditures			*	*	*	*
Interest Rate and Debt Service			*	*	*	*
Higher Profit-Price Adjustment			*	*	*	*
Union-Efficiency Deterioration	*	*	*	*	*	*

strategy followed in privatization was appropriate, since it permitted reinvestment of the funds obtained.

An important factor in the selection of the winning bid was that the price the government actually received would depend very much on the success or failure of the new management. Because of its lack of experience, the winning group committed management errors in 1990 and in early 1991, which lowered the expected price. These problems, together with substantial increases in jet fuel prices and ASA charges, the impossibility of reducing the number of employees, and the Persian Gulf War, caused the company to suffer losses.

Finally, the issuance of the National Air Transportation System Guidelines created intense competition among domestic companies in the provision of passenger services. The deregulation of fares in July 1991 encouraged price competition and heightened the competition in services. This market dynamic benefited consumers by providing them with more companies to choose from, more frequent flights, and the possibility of obtaining fare discounts.

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CHAPTER 4

PRIVATIZATION IN COLOMBIA: EXPERIENCES AND PROSPECTS

Luis Alberto Zuleta J., Lino Jaramillo G.,
Carlos Eduardo Ballén, Ana María Gómez

Introduction

The Size of the State in Colombia and the Privatization Process

The authors of Colombia's Economic and Social Development Plan for 1990–94 regard the size of the state to be relatively small compared to other Latin American countries. The course of reasoning is as follows:

“State activities in Colombia are carried out by the central government, national decentralized agencies, and the departmental and municipal governments and agencies. Consolidated public spending is close to 28 percent of the GDP, which is similar to that of middle-income developing countries (27.5 percent) and substantially below that of the developed countries (52 percent in France, 48 percent in Great Britain, and 33 percent in Japan). This level of expenditure is similar to that of countries such as France and Japan in 1930, shortly before the expansion of state interventionism that became a subsequent hallmark of those countries' economies. Central government spending in Colombia represents only 12 percent of the GDP [Table 4.1] compared with 25 percent in Brazil and 28 percent in Chile.¹

“In Colombia, therefore, the state is relatively small in terms of its direct impact on the total expenditure of the economy and, moreover, the central government accounts for less than half of public spending. The state-owned enterprises, known as decentralized agencies, have higher earnings and spend more than the central government.

¹ Central government revenue had been around 10 percent of the GDP, and in 1990 investment represented 7 percent of the GDP.

Table 4.1. Comparison of Central Government Size
(Percentage of GDP)

Country	Current revenue		Total expenditure	
	1980	1989	1980	1989
Argentina	12.7	6.3	15.3	5.2
Brazil	22.3	n.a.	25.2	n.a.
Chile	32.9	33.1	31.1	27.8
Colombia	8.4	9.9	10.3	11.9
Mexico	15.3	18.6	18.3	23.8
Peru	17.1	6.4	19.4	12.8
Venezuela	20.9	20.0	20.9	22.4

Source: IDB 1990 Annual Report; *La Revolución Pacífica*, Economic and Social Development Plan, 1991, Colombia.
n.a.: Not available.

“The Colombian state is not unusually large in terms of the size of public employment, although the structure of employment is noticeably inadequate. The government employs somewhat less than 1 million people, of whom about 600,000 work for the central government and about 120,000 for the municipal and departmental governments. Based on international norms for countries at a similar stage of development, total public employment in Colombia is average, but when broken down, shows a disproportionate concentration in the central government.

“Accordingly, although comparatively speaking the central government does not spend a great deal, it does employ more people than it should compared with other countries at the same level of development. This overstaffing, which in many cases represents insurance against unemployment, means the central government lacks the necessary resources to carry out its basic functions.”²

The inducements to privatization in Colombia are linked more to the level of inefficiency than to the size of the sector. Over the last 15 years, the profitability of public sector enterprises has been one-fourth that of the private sector, according to studies of the Bogotá stock exchange.

While the size of the state in Colombia does not seem to be disproportionate, there are nevertheless a number of sectors in which the government has been investing and which are likely candidates for privatization. It is enough to mention a list of enterprises in the following sectors:³

- Enterprises that produce goods and services in competitive markets—Indumil (makes explosives for the military industry); hotels of the

² *La Revolución Pacífica*: Economic and Social Development Plan, Colombia, 1990–94, pp. 556 and 557.

³ Urrutia, 1991.

Corporación Nacional de Turismo; Vecol (makes vaccines for livestock); other manufacturing enterprises of the Instituto de Fomento Industrial such as Conastil (ship repair), Alkalis (chemical products), etc.; and, departmental distilleries;

- Traditional government financial institutions such as Banco Cafetero and Banco Ganadero;
- The coal company Carbocol;
- Some activities of Empresa Colombiana de Petróleos, such as transportation of fuel, crude oil refining, and petrochemical activities;
- Privatization of public utilities—telecommunications, power generation, and distribution, other public utilities; and,
- Transport sector—airports, freight, passenger transport terminals, and construction of roads under concession.

Schemes for privatizing railroad and ports operations are well under way. Not counting the public utility corporations, there must be more than 90 national enterprises and more than 100 municipal and departmental enterprises subject to privatization. Accordingly, although the state is small in size, there is still considerable scope for further privatization.

Phases of the Privatization Process

In many countries privatization has proceeded based on an overall privatization program. The cases of privatization analyzed in this chapter are clearly not part of a general program but are case-by-case solutions to specific problems. It is very likely that the flaws noted here in the process of privatization of refuse collection in Bogotá, for example, could have been avoided had there been a more clearly defined program for Empresa Distrital de Servicios (EDIS) to follow. This is one of the more important issues for future cases.

Regarding this matter, in Colombia an initial phase of privatization consisted of the isolated privatization of enterprises, with no overall program or policies devised by the Colombian state.

However, since late 1991 the government has been drawing up a privatization program and has announced the presentation of a draft law to the National Congress. The preparation and execution of that program can be viewed as the second stage of the privatization process. The basic features of the privatization program for Colombia known to date are summarized below:

- Program justification—the dispersion and inefficiency of state activities; the small size of the Colombian securities market (the three Colombian stock exchanges are the smallest in Latin America in terms of value of transactions); and the high concentration of ownership (according to the National Securities Commission, 0.3 percent of shareholders own 92.9

percent of the shares, but investment funds and employee mutual funds own only 0.6 percent of the shares).

- Overall program objectives—reformulation of the state’s role by opening up the field to private initiative in which state presence is not necessary and establishing clear-cut and consistent rules of the game to boost efficiency, increase competition, and promote market action; expansion of the capital market by using the stock exchanges for privatization of enterprises; and widespread distribution of ownership by encouraging workers to purchase shares.
- Scope of the program—the program basically encompasses the 190 enterprises mentioned previously in this chapter.
- Legal framework of the program—during the 1992 session of the legislature, the government shall present to the National Congress a draft privatization law to ensure execution of the program using flexible mechanisms to transform, sell, or liquidate state-owned enterprises; general standard guidelines are established for all cases of privatization; as for the conditions of the offers, the criteria for awards, the guidelines for publicity, information, and prequalification of offers, the general parameters for the execution of each privatization by means of regulatory decree (issued under the privatization law) would be established by the government. External public debt instruments issued or guaranteed by the nation would be allowed as payment for shares.
- Institutional framework of the program—a privatization council would be set up, chaired by the minister of finance and including the minister of labor, the head of the national planning department and the economic advisor to the President’s Office (the proprietary entity and the company subject to privatization also would attend when the council is dealing with their specific case); the principal functions of the council would be to design and advance each privatization process, working together with the proprietary entities and the companies that are to be privatized; the council would make decisions on each case based on a basic document containing the valuation of the enterprise (prepared with the help of external consultants), the principal commercial, economic, and strategic criteria suggested for the privatization process, and the suggested periods for transfer of the enterprises.

Renault de Colombia (SOFASA)

Background

In 1988, when the shares of the Institute for Industrial Development (IFI) were sold to the French RNUR, each of these two enterprises had a 50 percent share in SOFASA’s capital.

More than 95 percent of the total Colombian market for individual vehicles between 1984 and 1990 was supplied by vehicles assembled by three enterprises, owing to restrictions on imports of assembled vehicles. Moreover, up until mid-1988, there were barriers based on government regulations to the entry of SOFASA and the Compañía Colombiana Automotriz (CCA) to some segments of the automobile market. As a result, there were mono- or oligopolistic markets in virtually all ranges of vehicles.

Despite the fact that the IFI over the long term (1970–88) obtained a return on investment in SOFASA close to zero, in the years before the sale of its shares (between 1984 and 1987) this return was positive because during those years SOFASA accrued considerable profits, which influenced the projections made to value the cost of the shares.

Productive Efficiency before Privatization: SOFASA and CCA

The number of vehicles assembled per employee, the proportion of administrative employees to productive employees, and the assembly materials inventory turnover were more favorable in CCA than in SOFASA at the time of the negotiations for the sale of SOFASA's shares (1987–88) (Tables 4.2 and 4.3). This situation is still true today.

Privatization Process

Preparatory Measures and Preliminary Negotiations

The basic purpose of the IFI's efforts to reform SOFASA's statutes was to pave the way for the sale of shares, since those statutes entrusted the entire administration of the enterprise to the RNUR even though the IFI owned 50 percent of the capital stock.

Valuation of Shares

Study of the valuation of the IFI shares in SOFASA concluded that the minimum share price should take into account the commercial value of the assets and the present value of anticipated profits. In addition, the potential purchasers would pay a premium for securing the management of SOFASA, although this point is a negotiating factor rather than a minimum goal.

Mechanism of Sale and Price

Based on some interpretations of existing rules on foreign investment and to guarantee public knowledge of the negotiation, it was decided to make a public

Table 4.2. SOFASA: Productive Efficiency Ratios, 1987-90

Ratios	1987	1988	1989	1990
No. of vehicles/total no. of workers	7.85	8.36	7.55	6.44
No. administrative employees/no. productive workers	0.66	0.65	0.5	0.68
Administrative costs/operating costs	0.029	0.028	0.050	0.051
Operating costs/value of sales	0.887	0.916	0.882	0.940
Administrative costs/value of sales	0.026	0.025	0.044	0.048
Value of sales/value of raw materials inventory	(*)	7.92	6.48	9.08

Source: FEDESARROLLO, based on the balance sheet and income statement of the enterprises.

(*) Calculation of the average annual inventory was used.

Table 4.3. CCA: Productive Efficiency Ratios, 1987-90

Ratios	1987	1988	1989	1990
No. of vehicles/total no. of workers	13.51	15.36	15.12	14.79
No. administrative employees/no. productive workers	0.29	0.44	0.41	0.41
Administrative costs/operating costs	0.044	0.083	0.026	0.027
Operating costs/value of sales	0.819	0.836	0.877	0.854
Administrative costs/value of sales	0.036	0.069	0.022	0.023
Value of sales/value of raw materials inventory	(*)	17.54	13.25	12.38

Source: FEDESARROLLO, based on the balance sheet and income statement of the enterprises.

(*) Calculation of the average annual inventory was used.

offering of the IFI's shares in SOFASA to national investors. The public offering received no response.

The form of payment finally agreed upon had a present value of \$42 million: \$30 million to be paid on credit over the first 3 years and a sum of \$18.7 million, over 10 years, in amounts proportional to the number of vehicles assembled. The balance, if any, would be paid in the 10th year.*

The sales contract stipulated that the RNUR would purchase the shares based on current industrial development policies and that revision of the \$18.7 million payment ought to be considered if the government's external trade policy should adversely affect SOFASA. The government stipulated in the sales contract that government policies on the subsector are contained in the assembly contract and that the sale of shares "does not impose any conditions on the Colombian state."

The legal repercussions of these contract stipulations are difficult to predict, bearing in mind the present government's completely different external trade policy.

* Amounts are in U.S. dollars unless otherwise indicated.

Complementary Policies (Both Assembly Enterprises)

These policies consisted of three stages:

- Between 1984 and 1988, there were strict and exhaustive controls and regulations, price control on most vehicles, and differential treatment of assembly enterprises in terms of the opportunity to access the different market segments.
- From 1988 to 1990, price controls were eliminated, a single policy was adopted for all assembly enterprises, the industry remained highly protected, and barriers to market access for new assembly enterprises were maintained, all of which increased the potential for high rates of return on investment in the enterprises already privatized and paved the way for the sale of enterprises yet to be privatized.
- The main feature of the third stage that began in 1991 is the reduction in barriers to entry into the industry and a decrease in effective protection received.

Effects on Efficiency of the Sale of Shares

Productive Efficiency

Based on SOFASA's statutes, the IFI was unable to intervene directly in the management of SOFASA. The IFI could indirectly affect the management decisions of SOFASA through other state-owned agencies that administer economic policy instruments vital to SOFASA's performance. The IFI had a voice in the government agencies responsible for establishing the levels of tariff protection and quantitative import controls. In addition, the IFI is attached to the ministry that designs, executes, and monitors automotive policy. The IFI supported SOFASA for many years with loans that were not subsidized but were an advantage at times when credit was tight.

It is impossible to quantify the impact that the IFI might have had on the efficiency of the enterprise through its support for SOFASA. In the opinion of the consultants hired to evaluate SOFASA, the principal causes of SOFASA's inefficiency arose from excessive tariff and quasi-tariff protection of the automobile industry, the administrative shortcomings of the RNUR, and the lack of strong competition in automobile assembly during the period 1970–85—such as that from CCA since 1986—rather than from direct or indirect interference by the IFI in SOFASA's affairs.

In recent years the government has been liberalizing imports and deregulating the automotive subsector. Consequently, the assembly enterprises are expected to increase their efficiency and reduce production costs, but it is impossible to quantify that impact based on available information.

Allocative Efficiency (Both Assembly Enterprises)

The new assembly contracts, signed in 1988 between the government and the assembly enterprises, eliminated the monopolies held by some assembly enterprises in certain market segments and opened up new markets to them in previously closed segments.

Liberalization of imports and tariff reductions are helping to create between domestic supply and imports a total supply and prices that are more closely aligned with consumers' needs, thus improving the overall allocative efficiency.

The increase in productive efficiency, boosted by the liberalization of trade and privatization, may not be sufficient in this type of "artificial" industry to offset the effects of relative price changes on the overall allocation of resources and may therefore cause the industry to close down.

Fiscal Impact

Considering a scenario in which the industry is not viable because of the complementary policies of openness to international trade, there will be permanent fiscal gains if the sales price is higher than the salvage value of SOFASA's fixed assets, a situation that is highly likely since SOFASA's productive assets are considered relatively obsolete and for the most part do not have alternative uses in the metalworking industry. Under this scenario, the potential revisions of payment of the part of the sales price that is based on the production level would probably have a negative fiscal impact, in view of a potential legal claim by RNUR. However, SOFASA could change its economic activity (marketer of imported vehicles) without closing down and with very small investments.

Considering the scenario in which the automobile assembly industry survives, there is, in any case, a permanent fiscal gain equal to the difference between the sales price and the IFI's anticipated net profits in SOFASA (zero, on average). Negotiations in the Andean Group indicate that the assembly industry will survive at least through the end of 1993, after which time nothing is certain.

Sale of the IFI's shares in SOFASA also enabled financing of another large-scale privatization, that of the paper industry.

Meeting the Government's Objectives with the Sale of Shares

The government envisaged a series of objectives that included not only the need to obtain a good price (financial profit) from sale of the shares it owned in SOFASA, but also others such as increasing the government's autonomy in economic policy decision making, releasing funds to make investments in other higher priority areas, decreasing the potential fiscal costs of promoting an industry that did not

contribute to economic development to the extent initially anticipated, and re-allocating IFI monies to more profitable investment alternatives. All these objectives were met by the government.

Conclusions

The case of SOFASA is not one of privatization in the strictest sense because IFI and RNUR are state-owned enterprises. SOFASA's financial position was relatively sound before the sale of shares. This eased the way for privatization. The sale of shares was not closely linked to an explicit government policy on privatization.

Efficiency before Privatization

SOFASA's inefficiency before the sale seems to be primarily a result of the market structure and inefficient management by the RNUR. SOFASA's productive inefficiency can be partly explained by the fact that its administration is a state-owned enterprise.

Preparatory Measures

From the outset, the IFI was interested in reforming SOFASA's statutes, with a view to obtaining involvement in its management in proportion to its capital share. This would strengthen its position for negotiating and valuing the IFI's shares.

Effects of Privatization on Productive Efficiency

There are no major adverse effects on SOFASA's productive efficiency arising from direct government intervention in administration of the enterprise, partly because of the statutes. The IFI supported its enterprises as a shareholder with the right to vote in government decisions affecting them by means of financial backing or through lobbying other public agencies. This could have adversely affected SOFASA's efficiency to some extent.

Valuation of Shares

Valuation of the shares in the case of SOFASA included the value of fixed assets. This is important only for the liquidation of enterprises. The criteria used for valuation of SOFASA's shares also included the anticipated profits and other elements of strategic interest to the RNUR such as its profits from the transfer of prices from sale of inputs.

Mechanism of Sale and Price

In the case of SOFASA, the shares were sold through public offering to ensure public knowledge of the transaction and to meet any legal requirement that might subsequently be invoked to invalidate the sale. Development of the capital market was not considered an objective.

The sales contract for the shares included clauses that provide for potential revisions of the price if government measures should adversely affect the enterprise. The legal implications of the scope or repercussions of any potential claim are unclear, but such a claim is not inconceivable given the changes in automotive and external trade policy following the sale.

Fiscal Effect of the Privatization

Under both the scenarios envisaged (maintaining a minimum level of protection or total openness), in the case of SOFASA permanent fiscal gain from the sale of shares was considered appreciable.

The monies obtained from the privatization of SOFASA were essential to carry out another successful privatization (PAPELCOL).

Compañía Colombiana Automotriz (CCA)

Background to the Privatization Process

In 1990, the year in which CCA shares were sold to Mazda, 61 percent of the equity of the assembly enterprise was held by several public financial institutions.

Since 1986, principal creditor Banco de Colombia had assumed control of CCA and appointed its administration. The management by the new administration has been successful: Net losses in all years of the period 1980–86 changed to net profits between 1987 and 1991.

Privatization Process

Preparatory Measures and Preliminary Negotiations

The entire process of recovery and consolidation of CCA undertaken since 1986 can be regarded as preparing the assembly enterprise for sale because by law financial institutions cannot keep goods received as payment in kind for more than two years.

Valuation of Shares

Valuation of the shares was primarily based on the present value of the projected cash flow. CCA's future prospects were based on the fact that the government would continue to protect the industry, for at least the next five years.

Mechanism of Sale and Price

The sellers did not feel it was necessary to hold a public offering and preferred to abide by the right of preemption stipulated in the enterprise's statutes. Mazda was the only shareholder that responded to the sellers' offer.

The price finally agreed upon had a present value as of December 1990 of about \$50 million that would be paid as follows: initial cash down (\$15 million), another payment over the next three years (\$20.3 million), a payment after four years (\$18.6 million), and a further payment (\$5 million) within 10 years, commensurate with the number of vehicles assembled.

Effects on Efficiency of the Sale of Shares

Productive Efficiency

Banco de Colombia allowed the administration of CCA total autonomy in managing the enterprise, giving it only strictly commercial goals.

The state-owned Banco de Colombia undoubtedly has played a very important—but not easily quantified—role for CCA, not only through providing the working capital needed for its operation at a difficult time for both enterprises, but also through support in dealings with other state-owned agencies. In the case of CCA it is difficult to say whether this support could have adversely affected productive efficiency, since all the supportive activities occurred at the same time that CCA's administration was trying to get the enterprise back on its feet.

Fiscal Impact

Should the automotive subsector disappear, there obviously would be some considerable permanent fiscal gains measured by the difference between the sales price and the salvage value of the enterprise's assets (the latter figure is not known but is less than in the case of SOFASA).

Should the subsector remain viable by virtue of government protection, one cannot assume that the sale of nationalized banking's stake in CCA would bring an appreciable permanent fiscal gain by increasing the productive efficiency.

Banco de Colombia had only strictly commercial objectives for its investment in CCA, and the enterprise already had attained a relatively high level of efficiency at the time of the sale of shares.

However, some potential additional increases in productive efficiency can be expected from the policies to open up the economy and from the partial withdrawal of state support, particularly since 1992, with the prospective privatization of Banco de Colombia.

The potential permanent fiscal gains also should include a valuation of the effect of the complementary policies that increased CCA's allocative efficiency by allowing it to penetrate previously closed market segments: jeeps and commercial vehicles. This impact can be offset to a certain extent by the losses the enterprise could sustain as a result of the increased allocative efficiency overall, arising from the openness to international trade.

Revenue from the sale of the shares represented a substantial improvement in the equity position of nationalized banking, possibly indirectly increasing the state's fiscal receipts by promoting a higher sales price for that banking.

Meeting the Government's Objectives with the Sale of Shares

The sale of CCA enabled the government to comply with banking legislation about keeping goods received as payment and to recover the credits granted by the nationalized banking institutions.

Conclusions

CCA's financial position was relatively sound before the sale of shares. This eased the way for privatization. The sale of shares was not closely linked to an explicit government privatization policy in the industrial sector, but was covered by preestablished legislation for the financial sector.

Efficiency before Privatization

The relatively high efficiency of the CCA is a result of measures to rescue it from its financial crisis and of the independence and quality of the current administration, rather than of a privatization policy.

Preparatory Measures

CCA's entire arrangement with creditors and recovery process can be viewed as preparation for sale of the enterprise under the most favorable possible conditions.

Valuation of Shares

The criteria used for valuation of CCA's shares considered the cash flow and other elements of strategic interest to the Japanese multinational corporation, such as profits of the parent company through transfer of prices from sale of inputs.

Mechanism of Sale and Price

The sale of CCA's shares was closed without public knowledge of its details based on the legal interpretation given in the case of SOFASA, which concluded that it was unclear whether or not this type of transaction had to be made through public offering.

Effect of Privatization on Productive Efficiency

In the case of CCA, there were no major adverse effects on the productive efficiency arising from direct government intervention in the administration of the enterprise before the sale. This was because the banking institutions' primary interest was in recovering the investment.

Banco de Colombia supported CCA by means of financial backing or through lobbying other public agencies. It is difficult to say whether this adversely affected CCA's efficiency, owing to the specific circumstances of the enterprise, the type of legal obligations with the member banks, the interest of the financial institutions in recovering their credits, and the short time that has elapsed since the banks joined as partners.

Fiscal Impact of the Privatization

In the case of CCA there would be appreciable permanent fiscal gains if the liberalization of international trade were stepped up and, for that reason, the enterprise considerably reduces its activity or shuts down.

The sale of CCA shares is expected to provide funds to rescue the nationalized financial institutions and reprivatize them under better conditions.

General Conclusions

The two cases selected relate to enterprises that are covered by the private enterprise regime, which to some extent curbed potential direct state involvement in their management. This paves the way for the privatization processes (preparatory measures) but diminishes prospective effects on productive efficiency and fiscal gains.

Effects of Privatization on Productive Efficiency

The multinational automobile corporations attach great importance to the government's participation as a partner in the enterprises because of implicit influence on management of the complex and exhaustive policy on the subsector and lobbying conducted by government members of other state-owned agencies to defend their investments.

Effects of Regulatory Policy Changes on Efficiency

The automobile assembly subsector is highly regulated and controlled by the government. This gives broad scope for the use of complementary policies for share sales. It is unclear whether the changes in policies might have been made to complement the sales of shares by the state, although some specific issues in this regard were discussed in the IFI-RNUR negotiation process.

The possible effect of the complementary measures on productive efficiency has both positive and negative facets in the stage following the first sale (1988–90): negative in terms of increasing controls on imports, decontrolling prices, and continuing barriers to the entry of other enterprises; positive in terms of decreasing monopolies for existing enterprises in some market segments. From 1991 the potential positive effect is greater because of a decline in barriers to the entry of other enterprises, an increase in external competition and a decrease in regulations and controls.

There is still a relatively wide margin for improvement in allocative efficiency, since the process of decontrolling external trade and allowing entry of new enterprises into the market, or of existing enterprises into previously closed market segments, is in an initial stage. Within this process, it is possible that the assembly industry will disappear.

Mechanism of Sale and Price

In both cases the objective of the negotiation for the sale of shares was to obtain the highest possible price. No other usual objectives were considered in the selling process.

Both sales contracts of the shares indicate extreme uncertainty on the part of the purchasers as to the future course of economic policy. The sales contracts of the shares, particularly in the case of SOFASA, to an extent constitute unfinished privatizations that could revert if the enterprises' claims are up against economic policy changes that generate insurmountable difficulties to the enterprises' success.

The group of potential purchasers of shares of assembly enterprises is limited when negotiations are held with multinational corporations that control the

oligopolistic market and technological advances worldwide because it is not easy to interest national investors in participating in an enterprise in which they do not control the principal elements of profits. If foreign investors are to be interested, it must be on the condition that the transaction allows them sufficient participation in the administration of the enterprise or enough autonomy within it to manage their own products and the prices and payments with the respective parent company.

The workers did not participate in the purchase of shares of the assembly enterprises. This is because the multinational corporations were not interested in investing concomitantly with the workers and the latter would rather receive the high salaries paid by the multinational corporations.

The direct investments involved in automobile assembly are relatively small, although the indirect effects of this industry can be relatively broad. The former point strengthens the negotiating position of the multinational corporations, but the latter undermines that of the government.

Fiscal Impact of the Privatization

As the general process of opening the economy proceeds and covers the state-owned or private enterprises with state participation, the prospective efficiency and fiscal gains are necessarily reduced.

The government's need to obtain greater freedom in managing economic policy can lead it to accept lower sale prices for shares. The same could be true if the government accompanies the privatization of "artificial" enterprises with complementary policies that imply major deregulation of the country's external trade and appreciable fiscal gains due to larger overall import and sales receipts.

Policy Recommendations

The enterprises that exist only by virtue of government protection and which could disappear under a scenario of commercial openness must be considered as special cases (See Table 4.4).

It is far more likely that the enterprises, particularly the state-owned enterprises, will have agreements such as the collective labor agreement of SOFASA that significantly affect productive efficiency and hinder the adoption of regulatory measures that would, for example, increase competition. Workers and employees should be more involved in the privatization process in order to reach settlement of such issues.

One of the biggest problems facing the purchasers in both cases studied was the uncertainty surrounding the future course of economic policy. This is vital in enterprises that depend on state protection from foreign competition for survival. Indeed, both buyers sought to protect themselves in this regard in the sales con-

Table 4.4. Effects of Privatization in the Automotive Sector

	SOFASA	CCA
Productive efficiency before privatization	Low	High
Preparatory measures	None	Financial, administrative, and technical recovery 1986–90
Valuation of shares	Value of assets and future profits discounted	Future cash flow discounted
Mechanism of sale and price	Public offer and direct negotiation	Direct negotiation
Effect of privatization on productive efficiency	Possibly significant	Insignificant
Direct gov't. intervention before privatization	None by statute	Only on commercial objectives
Indirect gov't. intervention before privatization	Considerable for and against	Sufficient in support of enterprise
Effect on productive efficiency of complementary or parallel measures	Expected to be considerable	Expected to some extent
Impact of privatization on allocative efficiency		
Enterprise		
+ Scenario A (1)	Enterprise closes down	Assembly operation ceases
+ Scenario B (2)	Decrease in production and prices	Decrease production and prices and increase in direct imports
Overall		
+ Scenario A	Large increase	Large increase
+ Scenario B	Small increase	Small increase
Fiscal impact		
– Enterprise		
+ Scenario A	Considerable but with uncertainty	To some extent
+ Scenario B	Significant	To some extent
– Overall		
+ Scenario A	Considerable	Considerable
+ Scenario B	To some extent	To some extent
Other effects	Favorable financing other successful privatization	Favorable for future privatizations

Source: Prepared by FEDESARROLLO based on document analysis.

Notes: (1) Scenario A = Enterprise closes down due to openness of the economy.

(2) Scenario B = Enterprise is viable in face of openness due to government protection.

tracts. Accordingly, there must be greater clarity of objectives, scope, and goals of the overall and subsector economic policy.

An interesting dimension in the case of Colombia was that the government saw to it that, before privatization in the subsector, rules of the game (assembly contracts) were established that were the same for all assembly enterprises. This rendered the sales process much easier and is to be recommended.

When the potential buyers are multinational corporations, the components of transferring profits that are made from the prices of inputs and technical assistance must be included in valuation of the enterprises' shares.

If the shares of automotive sector enterprises are to be sold through the stock exchange, such sales must be subject to agreements between international enterprises in that sector.

A further problem of unrestricted sales on the stock exchange is the government's concern that the enterprises will fall into the hands of owners with capital of dubious origin and that these privatization processes will be used to "launder" drug traffic money. Thus, even sales on the stock exchange must be subject to verification as to the origin of capital.

When the principal regulatory mechanism is openness to external competition, the internal regulations and controls that were justified when the enterprises enjoyed a highly protected domestic market must be eliminated or minimized.

The efficiency gains of future privatizations of enterprises in subsectors that produce marketable goods and services will depend critically on whether the product can be exported or imported and on the country's type of comparative advantages in the production of such goods or rendering of such services.

Privatization of Banco de los Trabajadores

Background

Crisis in the Colombian Financial System

As in several Latin American countries, the Colombian financial system underwent a severe crisis—the worst this century—at the beginning of the eighties. That crisis stemmed from the convergence of factors both within and outside the financial sector. The Colombian economy—and in particular the industrial sector—had faced a long recession that led to insolvency of many enterprises and consequent deterioration of the banking portfolio. There was also improper management of financial institutions, such as frequent large loans to shareholders and administrators, excessive concentration of the portfolio in a few enterprises, excessive pyramiding of capital, and so on.

To deal with the crisis, the authorities designed a series of unprecedented instruments, such as the possibility of nationalizing financial institutions (Decree 2920 of 1982). This nationalization was not by expropriation but by placing the management of the institutions in government hands. In 1985 the Financial Institutions Guarantee Fund (FGIF) was set up (Law 117 of 1985) to reorganize those institutions suffering from capital impairment that had potential for recovery and to establish an explicit system for protection of depositors, or insurance of bank deposits.

Law 117 clearly stipulates that institutions be brought under the control of the fund only temporarily. In other words, privatization must take place once a minimum reorganization process has been completed to enable sale of the institution to the private sector. In 1986 the fund provided capital for Banco de los Trabajadores (BT).

It should be noted that the nationalizations and official takeovers in Colombia in the eighties stemmed not from a nationalization policy (as in the case of Mexico) but from a crisis.

Banco de los Trabajadores before Intervention

BT was founded in 1974, and its initial purpose was to meet the need for credit of workers and later of cooperative organizations that invested in its capital. As a result of this emphasis, the bank was not involved in external trade activities and did not develop technical administrative management.

It should be noted that the structural financial problems such as the high degree of liquidity and capital impairment that affected the bank, along with much of national banking, began to loom large in 1982 and grew cumulatively through 1986, when it was decided to proceed with FGIF intervention.

Of the 27 commercial banks established in Colombia, BT is the smallest in terms of asset volume (about \$35 million as of December 1990).

The bank serves the needs of a very specific credit market and tries to maintain a diversified portfolio based on small- and medium-scale productive activity. The target market was always domestic, and only a small proportion of the portfolio was held on the international market. Curiously enough, the latter loans were an additional source of instability.

Privatization Process

Preparatory Measures

The FGIF has been responsible for managing and coordinating the entire process of privatization of financial institutions. This fund is the state shareholder of the institutions taken over during the crisis of the eighties.

A first attempt at privatization in May 1990 failed. The bank was sold in August 1991 in a second attempt. Evaluation of the failure of the first attempt and of the success of the second is linked entirely to the complementary privatization policies.

Reorganization Process

The process of reorganization before privatization lasted from March 1986 to June 1991. The management approach entrusted by the fund to the new directors of the bank was to rescue the bank by following private efficiency criteria.

The support measures adopted by the board of the FGIF during this period were as follows:

- May 1986: Capitalization of \$800 million
- February 1987: Capitalization of \$400 million
- August 1987: Capitalization of \$800 million
- December 1987: Purchase of inactive assets for \$500 million with repurchase agreement
- December 1989: Purchase of inactive assets for \$393 million with repurchase agreement
- June 1991: Capitalization of \$1 billion

The capitalizations of 3 billion pesos are equivalent to about \$4.6 million.

The bank's overall position during the period of reorganization showed a major recovery in financial and administrative performance, although from the standpoint of productivity, problems still remain given the heavy concentration of deposits in government hands. The financial margins, although positive, settled at a fairly unstable break-even point at the time of privatization.

It should be noted that the improvement in the bank's indicators under public sector control can be explained to a large extent by private efficiency criteria, the temporary nature of this management, and the objective of privatization.

Valuation System

Based on internal information from the fund and additional information provided by the bank, a sales booklet was prepared containing basic information for prequalified potential shareholders. Using this information, the potential shareholders should be able to estimate a price and make an offer. This information was based principally on the bank's accounting and on the portfolio assessment conducted by all Colombian banks in accordance with precise rules stipulated by the Superintendency of Banks.

The valuation methodology used was that of the net present value of the cash flow projected for five years and discounted (net of depreciation and reserves, for example). The institution was projected for five years under three scenarios according to variations in macroeconomic parameters such as rate of inflation and the bank's commercial policies. The minimum price suggested by the experts and adopted by the fund was 2.5 billion pesos (about \$3.9 million).

Mechanism of Sale and Price

The sale was made by means of public offering, with prior qualification of potential purchasers and without stock exchange intervention.

Several conditions specific to the country hindered a totally open process of sale through the stock exchange. On the one hand, the rapid growth of dubious capital from drug trafficking meant that people unable to manage the bank professionally must not be given the opportunity to use this purchase instrument. On the other hand, the experiences of the financial crisis of the eighties have compelled the authorities to prevent people who were involved in bad banking management from becoming shareholders in the banks that are being privatized. Hence the prequalification requirement, which is incompatible with a system of massive investment through the stock exchange, at least as regards the controlling interest in a banking institution, 71 percent of shares under commercial law in Colombia.

The principal financial objective was to sell the bank for the best possible price. Thus, the sales price was 3,225 million pesos (approximately \$5 million), while the reference floor price was estimated at 2,500 million pesos (about \$3.9 million).

There were several reasons in this case for an offer higher than the accounting value. Undoubtedly, despite the state's effort to restructure the institution, the new shareholders can expect additional efficiency gains since the bank has not yet attained the highest levels of efficiency in the Colombian system. Moreover, the trend in the banking system since the financial reform will require greater efficiency from all financial institutions.

Finally, the purchasers are associated with Venezuelan entrepreneurial groups interested in redirecting the bank towards external trade operations to increase profitability through commissions at a time of greater Colombian and Venezuelan openness to external trade.

Complementary Policies

The design of appropriate complementary policies almost entirely explains why FGIF succeeded at its second attempt at privatization after having failed in its first. These policies have been diverse: economic restructuring policies, policies on the financial sector as a whole, and specific policies on the bank privatization processes.

Economic Restructuring Policies

Economic policy has been changed to increase the competitiveness of Colombian products abroad and to make foreign investment in the country more attractive. The new exchange rate legislation is intended to decontrol foreign exchange and allow a more active role for commercial banks in foreign exchange trading and a reduction of the central bank's role in this market.

Financial Sector Policies

Up until 1989, no foreign investors could invest more than 49 percent of the total capital of a financial institution. A law issued in December of that year (Law 74) permits a higher percentage of foreign investment (up to 100 percent).

In terms of competition, rules were adopted to open the way for entry into the sector subject to certain capital and professional requirements. To help existing institutions increase their competitiveness, the transformation of some financial intermediaries into others was authorized (for example, finance corporations into banks). Finally, agreements that substitute competition are prohibited.

Policies on the Bank Privatization Process

First Attempt at Privatization

This first offering of the bank was based on Decree 1892 of 1989. The sales price included guarantees granted by the nation and the fund, and the sales price sought to recover the cost of reorganizing the institution by the nation or the FGIF.

The requirements in terms of sale by blocks of shares discouraged potential investors interested in total control of the institution and hesitant about worker participation. Accordingly, the process of May 1990 reached the stage of prequalification of parties interested in the first block without a single bid.

Second Attempt

In August 1990 the procedures and requirements for privatization of a financial institution were revised, starting by affording the opportunity for foreign investment in the process.

The other differences compared with the first process are as follows:

- The minimum sales price did not cover support from the fund during the reorganization process. Thus, the sales price was determined on the basis of commercial criteria.

- The configuration of the blocks was very flexible.
- The FGIF granted a 100 percent guarantee of contingencies occurring before privatization of the institution.

Fiscal Impact of Privatization

The sales price of the bank was 3,225 million pesos (\$5 million), compared with a minimum sales price estimated by the fund of 2,500 million pesos (\$3.9 million). This certainly points to a permanent fiscal gain. In addition, the bank's profits should increase and thus generate higher tax revenue (see Table 4.5).

Even though all of the above information points to a permanent positive financial gain over a long period, the present fiscal impact could be negative in the sense that the Guarantee Fund did not recover in the sales price the total value of the support lent during the reorganization period. The present value of all backing received by the bank is estimated by the fund at around 9 billion pesos. An alternative methodology would put that backing at 4,328 million pesos (see Table 4.6).

Effect of Privatization on Efficiency

Because the bank was sold very recently, it is impossible to make an assessment of efficiency. However, the expected impact of the sale of the bank is more technical management in a more competitive environment.

Productive Efficiency

The reorganization of the bank made possible a marked improvement in the indicators of productivity and cost effectiveness during the process before the sale. This is explained because the main objective of the FGIF as shareholder and of the bank's administration was to substantially improve the administrative and financial position of the bank to pave the way for privatization.

There are several reasons why the purchasers could achieve additional major improvements in productive efficiency:

- The bank's level of productivity is not yet at the highest level in the Colombian banking system.
- The purchasing bank is a highly efficient bank in the Venezuelan banking system, which will improve the levels of efficiency of the bank in Colombia until they are at least on a par with those of the bank in Venezuela.
- Banco Mercantil de Venezuela is highly developed in terms of computerized services, which is not currently the case of BT.

Table 4.5. Banco de los Trabajadores: Some Projected Financial Indicators, 1991-95
(Percentages)

	1991	1992	1993	1994	1995
Productivity					
Gross finan. margin/total assets	8.06	8.49	8.92	9.35	9.78
Gross finan. margin/prod. assets	12.61	12.85	13.06	13.25	13.43
Gross finan. margin/net worth	118.57	121.95	122.97	122.11	119.86
Prod. assets/total assets	63.90	66.11	68.32	70.56	72.83
Inactive assets/total assets	5.70	4.55	3.63	2.89	2.30
Efficiency					
Admin. costs/total assets	6.92	6.90	6.88	6.85	6.81
Admin. costs/gross finan. margin	85.83	81.28	77.15	73.32	69.70
Admin. costs/total deposits	8.99	8.77	8.57	8.37	8.17
Risk					
Doubtful portfolio rec./current portfolio	13.20	9.99	7.56	5.73	4.34
Profitability					
Total profits/total assets	0.16	0.73	1.24	1.73	2.18
Total profits/net worth	2.30	10.42	17.14	22.54	26.75

Source: FEDESARROLLO calculations.

Table 4.6. Banco de los Trabajadores: Fiscal Impact of Privatization
(Millions of June 1991 pesos)

	Cost paid	Permanent gain
Sales price	3,225	3,225
Value of support	4,328.7	—
Fiscal impact	-1,103.7	—
Present value of taxes	1,355	—
Present value of projected cash flow	—	2,500
Net impact	231.3	725

Source: FEDESARROLLO calculations.

The bank will change its name in an attempt to generate a broader and growing market through products that require higher investment: credit and debit cards and stimulating external trading between the two countries.

Allocative Efficiency

In the case of a bank, a price reduction should be reflected in smaller financial margins, particularly from a reduction in the lending rate. The financial margins in Colombia have been high by international standards.

However, the reduction in interest rate levels and financial margins is also determined by macroeconomic policy and greater competitiveness in the Colombian financial system, rather than by the process of privatization itself.

External trade customers will not need to use correspondent banks in New York to conduct transactions with Venezuela, which obviously cuts down their costs.

It can be seen from the above that there is a small allocative efficiency gain in the short term as a result of privatization, but the greatest gain anticipated in the medium term will stem from the increase in competition stimulated by the policy associated with privatization, rather than from the privatization itself.

Conclusions and Economic Policy Recommendations

Recommended Preparatory Measures

When the state administers an enterprise temporarily it can maintain certain levels of productive efficiency if it expressly focuses on the objective of privatization. However, it may run the risk of an unduly lengthy preparatory period during which the privatization objective is lost, which will adversely affect productive efficiency.

Valuation Methodology

In order for a privatization process to be successful and ownership of the state enterprise to be transferred effectively to private hands, the valuation methodology must center on defining a sales price based on purely commercial criteria and not on the criterion of recouping past costs.

Mechanism of Sale

To prevent failures, the agency responsible for conducting the privatization must carefully assess whether the time is right and the economic policy conditions are appropriate for sale of a private sector institution.

In using the stock market in cases of bank privatization, it must be borne in mind that the stimulus to development of the stock market in such cases can face major hurdles when other objectives such as professionalism and selection of shareholders based on integrity predominate.

Complementary Policy on Removal of Barriers to Competition

This privatization could not have been a success without all the associated policy changes. Of particular note as an instrument to stimulate competition is the freedom of entry into the banking sector. The opportunity for foreign investment in the sector was a key element in this process.

Possible Effects on Efficiency

Privatization of a financial institution has definite positive effects on productive efficiency. This is particularly true if increased competition can lead to a reduction in operating costs.

On the other hand, the allocative efficiency in the banking sector is highly dependent in many countries on the macroeconomic policy of interest rates and sector policy on competition, which makes it more difficult to produce short-term allocative effects with privatization. In this sector, allocative effects may be more readily achieved through competition than through privatization.

In any event, the greatest benefit to users may indeed stem from the improved quality of banking services and the trend towards greater distinction between products in response to increased competition.

Refuse Collection in Bogota

Background

Refuse collection in Bogotá is provided by Empresa Distrital de Servicios (EDIS). A decentralized district-level enterprise, EDIS is responsible for collecting refuse in the city of Bogotá, sweeping the streets, disposing of the refuse in municipal dumps, administering market plazas and operating cemeteries and crematoria in the city.

This section summarizes the city's less than two years of experience. It focuses only on issues relating to the collection and disposal of refuse and street sweeping, which are the services thus far contracted out to private individuals by EDIS.

EDIS before the Privatization Process

It is impossible to estimate collection service coverage before privatization because the volume of refuse generated and collected by the enterprise is not known with any certainty and there were no clearly defined routes for the garbage trucks. However, based on projections for 1991 compared with the 514,093 tons received and weighed during the first half of that year at the Doña Juana landfill (the only one operating in the city at that time), the maximum coverage would be 65 percent, which implies that before it was subcontracted to private individuals, only around 50 percent of the city's refuse was properly disposed of.

Insufficient collection and final disposal of the refuse resulted from:

- Long distances between the operating bases, collection areas, and final disposal sites;

- The work day was reduced to 6.5 hours by collective agreement, compared to the normal eight-hour work day in Colombia;
- Lack of operational planning and the route planning method for each collection truck known as microrouting;
- Inadequate maintenance of equipment;
- Selection of refuse by the collectors en route, leading to a large amount of time loss; and,
- Open dumps being final disposal sites resulting in degradation of the urban ecosystem.

The enterprise's treasury funding comes from transfers by the central administration through the Ministry of Finance, while its operating income is collected by the Aqueduct Enterprise when that service is billed. Thus, EDIS must always apply to these two institutions to obtain funds for operation of the enterprise.

EDIS is considered one of the most inefficient municipal enterprises in the country. The ratio of operating staff to administrative staff in EDIS is 4 to 1, compared to other similar public enterprises in Bucaramanga (18 to 1) and Medellín (6 to 1). In terms of the number of employees per 1000 customers, EDIS has 45 percent more employees per customer than Medellín, the country's second largest city. These ratios confirm the view that the enterprise has been bureaucratized by patronage.

Privatization Process

To resolve the problem of refuse collection in Bogotá, a strategic plan was drawn up to achieve the following results:

Quantitative goals—

- To improve coverage of the refuse collection service for the entire city;
- To improve the enterprise's productivity; and,
- To reduce costs.

Qualitative goals—

- To improve the quality of service; and,
- To improve the quality of life of the inhabitants of Bogotá.

In view of EDIS's situation and the growing unmet demand for service, it was decided to optimize management of the company's scarce resources and turn to the private sector to provide collection and cleaning service in two areas of the

city. This solution sought to meet the demand immediately and with absolute certainty while enabling the company to recover technically, administratively, and financially without adding to its bureaucracy.

Preparatory Measures

The management of EDIS drew up a strategic development plan to resolve the crisis and prepare the enterprise for contracting out refuse collection to private companies. As seen later in this chapter, very few of the proposed targets were actually achieved. This development plan included overhaul of the technical and operational structure. The city was divided into three sectors (northern, central, and southern, with an operating base by center of gravity for each area) for collection and transport in order to optimize the use of equipment by cutting down on distance covered per route-day and the services not performed. The Protecho transfer station was brought into operation, as was the Doña Juana sanitary landfill for technical management of the final disposal site of the refuse. A plan was drawn up for salvaging and reconditioning equipment.

The plan also addressed financial concerns such as a decrease in costs per ton collected by reducing fixed costs, achieving economies of scale through decentralization, proposing administrative reorganization, and providing technical training. Raising the rates of customers who generated the largest volumes of refuse (industrial and commercial) also was considered.

Mechanism of Contracting and Prices

EDIS invited interested parties—individuals or corporations, national or foreign-owned, or consortia—with sufficient resources, experience, and technology appropriate to the project to submit proposals for performing these services. The proposals had to include technical, administrative, legal, and economic-financial factors for an assessment of the nature, competence, and execution capacity of the bidders. EDIS continues to be responsible for the services of collection, cleaning, and transport of refuse. The private parties undertake to collaborate technically and operationally by organizing, modernizing, and guaranteeing the provision of adequate and permanent service in the areas to be contracted out.

The bidders had to quote a price based on frequency of collection and site of final disposal of the refuse collected.

Complementary Measures

Competition. The competition in this case arose between the public sector—EDIS—and the private sector. The challenge facing the board of directors of

EDIS, chaired by the mayor of the city, was to create the necessary conditions to ensure that EDIS's labor union could not obstruct the process and subsequently the work of the private contractors.

The Doña Juana sanitary landfill was contracted out to the private sector under this process before refuse collection and street cleaning were contracted, thus preventing EDIS's labor union from securing control of this site to obstruct the process and gain control of refuse collection.

Regulation

The National Rates Board (NRB) sets refuse collection rates in Colombia. EDIS had requested modification of its rates since 1985, but the NRB would not consider this until EDIS undertook to overhaul its administrative and financial structure, which has not been done to date. EDIS, therefore, annually has indexed the rates approved in 1985 and has not been eligible for the new national rate structure in effect for the rest of the country. Consequently, it tries to augment its revenue by including in its billing the so-called "major refuse producers" (industries and businesses that generate vast quantities of refuse and are subject to a different rate).

Fiscal Implications for the District

Transfers

In 1990, the district had to transfer to EDIS \$Col 10,129 million, which, added to the operating and financial revenue of \$Col 9,373 million, will manage to cover operating, administrative, and financial costs of \$Col 17,152 million (collection contracts with private parties cost \$Col 5,552 million in that year). This means the equivalent of 51.9 percent of the enterprise's revenue comes from the district, as shown in Tables 4.7 and 4.8.

A comparison of this amount of transfers with the total revenue of EDIS shows that transfers to EDIS represented 38.07 percent of its revenue in 1988, 47.92 percent in 1989, and 51.94 percent of revenue in 1990, which indicates an increasing dependency of the enterprise on city funding.

Privatization and Increase in Efficiency

The main conclusions drawn from this study are as follows (see Table 4.9):

- The private operators are more efficient than the public enterprise since they not only make better use of human resources but also achieve lower costs per ton collected.

- The profitability of EDIS has declined because its area of operation has been cut by 40 percent and its costs have still not decreased although the total annual volume of refuse collected by EDIS has indeed been reduced.
- The total costs for the city have increased considerably because payment of the consortia in particular is an additional cost. However, service quality has improved substantially since more tons of trash are collected, and the average weighted cost per ton collected (including EDIS's cost of collection) is less than it would have been had the enterprise maintained total monopoly over service provision.

Analysis of Results

Refuse collection by private enterprises arose in Bogotá as the only viable response to a specific problem facing the city and not as a result of a broader privatization program to which the national or district government was committed. Accordingly, the alternative of contracting out provision of the service to private parties is an immediate solution to an emergency sanitary problem that EDIS could not handle alone. The incorporation of private enterprises lead to substantial improvements in service quality. The most glaring inadequacies are in areas still under the responsibility of EDIS, which, despite decreasing its area of operation, has not significantly cut down its administrative and operating costs or improved the quality of the service it provides. The result of the process is a higher fiscal cost to the district that must make net transfers to EDIS and also take on all payments to the private consortia.

To enable EDIS to continue providing service, the enterprise must achieve levels of efficiency and operating and administrative costs similar to the private consortia since sustaining EDIS's currently higher unit costs becomes an undesirable solution from the long-term fiscal standpoint. Economically viable alternatives are to restructure the enterprise to ensure levels of productive efficiency similar to those of the private enterprises, or to exclude EDIS from the operation and limit its activity to organizing, coordinating, and administering the contracts with private parties. This second alternative implies a fiscal and social cost associated with discharging a large number of the staff that must be weighed against the present value of future financial outlays that would no longer be disbursed following such a settlement.

The improvement in allocative efficiency can be linked to two major factors: the chance to improve service quality in those sectors already served, which is an additional benefit of the process, and the extension of coverage to larger sectors of the population, incorporating groups not previously served. Although the average cost of collection per ton obtained by the private enterprises is undoubtedly lower than that of EDIS, the total cost of refuse collection in the city is increased by virtue of the larger number of tons collected from the wider coverage.

Table 4.7. Transfers from the Central Administration, 1985–90
(Millions of 1990 pesos)

	1985	1986	1987	1988	1989	1990
(1) Transfers	5,359	4,022	5,455	4,507	7,289	10,129
(2) Real estate tax	11,269	11,384	12,421	12,698	15,261	13,925
(1)/(2) percentage	47.56	35.33	43.92	35.49	47.11	72.74

Sources: District Treasury, Planning Unit. Includes real estate register surcharge. FEDESARROLLO calculations.

Table 4.8. District Transfers, 1986–90
(Millions of 1990 pesos)

	1986	1987	1988	1989	1990
Total transfers	15,999	20,816	23,515	24,532	30,323
For operation					
Total employer's contribution	4,607	9,238	10,738	9,821	10,142
–Employer's contribution	926	2,315	3,010	2,838	3,179
–Other employer's contribution	635	1,416	1,274	1,280	1,136
Aid	291	899	1,736	1,558	2,043
IDB contributions	1,172	1,555	1,658	2,000	1,843
For Investment	2,509	5,369	6,071	4,984	5,121
EDIS	11,391	11,577	12,776	14,710	20,181
–Investment	5,173	4,598	5,333	7,398	11,782
–Operation	3,398	1,390	0	4,089	7,000
Education and culture	1,775	3,208	4,333	3,309	4,782
Welfare	0	321	342	238	330
Security	0	0	622	159	20
Works	1,188	2,368	1,582	2,232	1,129
Other	4,404	3,517	4,848	3,847	6,040
	627	773	1,048	836	880

Sources: District Central Administration, evolution of budget of operating and capital costs, Ministry of Finance 1991, and FEDESARROLLO calculations.

The fact that EDIS maintains autonomy in the management of its rate revenue means that the private sector is principally concerned with collecting the largest possible tonnage of refuse in its respective area since its revenue depends exclusively on the weight thereof.

The very nature of the service and the structure of the contracts means that the prices are not necessarily efficiency prices, even though costs are lower than those of the EDIS monopoly. Because the contracts have specific expiration dates and there is a risk that they will not be renewed with the enterprises that currently

Table 4.9. Refuse Collection: 1990 Efficiency Indicators

	Lime	Ciudad Limpia	EDIS	Total
Total tons	270,000	162,000	600,000	1,032,000
Total cost (\$)¹	3,055,050	3,037,662	13,450,200	19,542,912
(1/2) Cost per ton*¹	11,310	18,750	22,410	18,930
Revenue per ton¹	3,140	13,760	7,030	7,070
Revenue/outlays	27.78%	73.38%	31.36%	37.34%

Source: FEDESARROLLO calculations based on information from the enterprises.

¹ In thousands of pesos.

* Includes cost of final disposal of \$Col 1,024/ton.

provide the service, the private consortia must maintain competitive levels of efficiency with any potential competitor in order to ensure renewal of the contract.

The zoning and granting of concessions for a five-year period at prices agreed contractually under uncertain conditions for EDIS suggests that the process was initially accompanied by an excessive cost as a result of having no reference cost structure or reliable data on composition or volumes of trash to be collected. The experience gained in this initial phase in which 40 percent of the city's collection was contracted out to private parties will allow EDIS in subsequent stages to negotiate prices from a position of greater managerial strength as a result of better market knowledge and the need to expand the scope of private activity.

The net effect of privatization for the city as a whole thus will be the higher fiscal cost borne in order to have the service, with guaranteed broader coverage than EDIS had been able to provide, discounting the social benefit obtained measured through the willingness to pay. This benefit is reflected in the general satisfaction of the beneficiary population with the privately run service and in the requests for privatization to be extended to some areas served by EDIS.

Lessons and Economic Policy Recommendations

The recommendations arising from the study of this case are of particular interest in the privatization of public utilities, especially in markets in which a state-owned enterprise has a monopoly position with low indices of productive and allocative efficiency.

Recommended Preparatory Measures

Clarity of objectives. Private intervention in a traditional market in which the public enterprise was unable to respond to market forces cannot constitute a spo-

radic solution to a cyclical problem without specific longer-term objectives. It is therefore recommended that long-term strategic plans be drawn up that give alternatives for financing using rates or fiscal transfers so that payments can be made to the private enterprises participating and a surplus be maintained to finance the costs of administration of the contracts with private parties and regulatory oversight.

The state-owned enterprise that transfers part or all of the target market must have some clear guidelines for the future to avoid the higher costs associated with maintaining an enterprise with an increasingly inefficient productive capacity.

Appropriate Political Climate. If the state-owned enterprise provides a low-quality service and coverage is poor, there is a far greater likelihood of gaining the approval of the users for privatization, and therefore the political risk is minimal. Clearly, the decision to privatize a service must be accompanied by information campaigns to shape public opinion as to the benefits of contracting out to the private sector. Moreover, those campaigns must be independent from the public enterprise since this association might hinder the success of the project.

Counteracting Weaknesses in the Process. The process of contracting private parties can be conducted only under circumstances in which there is control over all the critical activities of the entire process of providing the service. Aspects of vital importance in the process are vulnerable to possible obstruction by agents opposed to privatization. It is therefore recommended that the control and permanent operation of these aspects be guaranteed before proceeding with the contracting process.

Prior Knowledge of the Market to be Privatized. Studies should be conducted before contracting with private parties—even though this entails an additional cost—to reduce uncertainty about the efficiency costs and maximum prices that the state should consider for the private operation and lending stronger negotiating and regulatory power to the state.

Recommended Mechanisms of Contracting

The experience gained in Bogotá suggests that a gradual process of contracting is more advisable than contracting an entire region. Therefore, as far as possible, it is recommended that first a small percentage of the market be contracted out so that the state-owned enterprise transferring the service can gain experience in management and can gradually create a favorable market environment. Thus, users will be able to identify the best alternatives and demand the widespread adoption of successful processes.

Maintaining conditions that avoid the consolidation of new monopolies that would tend to operate below the efficiency level and at higher costs must be a primary objective of any privatization process. Consistent with the above, the contracts must be drawn up for moderate but economically attractive periods of time. It is important to encourage the largest possible number of bidders from the

private sector, so the requirements must be kept to a minimum to ensure success of the process but avoid unnecessary formalities and procedures that might put off potential bidders.

Criteria for Valuation and Selection of Bidders

The criteria for selection of bidders must be clear and precise to stimulate broad participation of the private sector in the process. For the valuation of the private offers, factors such as prices, quality of service, experience, financial capacity, and use of technologies must be taken into account. However, it is virtually impossible to establish prior rules applicable to all processes or to determine fixed weightings for each of the valuation criteria given the specific conditions under which the service must be provided to the different groups or areas to be entered by the private sector.

Preferred Forms of Financing

Since the state's objective in privatizing services is to raise funds to be allocated to other more socially desirable programs, the financing of the privatization processes should be the responsibility of the private sector.

Removal of Barriers to Competition

Even if the size of the market allows the presence of only a few operators, the reduction of barriers to private entrants for the provision of certain services can result in greater efficiency in resource allocation by means of eliminating the subsidies that allowed the state-owned enterprise to deal with potential competitors under favorable conditions. If a service must be subsidized, the subsidy must be transparent, its source must be clearly identified, and in no case shall it come from, or be the responsibility of, the contractors.

Barriers to competition also can be created by mechanisms such as the payment of access privileges or disproportionate royalties, or by excessive taxes that might discourage private sector participation. Requiring potential private contractors to take on existing staff in the state-owned enterprise or its equipment or to undertake resolution of existing problems with certain social groups—such as the impoverished sectors that live by informally recycling refuse—also could be a barrier.

Regulation and Supervision Requirements

The state itself must retain responsibility for the service, which it may provide directly or through contracts with the private sector. However, in the latter case, it must maintain the capacity to regulate and monitor the contracts even if private individuals must perform that function as well. The state's responsibility must be

limited to guaranteeing the implementation of some proposed macroeconomic policies, an adequate level of service for all users, the overall welfare of the community, and execution of community-based social development programs.

The regulatory oversight body of the operation must be a government agency that can act without undue pressure from either the private enterprises or the state itself and concern itself only with technical issues, monitoring the efficient use of resources for payment to the public or private operators, and ensuring that funds needed to finance the process are obtained on schedule.

Anticipated Fiscal Gain

Contracting out refuse collection to private parties will release additional resources for other socially desirable investments and decrease the operating costs of the service, thus reducing any losses that might occur. In the case of the city of Bogotá, none of the above objectives has yet been attained because resources have even been diverted from other socially desirable programs to meet payments to the private contractors. Nor has there been any significant reduction in operating costs since, as stated previously, EDIS has not scaled down its size despite losing 40 percent of its operating area.

Expected Impact on Efficiency

Obtaining optimum use from both physical and human resources implies a substantial improvement in productive efficiency. In addition, the technical requirements lead to proper environmental management and improvement in service quality, which brings about a substantial improvement in the quality of life.

Private involvement in refuse collection means that an acceptable capacity to respond to variations in demand for service can be anticipated. This is a decisive factor considering the population growth and urban expansion that characterize the major cities of Latin America.

The expected decline in allocative efficiency has been avoided in Bogotá by separating the charge for service to the users from the payment per ton collected to the private contractors.

Lessons and Policy Recommendations

Introduction

This study has stressed Colombia's lack of an overall privatization policy. The cases studied therefore do not conform to a program and set of policies that provide guidelines and overall coordination.

Accordingly, the Colombian experience does not yield many general factors common to all five privatization processes analyzed. However, a number of lessons and recommendations can be drawn from the cases studied that could be useful for future privatization processes in Colombia and in other countries.

This section will outline lessons that could be of general interest. The order proposed in the terms of reference of CAIE will be followed for this purpose. This section complements, but does not replace, the detailed analysis and conclusions in each of the cases.

Privatization Process

Preparatory Measures Relating to Policy Setting

Need for an Overall Privatization Policy. Different institutions (generally the proprietary public agencies) were responsible for conducting the privatization process in the four cases studied, and each devised separate policies. This has the advantage of giving the process some degree of flexibility, particularly when there is room for negotiating the sale. However, the lack of an overall policy also means that some processes proceed with no clear-cut objectives, or with an internal conflict of objectives, which leads to failures.

An overall policy might have prevented some shortcomings in the privatization of refuse collection in Bogotá, such as allowing the public enterprise to continue operating. Similarly, the first attempt at privatization of BT had two contradictory objectives: to recover costs invested in the reorganization of the bank and to sell it to the private sector at a good price.

Economic Policy Framework for the Private Sector

The existence of a definite economic policy framework for private sector enterprises is essential to ensure successful privatization processes. Without a clear-cut regulatory framework that is sufficiently attractive for conducting profitable activity in the private sector, the timing is not right for proceeding with a successful privatization.

Accordingly, once the overall economic framework and that of the financial sector had been clearly defined, the process of banking privatization in Colombia started to have some success. This is not the case in the automotive sector, however, in which even today after SOFASA has been privatized, the policy changes have been so abrupt that there are claims on the already concluded negotiation.

Economic Policy Framework for Public Enterprises

The state's role in the economy and scope of action of the public enterprises that are not privatized must be clearly defined. The economic framework referred to

must ensure equal conditions for public and private sector enterprises, with no special privileges for the former.

The case of the automotive enterprises, particularly SOFASA, involved an enterprise with certain privileges because it was a partially state-owned business. The removal of these privileges raises doubts as to the future viability of the enterprise.

Complementary Policy in the Preparatory Measures

A clear policy framework must be defined as part of the preparatory measures for the privatization processes. Furthermore, when complementary policies are needed to boost competition, or for regulation or supervision, they also preferably should be defined as part of the preparatory measures to avoid greater disruption subsequently.

Preparatory Measures for the Privatization of Specific Enterprises

Clearly Delimiting the Duration of the Reorganization Period

When a period of reorganization of the enterprise that is to be privatized is needed either to make sale to the private sector more attractive or to enable the private provision of a service, the period of reorganization should be clearly defined. Otherwise, there is a risk that in the end the privatization will not be carried through. In the case of BT, a long reorganization period was required (five years), but in the case of the private provision of refuse collection in Bogotá, the public enterprise continues to be operated inefficiently and the decision whether or not to finally liquidate it is still pending three years later.

Prior Knowledge of the Market Served by the Enterprise to be Privatized

Occasionally, the political timing of a decision to privatize precludes meeting all the technical requirements for a successful process. This must be evaluated within the process.

In the case of private refuse collection, the process began as a result of a political decision without prior knowledge of the market. This is one of the most glaring mistakes in this case. The problem did not arise in the other cases studied: CCA, SOFASA and BT.

Political Climate

In cases that are politically sensitive or that generate controversy, there must be a process to create an appropriate climate in political circles and the mass media.

This is necessary, but does not suffice, to ensure the success of these processes. The management of public opinion by the Office of the Mayor of Bogotá to a large extent made it possible to proceed with the privatization of refuse collection.

Valuation Methodology

Adapting the Valuation Methodology to the Privatization Objectives. The method of valuation of the enterprise being sold must be tailored to the principal objectives of the privatization.

The case of BT is highly relevant in this regard. A valuation that includes dead costs, as in the first attempt at privatization, has little chance of success. If the objective is to sell the enterprise to the private sector, the principal criterion for the valuation must be a commercial price based on future profit-generating potential (or revenue-generating, as the case may be).

In the case of SOFASA, the enterprise used asset valuation as one of the criteria without considering its relationship with the market and prospects for the sector. This is, of course, an innocuous methodology in the case of selling an ongoing venture rather than the assets of a liquidated enterprise.

Moreover, when the enterprise to be sold is an affiliate of a multinational corporation, it should be valued to include the profits that the parent company receives as a result of having that affiliate, separate from the affiliate's normal profits, such as revenue from technology transfer and overinvoicing of parts or raw materials exported to the affiliate.

Mechanisms of Sale, Contracting, and Price

The mechanisms of sale used in the cases studied were very different: direct negotiation (SOFASA and CCA), public offering with prequalification (BT), and competition (refuse collection). Nevertheless, there were some interesting findings.

Flexibility in Assembling the Blocks of Shares for Sale. Although there must be a clearly defined overall policy, the instruments and process of negotiation must conform to the specifics of each case. This is particularly true of the mechanism of offering the enterprise (adhering to certain principles of openness and equality of opportunities for potential purchasers), of the participation or not of workers, and of the use of the stock exchange.

Defining general rules applicable to the blocks of shares for sale too rigidly and too much in advance can affect the process adversely.

The first attempt to privatize BT failed, among other reasons, because the shares of a very small enterprise were offered in three blocks when the potential purchasers wanted to control 100 percent of the shares.

Not Using the Stock Exchange

Although the privatization program being drawn up by the government seeks to ensure widespread distribution of ownership through the stock exchange, this instrument was not used in any of the cases studied.

In the automotive sector, there is a problem of control when elements such as brand, negotiation of technology used and supply of imported parts are involved (requiring a transfer of prices from the parent company to the affiliate). In the case of the banks, the government was wary of control of these enterprises by capital linked to drug trafficking or to enterprises or people responsible for the financial crisis of the previous decade.

In the on-going privatization of Banco del Comercio, 29 percent of the shares are being offered to mutual funds, employee funds, and workers. The remaining 71 percent are being sold as a single block. Of the 29 percent, 15 percent will be traded on the stock exchange.

Recommendations for Contracting or Concession Bidding Systems for Service Provision

To ensure continued stimulus to competition, when the contracts are awarded they should not include automatic renewals, nor be entered into for long periods of time. In this way, an inefficient contractor can be replaced. Moreover, the contractor is under constant pressure to improve efficiency. This recommendation stems from evaluation of the case of private refuse collection. However, in this case, systems to ensure equipment repurchase or transfer to other bidders upon termination are not provided for, as suggested by Kay and Thompson (1986).

Criteria for Selection of Buyers

Worker Nonparticipation in Purchase of the Enterprises. The lack of actual worker participation differs from the privatization program prepared by the government and described earlier, which anticipated worker participation. In the cases examined, this did not occur for various reasons.

In the case of BT there was a history of improper management by labor unions and cooperatives that were original shareholders of the bank. In the two automobile enterprises, the negotiation with foreign enterprises did not allow the participation of national partners, particularly of workers. Furthermore, the workers had greater hopes of the higher salaries usually offered by multinational corporations in Colombia, than of the opportunity to become shareholders.

Tailoring Purchaser Selection Criteria

The flexibility in putting together the blocks of shares for sale mentioned above is also applicable to the selection of potential buyers, unless some specific objective of the privatization program indicates otherwise.

Special Criteria for Contracting Out the Provision of Services

There are also some suggested criteria for the selection of bidders in a process of contracting out the provision of services. Those criteria relate to costs, service quality, experience, financial capacity, and transfer of technology from the bidders.

Preferred Forms of Financing

The financing must serve to promote the privatization, but not to improve the position of some buyers or contractors over others. In the case of refuse collection, financial advances were used to enable an enterprise to enter a contract without using its own capital.

Arranging partial payments and linking them to the volume of vehicles produced in the cases of SOFASA and CCA is aimed primarily at committing the state in the period following the privatization to maintaining the protective policy in effect at the time of the negotiation.

Complementary Policy

Removal of Barriers to Competition

The importance attributed in the literature (Kay and Thompson, 1986) to promoting privatization in a competitive atmosphere in order to ensure the greatest improvement in consumer welfare is corroborated in the cases studied. In the case of both the automotive sector enterprises and the financial institution, privatization was accompanied by a policy of deregulation and removal of barriers to competition. However, this policy is not a result of the process of privatization in Colombia.

Regulation and Supervision

The literature emphasizes the greater or lesser need for regulation, depending on the level of competition of the market in which the respective enterprise is operating.

Indeed, whereas in cases in which there is a high level of competition (even if in an oligopolistic market), the emphasis of the complementary policy is on greater deregulation of the market and removal of barriers. In cases of state monopoly the emphasis (in addition to the removal of barriers) is on the need for greater supervision and regulation of service quality (in the case of refuse collection).

Anticipated Fiscal Gain

Although there is no hard empirical evidence because the cases studied are recent, the basic hypotheses in the literature on the relationship between efficiency and profit seem to be confirmed.

The case of the automotive sector is interesting because the conditions have changed radically since the enterprises were sold—from a protected market to a free market. At the time of sale the expected fiscal gain was attributable primarily to potential improvements in productive efficiency (although to a different degree in each enterprise). However, today the viability of these enterprises as assembly industries is uncertain because they are open to international competition. Nevertheless, if the enterprises were transformed into exclusively marketing concerns, their profitability could improve far more, and the future fiscal revenue from imports and sales could be even higher.

In a process of openness to trade, the fiscal gain of a privatization seems to be more attractive for enterprises that produce marketable goods with greater comparative advantages for import.

In the case of BT there is a clear permanent fiscal gain attributable to the expected productive efficiency as a result of privatization of the bank. In this case, the bank was sold at a price higher than the present value of the projected revenue.

In the case of privatization of refuse collection, however, the net effect is difficult to quantify but points to a loss because the public enterprise was not liquidated and was maintained as an operator. Although service quality undoubtedly has been improved in areas that have been privatized and refuse is now collected in areas where it was not collected previously (at lower costs than those of the public enterprise), transfers from the municipal treasury to the enterprise have increased with the process of privatization at the same time that the average costs of collection per ton have increased.

Impact on Efficiency

The Relationship between Productive Efficiency and Allocative Efficiency

Again, empirical evidence is lacking, owing to the recent nature of the privatization and to other policy changes not directly associated with privatization.

In the case of the automotive sector, increased productive efficiency stemming from the privatization cannot be readily identified because following the

sale of the enterprises, the sector had to contend with major economic policy changes and reductions in demand that were not directly linked to the privatization process. However, this is a sector in which potential economies of scale would result in large increases in productive efficiency that would limit the allocative efficiency gains under conditions of restraint of trade.

In terms of allocative efficiency, consumers have seen the real price of vehicles drop, and supply will increase by virtue of the opportunity for imports. However, this is not exclusively attributable to privatization, but to the reduction in demand as a result of the anti-inflationary policy of the last two years and the decontrol of trade.

The sale of BT for a higher price than the present value of future projected revenue clearly indicates that the new shareholders expect a significant gain in productive efficiency. The future allocative gain anticipated is the result of greater competition in the financial system, rather than of privatization.

The recent case of the Bank of Commerce is interesting because the controlling block of shares was sold to the principal shareholder of two Colombian banks that are among the most efficient in the system.

Private refuse collection has resulted in a lower cost per ton in the private enterprises than in the public enterprise. However, maintaining the public enterprise as an operator has produced an increase in the average cost per ton and therefore a reduction in productive efficiency. The most marked improvements are seen in the increase in coverage, improvement of service quality, and proper management of the environment, which have greatly enhanced the quality of life. Despite the fact that the entry of private operators has introduced competition into the activity, the allocative efficiency has not improved in terms of lower prices to users because of the burden of the public enterprise's inefficiency.

The cases studied show a certain inverse relationship between allocative and productive efficiency, but are not always conclusive in terms of the direct relationship between privatization and increases in efficiency.

Testing of Hypotheses

For each of the cases studied, the table included at the end of this chapter (Table 4.11) explains whether or not the principal hypotheses formulated in the terms of reference of this study are accepted or rejected.

This section will allow international comparison of the cases studied.

The detailed basis for each of the proposals included in this section can be found throughout the study.

Monopoly Power–Worker's Share Hypothesis

Shares were not sold to workers in either SOFASA, CCA, or BT. These three enterprises operate in an oligopolistic market. The case of refuse collection in-

Table 4.10. Results of Hypothesis Testing

Hypothesis	Not Rejected				Rejected			
	SOFASA	CCA	BT	Refuse	SOFASA	CCA	BT	Refuse
Monopoly Power—Worker's Share	*	*	*					*
Profitmaking—Minimum Reference Price		*	*		*		*	
Closed Bidding Ownership Concentration	*	*	*	*				
Buyer Selection	*	*	*	*				
Profitability Promotion					*	*	*	*
Input Deregulation	*	*	*	*				
Increased Investment			*		*	*	*	*
Fiscal gains—current expenditures	*	*	*	*				
Interest Rate and Debt Service			*		*	*		*
Higher Profit—Price Adjustment					*	*	*	*
Union—Efficiency Deterioration					*	*	*	*

Note: Although the specified objectives were obtained in most of the cases, these objectives do not grow out of global privatization policy but rather out of the solutions to specific problems in the cases studied.

volves a regional public monopoly that became a private monopoly within one area (and for a period of time) and no shares were sold to workers. Accordingly, the hypothesis is rejected.

Profitmaking—Minimum Reference Price Hypothesis

In the three cases of sale studied, the sales value exceeded the minimum reference price. However, both SOFASA and BT were generating losses at the time of sale. The hypothesis is applicable only in the case of the CCA. In the case of refuse, losses are recorded, and there are no transfers from the public to the private sector.

Closed Bidding Ownership Concentration Hypothesis

Although public auction was tried initially in order to sell the government's shares in SOFASA, this did not work in practice because only investors who had been sharing ownership with the government expressed an interest. The CCA, for reasons explained in the document, abided by the rights of preemption of Japanese investors. In BT there was a public offering, but potential buyers had to be prequalified.

In all of the four cases studied, the privatization was conducted through conditional auction and excluded the participation of the stock market, which discourages capital market development. In all cases there is greater concentration of ownership, and at the same time the new shareholders are foreign investors. This hypothesis is fully verified.

Buyer Selection Hypothesis

In the cases of SOFASA and CCA there is insufficient evidence to reject this hypothesis because there were no other proposals. Although one of the criteria for prequalification of potential purchasers of BT was experience in banking management, greater weight was given to those who offered the possibility of modernizing the bank. In awarding the concession for refuse collection in Bogotá, the criterion of incorporating new technology took priority over past experience.

Profitability Promotion Hypothesis

In the case of the automotive subsector, the government has promoted a policy of greater competition, parallel to the process of commercial liberalization that has occurred more gradually than that of overall openness of the economy.

In the case of the bank, the goal was also to improve the institution's profitability, but this did not prevent a policy to stimulate greater competition in the financial sector. Similarly, the goal of greater profitability of the refuse collection enterprises has not hindered the state's regulatory role in provision of the service.

Input Deregulation Hypothesis

Since 1991, the process of commercial openness in Colombia has been accompanied by deregulation of some markets of goods and services. This process came after all the cases of privatization studied. The enterprises in the automotive subsector will be affected by the deregulation of port service rates.

Privatization of BT has been accompanied by a process of financial deregulation. The hypothesis does not apply to the case of refuse collection.

Increased Investment Hypothesis

In the automotive subsector enterprises there were no major investments attributable to the privatization process, but there was an increase in fiscal revenue. In the case of BT the increase in fiscal revenue did not exceed the investment made to privatize it (see Table 4.6). Because refuse collection in Bogotá was privatized without liquidating the public enterprise, the district government has had transfer funds to the public enterprise to finance the privatization.

Fiscal Gains–Current Expenditures Hypothesis

In none of the cases did the government increase its current expenditure as a result of privatization.

Table 4.11. Objectives and Results of Privatization Cases Studied

	Objectives	Results
SOFASA	To privatize automotive production.	(*)
CCA	To meet the legal requirement to sell an enterprise that constitutes payment in kind for a bank within two years.	(*)
	To strengthen an official banking institution, in order to privatize it and redeem the value of some credits.	(*)
Banco de los Trabajadores	To meet the legal requirement to reprivatize financial institutions placed under government control during the financial crisis.	(*)
	To improve efficiency and competition in the financial sector with higher private and foreign investment.	(*)
Refuse collection in Bogotá	To expand coverage of the service.	(*)
	To restructure the public enterprise.	(+)

(*)Objective achieved.

(+)Objective not achieved.

Interest Rate and Debt Service Hypothesis

Only the sale of BT resulted in an inflow of foreign capital, although this was insufficient to reduce interest rates.

Higher Profit–Price Adjustment Hypothesis

This hypothesis is rejected in all cases studied. The potential increases (or rather decreases) in the profitability of SOFASA are clearly due to cost reductions in response to adverse market conditions.

Some cost reductions are expected for CCA, but activities have been diversified (vehicle imports) in response to market conditions. BT's expected increases in profitability are attributed to reductions in costs and not in the financial margin. Privatization of refuse collection in Bogotá is associated with lower costs for the private enterprises and not with a higher price per ton collected.

Union–Efficiency Deterioration Hypothesis

Recent Colombian experience demonstrates a greater propensity to union pressure in public agencies.

Objectives and Results of the Cases of Privatization Studied

Table 4.11 above shows the objectives set by the government in each case of privatization and the result achieved.

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CHAPTER 5

PRIVATIZATION IN ARGENTINA

Pablo Gerchunoff*
Germán Coloma

Introduction

Argentine Public Enterprises in Crisis

At the beginning of the 1980s, the share of Argentine public enterprise output in the country's total GDP and total investments was not particularly high. Participation in the GDP was clearly below the world average, and participation in investments was below the average for developing economies (Table 5.1). The sectors that included that participation did not depart from the norm in the majority of economies, with a concentration in public utilities (electricity, water, transport, and communications), in the exploitation of natural resources (petroleum, gas), and in some manufacturing industries (iron and steel, petrochemicals). Diverse reasons were cited for the expansion of public ownership in Argentina and, as is the case in many other national experiences, the predominant reasons cited did not always coincide with the fundamental reasons. Academically, it was maintained that the public enterprises served the purpose of correcting the "static failures" of the market (externalities, natural monopolies, etc.). Other causes often were more important, however—the correction of the "dynamic failures" of the market (in other words, the low rate of capital accumulation stemming from the private enterprises' aversion to risk and the weakness of the capital markets), the fiscal need to appropriate revenue from natural resources, and the widespread conviction in political circles that the public enterprises were a good instrument

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Table 5.1. Public Enterprises: Participation in GDP and Investment, 1984
(Percentages)

Description	Participation in GDP	Participation in GDI
World average	9.4	13.4
Industrialized countries	9.6	11.1
Developing countries	8.6	27.0
Africa	17.5	32.4
Asia	8.0	27.7
Europe	6.6	23.4
America	6.6	22.5
Argentina	7.4	20.5

Source: IMF and Sindicatura General de Empresas Públicas.

for income redistribution or economic stabilization. In addition, there were the political arguments—public enterprises protected national autonomy (when the alternative for private provision was a foreign company) and at times became the “social place” for arranging coalitions between the state, unionized labor, and entrepreneurs.

Although some public enterprises were established far earlier, the widespread optimism regarding their role in the economy and achievement of their multiple objectives was a phenomenon bounded basically by the period from the early 1940s to the end of the 1960s. At the beginning of the 1970s this optimism began to erode and was replaced by a certain disenchantment, and the decade of the eighties saw the end of the consensus on the “virtuous role” of public ownership and management. The causes of this decline relate to both efficiency and to problems of capital accumulation and fiscal issues. First of all, the practice of the Argentine public enterprises deviated from the microeconomic model of minimization of costs and maximization of allocative efficiency. Owing to their institutional structure and the complicated relationship established with political authority, the public enterprises never performed as “optimum” enterprises but systematically incurred excessive expenditures. General welfare was a very weak objective and was replaced by the specific and multiple objectives of the factors of production (suppliers of equipment, unionized labor, “Baumolian” management). This strongly corporate profile was accentuated, moreover, by the political instability and consequent weakening of the supervisory agencies.

Second, the public enterprises did not fit the ideal model from the standpoint of correcting the dynamic failure of the market either. On the one hand, their declining capital productivity diminished their contribution to economic growth (Porto, 1992). On the other hand, the underlying hypothesis of a financially powerful state that reallocated resources was met fully only for a short period of time. Between 1940 and 1960, the government had various instruments in the Argen-

tine economy to collect funds and channel them to public investment (taxes on income from natural resources, surplus of the social security system, low-cost domestic and foreign borrowing, and appropriation of the “inflation tax” at relatively low rates). Those sources of financing gradually were disappearing and entered a severe crisis in the 1980s, when the external sector showed a chronic deficit—generating for the state more obligations than opportunities to raise funds by borrowing—and rapidly increasing inflation undermined the domestic capital markets.

Third, the role of public enterprises in income distribution (i.e., subsidizing consumers and private enterprises through pricing) and in stabilization policies was offset by a major increase in the fiscal deficit and long-term deterioration of services rendered. This was because the public enterprises had to bargain constantly with the government and ended up fixing prices that did not cover their costs, which translated into cash imbalances that were resolved through transfers of funds from the treasury or trimming of maintenance costs and investment (that affected the service quality).

All these factors—together with the decline in social value of the objectives of national autonomy—conspired to create a favorable environment for the rapid rise of a privatization policy. Following the hyperinflation in 1989 and a drop in the GDP for three consecutive years, that policy became as popular as nationalization had been in the 1940s. The prevailing view was that the public enterprises’ problems would disappear if they were transferred to the private sector. The appearance of private ownership and management would minimize costs, distancing the state from the production of goods and services would reduce crowding out and expand financing for private investment, a large part of the fiscal deficit would be eliminated (the privatized enterprises would no longer be instruments for income distribution or economic stabilization), and, as an added benefit, the state could earmark the proceeds of the sale for investments in social infrastructure and in public goods.

In the midst of this complete reversal of public opinion and in the context of critical hyperinflation, at the end of 1989 the Argentine authorities launched one of the most ambitious and rapid privatization projects known to economies that have undertaken structural reform programs. In 1990 the television channels, petrochemical enterprises, a freight railroad branch, the state-owned telecommunications company, the state-owned airline and some oil fields were divested, and concessions were granted for the most heavily travelled routes to be operated as toll roads. In 1991, oil reserves were privatized; existing regulations on the production, transmission, and distribution of gas and electric power were reformed; and some clauses in the contracts of transfer and concession signed the previous year were amended. Between 1992 and 1993, privatization of the national gas company, the national water and sewerage utility, the national electric power generation and distribution utilities, the railroads, the national shipping com-

pany, the port facilities, the postal service, new oil fields, and all manufacturing enterprises is to be completed. The Argentine case seems to be the positive response to an appeal by Jeffrey Sachs (1991) to Eastern Europe, when he stated that “the need to accelerate privatization . . . is the paramount economic policy issue. . . . If there is no breakthrough in the privatization of large enterprises in the near future, the entire process could be stalled for years to come, with harmful consequences for the regional economies.”

The Fundamental Formula of Divestiture

The speed of the Argentine privatization process and some of the characteristics thereof can be understood only if it is accepted that this privatization process was, to a large extent, a financial instrument of the stabilization policy. Following the hyperinflation of 1989 and 1990, the proceeds of privatization contributed significantly to avoiding a third hyperinflationary episode. Although together with these financial benefits there were, and certainly will be, others—in particular in terms of productive efficiency and recovery of investments in public services transferred to the private sector—it is also true that to attain those benefits there were some costs to society. In this sense, in line with Jones, Tandon, and Vogelsang (1990) and the works of Coloma (1991) and Gerchunoff and Coloma (1991) on Argentina, we can say that the social benefit (or cost) of a privatization can be expressed through a “fundamental formula of divestiture,” which takes into account both the social values and the private values involved in the transaction. That formula can be expressed as follows:

$$dW = (V_{sp} - V_{sg}) + (\beta_g - \beta_p)Z;$$

where dW is the change in the level of welfare of society (measured in terms of consumer surplus), V_{sp} is the social value of the enterprise to be privatized when it is already under private operation, V_{sg} is the social value of that enterprise under government operation, β_g is the shadow price of government revenue (expressed as social value of a monetary unit collected by the state), β_p is the shadow price of the private profits, and Z is the price at which the enterprise is privatized.

According to the logic of the formula presented, a privatization is socially desirable if the welfare of society increases after the transaction, which occurs when dW is positive. That positive value can be achieved in two ways: Either the social value of the enterprise increases when it is transferred from the public to the private sector (i.e., $V_{sp} > V_{sg}$), or transfer of the enterprise in question generates as counterpart a payment Z that has a higher social value if it is received by the state than by the private sector (i.e., if $\beta_g > \beta_p$). Despite its simplicity, this fundamental formula of divestiture is able to express the two main motives that

can prompt a state to consider privatization: the microeconomic cause (linked directly to the problem of relative efficiency of the different forms of ownership but that is also able to express—once valued—phenomena of equity and income distribution) and the macroeconomic cause (directly influenced by problems of the fiscal position and by the propensities to invest and save in the economy). It also should be noted that in this formula both phenomena are expressed in a totally separable form and that if in a given case the conclusion is reached that only one of the said causes is important, the other can be entirely discarded. In fact, if a certain economy is interested only in the microeconomic impact of privatization (or if that economy gives identical value to the state-held resources as to privately held resources), the price Z at which the enterprise is privatized loses importance, and the only issue of interest is whether the change in ownership alone can increase the overall allocative efficiency (or of welfare). If, on the other hand, the only factor valued by society is easing the fiscal constraint under which it is operating, the sales price of the enterprise becomes virtually the only important issue in the evaluation, since—when $\beta_g > \beta_p$ —any increase in the value of Z brings about an improvement in overall social welfare.

In most actual cases, however, the feeling is that comparing micro- and macroeconomic motivations for privatization leads to problems of evaluation that entail a certain conflict of objectives. This could be because—by virtue of certain issues relating to regulation and pricing of the goods sold by the enterprise to be privatized—an attempt to raise the sales price Z of the enterprise might result in a drop in its social value under private operation (V_{sp}). In Argentina, privatization of the telephone company (ENTEL) and the airline (AA) are clear examples of this since throughout the transfer process, the state relaxed certain rate regulations and allowed the new owners of the firms to exercise their monopoly power in the market (thus reducing the expected social welfare from operation of the enterprises) in order to obtain a higher price (and more rapid payment) for the transferred business assets. In this type of transaction, therefore, the conflict of micro and macro objectives tended to be resolved in favor of giving priority to the macroeconomic motivation, although at the different levels of government battles were waged to defend implicitly one or others of the objectives.

Another usual conflict of objectives in the evaluation of privatization is what Jones *et al.* (1990) call a fundamental trade-off between allocative efficiency and productive efficiency. This trade-off is limited exclusively to the microeconomic part of the divestiture formula and perhaps analyzes the most common problem of those that arise in evaluating whether the social value of an enterprise is greater in private hands than in public hands. The idea implicit in this entire trade-off is that from the static viewpoint, any privatization presents a set of costs and benefits in terms of efficiency, and it is generally assumed that transfer from the public to the private sector brings with it a decrease in the level of costs of the

firm (because of the greater incentives to productive efficiency of the latter form of ownership) but also brings with it a net loss of consumer surpluses of goods produced by the enterprise (because of the presumed tendency of all private owners to try to exploit the monopoly power of the markets).

Liquidity, Efficiency, and Growth

The style of the process of asset transfer in Argentina can be described by saying that the authorities decided to commence the privatization with some public utilities that did not produce “wage goods” and with the oil reserves, as in both cases there was sufficiently high potential profitability and an interested demand (including international credit banking). By official decision, the form of payment in some cases would be exclusively cash assets (petroleum) and in others would be a combination of cash assets and external debt papers. In all cases—probably to neutralize opposition and to prove to society its intention to proceed with structural reforms—the government set very strict schedules that created difficulties for the officials responsible for the privatization but on the whole were met.

Since the primary objective was to obtain short-term financing for the public sector and improve the net external position of the economy, the government took several measures to maximize the value of the assets they were offering. In view of the financial urgency, those measures did not consider prior reorganization of the enterprises nor a gradual offering of shares on the securities markets nor careful organization of the bidding to ensure maximum competition because such a strategy would have taken too long. On the other hand, the companies to be privatized benefited from price and tariff adjustments (part of which was at the expense of taxes previously levied on rates that now went to increase future profits), and regulations were drawn up to preserve the monopolistic or oligopolistic structure of the markets. As counterpart to this, in the contracts of transfer the state stipulated quantitative and qualitative goals of improving the services transferred, which implied large enough investments to rehabilitate the capital of the enterprises.

The Argentine privatizations involved almost immediate amendments to regulations stipulated by contract. Thus, governed in some cases by the need not to affect profitability in the production of tradable goods, the government tried to amend some clauses to reduce the prices of the privatized enterprises. In other cases, the enterprises themselves requested the amendments because of payment problems. In all cases, the conflict tended to be resolved by means of a fiscal loss and the effective requirement of qualitative and investment goals.

Over time, the fiscal impact of the Argentine privatizations is, in principle, ambiguous and complex. The first point to consider is that the state has set up market reserves, and the profits of the monopolies that exploit those reserves

consist in part of the taxes foregone and in part of the additional payments by users through price increases. If the state obtains a higher price than the present value of the taxes foregone from sale of the new private monopoly (which should obviously be the case if the bidding was competitive), then there will be a gain that will be equal to the share of the consumer surplus appropriated. From this standpoint, the enterprises gain, the state gains, and the users lose. The second point is one of dynamics and relates to the use to which the state puts the funds obtained. If they are allocated to financing current expenditure, then both future taxes and the users' surplus that would have been gained will have been used up, and, consequently, the public sector accounts will deteriorate after the initial financial impact. If, on the other hand, the funds are used to improve the long-term position—by financing structural reforms or paying off debts—then the permanent fiscal position will depend on comparison of the present value of the taxes foregone and the present value (in fiscal terms) of the structural reforms financed.

A third point stems from the fact that in the new relationship model between the public and private sectors, the state regulates the goals of expansion and service quality by contract, and the enterprises undertake to make the necessary investments to rehabilitate the capital and provide those services. Under the new incentives scheme, those investments are now profitable and are even financially self-sustaining with their own resources. Accordingly, the state has a permanent fiscal gain because it transfers an investment plan that it could not have undertaken but for which it was—since it involved public services—socially responsible. The fourth point, on which the most emphasis usually is placed in the international literature on government finances and privatization (e.g., Hemming and Mansoor, 1987), is that the state has the potential capacity to collect, through the tax system, a share of the increased productive efficiency of the private enterprises in the form of profits, which also generates a positive fiscal impact.

Unlike the ambiguous fiscal results obtained, the effects over time on the external sector seem to be clearly negative. In the largest Argentine privatizations, there was an initial inflow of external funds earmarked for cash payments and to finance part of the initial investments to which the contribution of debt papers was added in the cases of Aerolíneas Argentinas (AA), ENTEL, and the petrochemical enterprises. The long-term counterpart of this external financing is the remission of profits by the new private consortia, based on which, if the present value of the profits is greater than the savings in debt servicing as a result of capitalization, the final effect is negative. This conclusion seems to be supported by the fact that the net remittable profits should, in principle, be higher than the savings in debt servicing, since otherwise the holders of the debt papers would not make the exchange. On the other hand, noncompetitive bidding aggravates the problem because the state then receives an initial financing that is less than the present value of the future flow of net profits. Finally, the weakness of regulations and increases in productive efficiency also turn out to be detrimental factors, since they expand profits still further. All this does not

necessarily imply that the Argentine economy will have a balance of payments crisis within a certain period as a result of privatization (the privatization might even bring about an era of confidence and capital inflows to the country), but it does mean that privatization as it was carried out in Argentina between 1989 and 1991 does not alone alleviate external restraint, but rather worsens it (Gerchunoff and Castro, 1991).

It has been noted above that when emphasis is placed on the privatization (or concession) of public utilities, the transfer contracts and regulatory frameworks set the goals for expansion and service quality, and these goals imply an investment program to rehabilitate and increase the capital. Under these measures, investment in these “new protected sectors” increases, but the change in relative prices that occurs in the economy—basically from the increase in public prices and the drop in the real exchange rate stemming from the temporary financing generated by privatization—can reduce investment in other sectors. Moreover, the financing of privatization in Argentina has been associated with price regulation to stimulate productive efficiency, since the prices fixed involved a “financial vision” of the operation, and all costs thereof were considered to be expansion costs (without bearing in mind that such costs consist of the acquisition of durable goods and that therefore only the depreciated portion thereof constitutes a cost from the economic standpoint). Thus, because there is no capital market for long-term borrowing, it is the users who prefinance the investment by advancing the funds at zero cost to the new private operators (since the latter pay no interest rate to the former).

There is no doubt as to the effect of the Argentine privatization in terms of allocative efficiency since, owing to the internal logic of the entire process, the state has foregone efficiency in exchange for funding. The most concrete expression of that sacrifice is the absence of regulations to protect users and the weakness and lack of autonomy of the oversight agencies.

In this regard, the basic questions of regulatory policy have not yet been answered in the privatization of the period 1989–91, and it is not clear whether in each case the existing monopolies or oligopolies should be preserved, whether the price levels of such structures are to be controlled or not, and whether or not measures are to be introduced to stimulate competition in the market. These pending issues are probably central to the new role of the Argentine state in the production of goods and services.

Cases of Privatization in Argentina

Five cases have been selected for the examination of Argentine privatization, the mechanics of its implementation, and its various effects (Table 5.2): ENTEL (the national telecommunications company owned by the state that operated a public service that was predominantly a natural monopoly), Aerolíneas Argentinas (the

Table 5.2. Principal Privatizations, 1989–91

Industries	Percentage privatized	Revenue (Millions of U.S. dollars)		Personnel absorbed
		Cash	Debt papers	
ENTEL—northern area	60	316.4	2,720	22,500
ENTEL—southern area	60	277.5	2,309	22,500
Aerolíneas Argentinas	85	260	2,010	10,000
YPF—central fields	70	601		28,000
YPF—marginal fields		400		
Railroads		155		25,100
Radio and television	100	16		
Petrochemical enterprises	30	46	131	2,000
Tandano	30	8		700
Total		2,079.9	7,170	110,800

Source: Center for International Economics.

state-owned airline that constituted *a priori* a contestable market), highway services (a pure natural monopoly), petroleum (a tradable income-generating natural resource), and some petrochemical companies (producers of tradable goods).

ENTEL, a natural integrated monopoly covering almost the entire territory of the Argentine republic, was privatized after being reorganized into two separate entities to stimulate competition by comparison. The mechanism chosen was bidding of 60 percent of the shares (the rest was to be divided later between sale on the stock exchange and a quota for workers) and the form of payment was partly in cash assets and another variable part in external debt papers.

Following a sharp price increase during the transition period, the anticipated profits were considerable and, even though there were few offers at the bidding, the result was a permanent fiscal gain (since the state shared the appropriation of the consumer surplus with the private consortia). On the other hand, the effects on the external sector seem to have been detrimental and the regulations very weak because the concession holders operate in monopolistic markets that include potentially competitive segments and decide their relative price structures almost without interference.

Aerolíneas Argentinas was the flag carrier of Argentina and had a market reserve on domestic traffic. Its privatization (which was effected through bidding of 85 percent of the capital) in general maintained the firm's privileges and led to an increase in its power over the domestic market because the purchasing group—the only bidder at the offering—included the owners of its main competitor (Austral Airlines). When it was privatized, the enterprise substantially amended its relative prices (establishing cross-subsidization by the domestic fares to benefit

the international fares) and generated a negative fiscal impact, since not only did the state renounce long-term revenue but the buyers also did not meet their payment obligations.

Privatization of the highway services, on the other hand, was not done through sale but by means of granting concessions for the most heavily travelled routes to be operated as toll roads. Although it appeared to be highly competitive, the bidding of the roads could not entirely prevent collusive practices between bidders and the setting of high rates, which then had to be reduced at the expense of government revenue. From the users' viewpoint, the setting up of the toll system undoubtedly meant an initial cost for all categories of vehicles (likely, however, to be paid back in the form of improvements in future service quality) that is relatively higher for buses and trucks than for automobiles.

The case of petroleum was the most varied in terms of the number of economic instruments used since it combined bidding (for the exploitation of marginal fields), contract conversions (for the central fields), reduction in domestic taxes, and deregulation of the wholesale and retail markets. Some of these measures had positive fiscal effects and others negative, and in general there were short-term benefits and long-term costs. The final idea—still in the stage of implementation—is to attain a market structure in which the enterprise YPF (currently state-owned) has private majority ownership of its capital and minority relative share in the different market sectors. The emergence of strong oligopolies in those segments is almost inevitable, however, which means it will probably be necessary to introduce regulations in order to stimulate competition.

Finally, privatization of the state-owned minority interest in four petrochemical enterprises was economically the “easiest” privatization undertaken by Argentina in the period 1989–91 since it comprised simply the sale of those blocks of shares to private enterprises that already had majority holdings in the firms (since they were the only bidders) and the fiscal impact was relatively neutral. While it had been highly protected historically, the petrochemical industry also underwent some changes to its regulations, which involved a degree of openness to external competition and the elimination of subsidies implicit in the price of its inputs. These measures did not, however, significantly alter its strong oligopoly position, nor its capacity to differentiate between prices on the domestic and foreign market.

Case 1: Empresa Nacional de Telecomunicaciones (ENTEL)

Profile of the Enterprise

Through November 1990 the Empresa Nacional de Telecomunicaciones (ENTEL) had a monopoly of telephone and related services that covered 92 percent of the

Argentine telecommunications market. Its roots go back to 1946, when the Argentine state took over the majority share of the country's telecommunications, although the firm was in fact a legal continuator of the Unión Telefónica del Río de la Plata, a U.S.-based company that had provided services in Buenos Aires since the early 1880s.

Throughout its history as a national public enterprise, ENTEL not only was responsible for providing telephone service to the majority of the Argentine territory, but was also the principal instrument for the government's communications policies. It was therefore responsible for almost all the domestic long-distance telecommunications network and had a virtual monopoly on international communications. The only areas outside its coverage were those served by Compañía Argentina de Teléfonos (CAT), the private enterprise with a service concession in six provinces and a market that represents 7 percent of total users, and some marginal locations in which there are telephone cooperatives, representing no more than 1 percent of total Argentine subscribers.

From the technical viewpoint, the telephone system for which ENTEL is responsible can be divided into two major parts: the local networks that interconnect users in the same area and the long-distance or trunk network that links the different local networks. The lines that make up the local networks and the networks themselves are interconnected through switching centers, which are of different hierarchies depending on the level of connection they serve. The total number of lines in service is estimated at about 3,000,000 (as of September 1990), 80 percent of which correspond to residential users and 20 percent to other users (commercial, professional, and government). This generates in turn a traffic volume that breaks down into local calls (40 percent) and long-distance calls (60 percent). In terms of geographical distribution, the lines are highly concentrated in the city of Buenos Aires and its surrounding areas, although over the years this concentration has diluted somewhat, to the benefit of lines in other southern and northern areas of Argentina.

The principal physical indicators of provision of service by ENTEL show major growth over the last five years (Table 5.3). Despite this, the Argentine telephone system is plagued by severe problems of growth, based particularly on the wide range of overlapping technologies that exist side by side, which, in an activity in which technical progress is such an important and dynamic factor, evidently works to the detriment of efficiency. In addition, although the trunk network has some idle capacity in the highest exchanges in the hierarchy, there are bottlenecks in some sectors, especially on those lines that are shared with television carrier signals. There is no single cause of these problems of ENTEL's "productive subsystem," but it is evident that they have come about because of a lack of ongoing overall planning or of a stable financing schedule for investment in the provision of equipment. As a result of a combination of these two factors, investment took place in rather intermittent bursts, and periods of major expan-

Table 5.3. ENTEL: Physical Indicators, 1980–88

Indicators	1980	1985	1986	1987	1988
No. of subscribers (thousands)	1,879	2,462	2,591	2,709	2,840
Local communications (millions)	4,210	7,088	7,839	8,838	9,842
International communications (million minutes)	28.6	45.3	49.0	51.0	59.4
Lines requested (thousands)	851.2	903.6	788.9	740.2	687.3
Average delay for repairs (days)	12	10	10	10	10
Total number of agents	46,551.5	46,679.0	45,947.0	46,586.0	47,501.9
Level of unmet demand (%)	45.30	36.70	30.45	27.33	24.20
Local communications/No. subscribers	2,240.65	2,879.0	3,025.5	3,262.5	3,465.5
Local communications/No. agents	90,437.5	151,845.6	170,609.6	189,713.6	209,173.5

Source: ENTEL (Annual Report 1988).

sion and renovation of the network were followed by others in which replacement and maintenance were virtually nonexistent.

The problems described in the preceding paragraph also can be linked to the enterprise's commercial policies. Broadly speaking, for the majority of ENTEL's history as a public enterprise, its commercial policy—that on the whole was shaped by external rather than internal factors—was conducive to maintaining low prices at the cost of high levels of unmet demand. In this regard, there is a series of coincident indicators that also relate to a pricing policy that tended in general to cover only the operating expenses and not the capital and expansion costs of the network. The last fact, combined with the absence of tax revenue specifically earmarked for telephone investments, meant that the condition of the telephone system as a whole tended to deteriorate over time and saw only occasional improvements that mostly coincided with events external to the sector. In terms of ENTEL's economic-financial performance in recent years, in general terms the enterprise has always shown a positive operating result but a negative final result and has been particularly sensitive to variations in its real rates level and in the exchange rate. The above-mentioned pricing policy contributed significantly to the first of these phenomena and meant that, on the whole, the operating profit obtained has been insufficient to cover finance costs and depreciation of fixed assets.

The change in the administration of ENTEL in 1989 and the consequent launching of the process of privatization of the enterprise led to a drastic change in the entire operation of the firm and gave rise to some very specific phenomena. Approximately speaking, during the entire period 1989–90 (i.e., during the year and a half before privatization) the bulk of the company's management activity

Table 5.4. ENTEL: Pulse Price Movements, 1985-90

Month and year	(1)	(2)	(3)
August 1985	0.0116	162.5	1.3107
December 1987	0.0379	96.7	0.8293
May 1988	0.0826	112.4	1.0603
December 1988	0.1653	86.5	1.0502
August 1989	5.6918	102.2	0.8542
December 1989	9.1069	94.9	0.5788
March 1990	80.3155	147.8	1.6652
June 1990	100.3900	128.2	1.9003
September 1990	193.8700	193.9	3.3245

Source: General Union of Public Enterprises.

(1) Metered pulse net of taxes in current australes.

(2) Metered pulse net of taxes in constant australes of September 1990.

(3) Metered pulse net of taxes in current U.S. cents.

was focussed on the transfer, and all issues pertaining to administrative management of the enterprise were blatantly neglected. There is no single reason for this behavior, and although it seems for the most part to be linked to general policy targets of the national government with respect to ENTEL, the impact of the imminent change on the managerial and professional staff of the enterprise also could have been significant, perhaps by removing incentives to perform their day-to-day tasks.

Another characteristic trait of the period 1989-90 was the increase in ENTEL's real pulse prices, a phenomenon which also seems to be closely linked to the process of privatization of the enterprise (Table 5.4). The connection between increased prices and privatization is based on the fact that one of the objectives of the firm's administration during 1989-90 was to hand over the enterprise to its new owners with privately profitable rates, which caused the state to raise the company's prices substantially. This phenomenon is therefore linked to the major conflict between allocative efficiency and financing unleashed by any privatization and in which states hounded by liquidity problems tend to favor the financial objective. Indeed, since the price at which the enterprise will be transferred (and therefore the monetary income the state will receive) is highly dependent upon the price level fixed, the pressure on the administration of the need to maximize the sales price of the company during periods such as the one under analysis to simultaneous price hikes. Viewed in this way, the example of ENTEL could be an extreme case of trade-off between efficiency and financing resolved in favor of the latter and explicable only in the context of financial collapse of the state and deep-seated social discrediting of the role of public enterprises.

The ENTEL Privatization Process

Although the process of privatization of ENTEL took place entirely in the period 1989–91 with the advent of the *Justicialista* government of Carlos Menem, there are some events that occurred in the immediately preceding years that to some extent paved the way for the subsequent transfer. The first of these took place in the period 1976–87 and can be included under the general description of “peripheral privatization,” which consisted of subcontracting private suppliers to carry out certain activities traditionally undertaken directly by the company itself (repairs, purchase of exchanges, auxiliary services, operation of new services such as mobile telephony, etc.). The other major event leading up to privatization, which took place in 1988, was the proposal to privatize the management and sell 40 percent of ENTEL’s shares to the national Spanish company Telefónica Española, S.A. This idea comprised the formation of a mixed enterprise administered by the Spanish group that would maintain the monopoly held by ENTEL over Argentine telecommunications and would be subject to state regulation of prices and quality. This proposal, however, generated a barrage of resistance in several sectors allied to ENTEL and was not well-received in the political arena. As a result, although the executive branch had reached an agreement with the Spanish company, it was not finally ratified by the legislative branch.

Total privatization of ENTEL was one of the first measures undertaken by the *Justicialista* party when it came to power in 1989, even though that party had been one of the sectors most strongly opposed to the aforesaid privatization proposal. The entire process took place within an extremely short period of time—only 13 months from approval of the decree that decided the company was to be sold (September 1989) to the transfer of the majority stake (October 1990). The principal features of the bidding documents prepared for the privatization of ENTEL (approved in January 1990 and subsequently amended on several occasions) can be summarized as follows:

- The firm is reorganized into two separate enterprises, each of which acquires the concession to provide service in a certain geographical area (northern and southern areas), thereby probably trying to stimulate a sort of “competition by comparison” between natural monopolies.
- Sixty percent of the block of shares of each of the new firms is put up for sale, and the remaining 40 percent is scheduled to be offered for public sale on the securities market (25 percent) or is earmarked for staff (10 percent) and the small telephone cooperatives (5 percent).
- Within each group bidding there must be a telephone company with international experience acting as “service operator.”
- A base price of \$1,672 million is set for the entire enterprise (\$1,003 million for 60 percent), to be paid partly in cash assets (\$214 million)

partly financed (\$380 million), and the rest in Argentine external debt papers.² The government assumes nearly all the firm's liabilities. This price is primarily based on an estimate of the present value of the future flow of funds of the enterprise because the technical value of the assets to be privatized would have been estimated at about \$3.2 billion (\$1.92 billion for 60 percent).

Despite the fact that during the stage of presentation of background data for the bidding, proposals were received from seven different economic groups, only three offers actually were received during the phase of price quotation, respectively from consortia headed by the telephone companies Bell Atlantic, Telefónica Española and STET/France Télécom. Based on the offers submitted, the group headed by Telefónica Española was first for both the northern and southern areas and chose to take on the latter. For the northern area, the group headed by Bell Atlantic—which had come second in order of merit—was chosen, but a series of subsequent noncompliances meant that in the end the group had to back out of the bid and STET/France Télécom was awarded the service. The final prices obtained for the privatization were those set forth in the documents for the part in cash assets (cash and financed), plus debt papers for a nominal value of \$2,720 million (Telefónica Española) and \$2308 million (STET/France Télécom) equivalent to approximately \$416 million and \$353 million (at market value). This meant that the total amount of the sale of ENTEL's block of shares was about \$1,211 million, which is 12 percent more than the base price envisaged in the bidding documents and 37 percent less than the estimated technical value.

Once the two areas of telephone service had been awarded to the winning bidders, the new enterprises were set up to provide Argentine telecommunications. They were called Telefónica Argentina, S.A. and Telecom Argentina, S.A., and in both cases their equity was made up of contributions from the enterprises operating the service, international banks, and Argentine entrepreneurial groups. The minority interest in Telefónica Argentina and Telecom Argentina that had remained in the hands of the Argentine state when the new enterprises were set up was sold (in the case of Telefónica Argentina) in December 1991 through a public offering of the respective shares.

Telecommunications Regulation

There is still no fundamental and clear-cut regulatory framework for telecommunications in Argentina, even though the bidding documents and the contracts for the transfer of ENTEL contain a series of regulatory guidelines. For example, it

² Amounts are in U.S. dollars unless otherwise indicated.

is stipulated that the operating permits granted to Telecom Argentina and Telefónica Argentina connote exclusive permission to provide basic telephone services and that these companies also are authorized to provide other services (telex, data transmission, mobile telephony, etc.) under a regime of competition with other providers. The permit offers exclusive rights for seven years and can be extended for a further three years if the companies meet a series of operating targets specifically established for that purpose.

The coexistence of monopolistic segments and potentially competitive segments within the new structure of telephone activity undoubtedly raises the possibility of predation of the competitive services by the monopolistic enterprises in the telephone system. Predatory practices might include the use of market power in setting rates for system use by competitors, or setting artificially low prices for the competitive segments funded through cross-subsidization by operation of the monopolistic market segments. As a result, in the relatively near future it may become necessary to restore certain regulations for the competitive services, designed to ensure that the desired competition actually takes place.

The bidding documents and transfer contracts also contain a series of rules applicable to the setting of telephone service rates. Those rules establish the general outline of a system of price indexing inspired by price cap regulation (see, for example, Helm and Yarrow, 1988), in which both enterprises providing the service are regulated jointly, the rates adjustment system adheres to a procedure of indexing based on the consumer price index (CPI), and the control of rates movement is based on average rate values and not on each line of the rates schedule. These general guidelines, however, were effectively amended in April 1991 when national law 23,628 was passed (law of currency convertibility and deindexing of the economy), which prohibited reciprocal service contracts with price correction clauses. Faced with this law, the Argentine government reached a gentlemen's agreement with Telefónica Argentina and Telecom Argentina, whereby the telephone companies undertook to maintain their average price level and the government allowed them partial tax exemption of their sales from value-added tax.

The final issue pertaining to the rules contained in the bidding documents of ENTEL is the existence of certain "obligatory targets" for investment and service quality. Those targets would appear to be based on the operating levels existing at the time of privatization, and they have been established with a more or less modest horizon in terms of the quality indicators but anticipate a relatively large increase in investment in new lines. The rapid decline in operations seen in the period 1989-90, nonetheless, works in favor of compliance with the targets of the new providers because it enables them to achieve improvements relatively quickly by simply returning to the previous levels of quality and bringing into use the numerous installed lines left to them by their state predecessor that had not been brought into service.

Macroeconomic Effects of the Privatization of ENTEL

The privatization of ENTEL has a macroeconomic impact basically in two different areas: government finance and the balance of payments. To measure these effects, the authors have used a procedure that simulates the future fund flows of the enterprise (i.e., of the combination of the two new enterprises) under private operation and compares them with those anticipated from ENTEL under continued government operation, all based on a 10-year horizon. The projection used two variable elements considered to be essential to define the figures of the model (the evolution of demand for telephone service and the capacity of the new concession holders to increase the productive efficiency of the firm), and for both the following potential conditions were defined:

- The metered telephone pulses per subscriber grow at a rate of 6 percent per annum (high growth); or
- The metered telephone pulses per subscriber do not grow, and total demand increases only from the addition of new subscribers (low growth), or
- The level of maintenance costs and traffic per line remains constant (productive inefficiency); or
- The level of maintenance costs and traffic per line evolves at the same rate as seen in *Compañía Telefonica de Chile (CTC)* following its privatization (productive efficiency).

In terms of the price levels assumed for each of the operating alternatives, in the case of private operation it was assumed that the starting price was that which was effective when the company was privatized and that its value in U.S. dollars would increase at the rate of 2 percent per annum (to offset international inflation); in the case of state operation the starting price was 20 percent lower, and it was assumed that the annual increase in dollars would be the same as for the private operators. A series of figures is obtained from application of these assumptions, from which three basic conclusions can be drawn:

- When the growth of metered pulses is high, more funds are generated than when growth is low (because the marginal unit contribution is positive).
- When there is productive efficiency, more funds are generated than if there were productive inefficiency (since this leads to an absolute reduction in expenses).
- Higher funds are generated under private operation than under state operation (because the assumed price level is higher in the former case).

To gauge the effect of ENTEL's privatization on government finance, the principal tax revenue was estimated for the duration in each of the potential analysis scenarios. The following fundamental relations emerged therefrom:

Table 5.5. ENTEL: Valuation of the Enterprise and of Fiscal Impact
(Millions of U.S. dollars)

	NPV (0%)	NPV (5%)	NPV (10%)	NPV (15%)	NPV (20%)	NPV (30%)
Present Value Enterprise						
Priv. op. (low growth/prod. effic.)	9,445	6,890	5,193	4,032	3,214	2,188
Priv. op. (low growth/prod. ineff.)	8,464	6,189	4,677	3,641	2,912	1,994
Priv. op. (high growth/prod. effic.)	14,451	10,335	7,630	5,799	4,516	2,955
Priv. op. (high growth/prod. ineff.)	13,566	9,694	7,152	5,432	4,248	2,767
State op. (low growth)	1,227	614	242	14	-125	-261
State op. (high growth)	5,474	3,550	2,329	1,535	1,008	409
Present Value Revenue						
Priv. op. (low growth/prod. eff.)	7,216	5,351	4,094	3,221	2,597	1,800
Priv. op. (low growth/prod. ineff.)	7,033	5,226	4,006	3,159	2,553	1,776
Priv. op. (high growth/prod. eff.)	10,281	7,470	5,601	4,320	3,419	2,288
Priv. op. (high growth/prod. ineff.)	10,716	7,793	5,849	4,516	3,578	2,399
State op. (low growth)	4,859	3,291	2,279	1,608	1,153	616
State op. (high growth)	11,536	7,908	5,559	3,998	2,935	1,669

- It is the growth in demand that really affects tax receipts positively in the case of private operation, and the effect of improvement in productive efficiency is extremely insignificant.
- Private operation has a highly positive fiscal effect compared with state operation during the initial years, but this effect subsequently reverses because the increased tax revenue obtained no longer fully offsets the funds foregone because the state no longer owns the enterprise.

The effect on net wealth of the privatization of ENTEL can be estimated by comparing the present values of fund flows and of tax revenue flows generated by the enterprise in the different scenarios (Table 5.5). These have been estimated using, in turn, discount rates of 0, 5, 10, 15, 20, and 30 percent per annum, discounting in all cases the flows of the period 1991–2000.

The present values obtained indicate that the price paid in the bidding of 60 percent of the firm (\$1,211 million, equivalent to \$2,018 million for 100 percent) implies a discount rate of at least 30 percent per annum, together with the as-

sumption that the firm will experience a low growth in demand. The price obtained for the 30 percent sold 13 months later through the securities market (\$1,565 million, equivalent to \$5,217 million for 100 percent) implies the assumption of a discount rate of less than 10 percent per annum with low growth, or a rate slightly higher than 15 percent with high growth. From the viewpoint of the treasury, the total price obtained (\$2,776 million) can therefore be considered as very desirable if the relevant hypothesis of state operation is that of a market with low growth in demand and as reasonably good (for values of the time preference rate of money higher than 8 percent per annum) if the expectations are of high growth in demand.

The impact on tax receipts measured in terms of net wealth differs also for the case of the hypotheses of high and low growth in demand, although in both of the alternatives analyzed the final outcome of the operation seems to be positive for the treasury. That positive result increases in relative terms if we assume a low level of growth in demand (in which case the privatization seems to operate also as a means of transferring operating risks from the public sector to the private sector), and the desirability also increases the higher the discount rate used for the comparison over time of flows of funds. All these fiscal advantages are based, however, on the basic assumption that the alternatives of private operation have a higher level of rates than the state operation, which means the fiscal benefit arises principally from a transfer achieved at the cost of reducing the consumer surplus of the service.

Finally, the impact of the privatization of ENTEL on the balance of payments of Argentina stems from the twofold action it has on decreasing interest payment on external debt (because part of the original purchase price was paid in external debt papers and, therefore, reduced the total amount thereof) and on remitting profits abroad. The positive or negative nature of the final effect of both phenomena depends basically on three factors: the amount of interest actually saved by not paying abroad the proportional share of the debt redeemed (that depends both on the current interest rate and the proportion of debt actually honored), the level of profits to be distributed obtained by the privatized enterprises, and the proportion of those profits that end up being remitted abroad. The findings on the external impact of the privatization are not as conclusive as those described in the case of the fiscal impact, although, in general, they share with these the characteristic that they become more favorable the higher the discount rate (and the higher the short-term valuation) implicit in the evaluation.

The assumptions on the willingness to pay the external debt and on the form in which it will be carried out are also a crucial point here (as yet undefined), as is the hypothesis to be adopted regarding the level of profits to be distributed that will be generated and the proportion thereof that will be remitted abroad.

Table 5.6. Aerolíneas Argentinas: Physical Indicators, 1987-89

Indicators	1987	1988	1989	Average
Kilometers of flight (thousands)	62,437.00	58,915.00	59,503.00	60,285.00
Number of journeys	67,488.00	62,427.00	60,500.00	63,472.00
Hours of flight	102,165.00	96,240.00	96,374.00	98,260.00
Passengers carried	3,818,163.00	3,704,298.00	3,555,232.00	3,692,564.00
Available seats/km (millions)	12,021.00	12,030.00	12,893.00	12,315.00
Passengers/km carried (millions)	7,348.00	7,730.00	8,254.00	7,777.00
Number of airplanes	31.00	30.00	31.00	30.67
Number of seats	5,968.00	6,126.00	6,717.00	6,270.00
Number of agents	10,323.00	10,385.00	10,480.00	10,396.00
ASK use factor (%)	61.12	64.26	64.02	63.16
Work prod. (ASK/agent)	1,164,492.00	1,158,404.00	1,230,219.00	1,184,550.00
Capital prod. (ASK/seat)	2,014,097.00	1,963,833.00	1,919,452.00	1,963,934.00

Source: IATA.

Case 2: Aerolíneas Argentinas

Profile of the Enterprise

The company Aerolíneas Argentinas (AA) was set up in 1949 and from that time until 1990 operated as a public enterprise entirely owned by the national government. Based on international standards of comparison, AA is a mid-sized airline. Within South America, however, it can be considered large since it is second in size only to the Brazilian airline Varig. In addition, the enterprise has two important operating characteristics: it is the only flag-carrier airline of Argentina, and it holds a dominant position in domestic air traffic, protected up until 1991 by a market reserve fixed by law.

In view of the size and characteristics of the AA fleet, the indicators of physical performance of the airline can be deemed reasonable in the international context (Table 5.6). Based on International Air Transport Association (IATA) figures, its use factor of available seats per kilometer (ASK) is approximately the same as the Mexican and Colombian flag carrier airlines (Aeroméxico and Avianca), and its labor productivity is slightly lower than Aeroméxico's but higher than that of Avianca and Varig. A comparison of its performance with that of Austral (the airline that shares the Argentine domestic traffic market with AA but has no overseas international services) also yields favorable figures, although this is not the case in a comparison with the indicators of the major international airlines. In the airline market, there are two clear-cut segments of activity: international traf-

fic (overseas and regional) and domestic traffic. In the first of these, AA transports annually about 1.1 million passengers on around 13,500 flights. Its share of total passengers transported between Argentina and the rest of the world is 38.4 percent. AA has approximately 68 percent of the domestic market and annually transports about 2.6 million passengers on approximately 49,500 flights.

The price-fixing mechanism used by AA, as in the majority of international airlines, also differentiates between international rates and domestic traffic rates. Price fixing for international traffic basically follows a dual approval procedure. First, the rates stem from a multilateral agreement reached by the different airlines in the framework of the IATA, and second, they are subsequently approved by the governments of the countries linked by the different routes. Until relatively recently, these rates based on IATA agreements constituted more or less rigid parameters that were followed by nearly all the flag carriers, which made them a fairly clear example of what might be called prices fixed by means of a collusive oligopolistic procedure. With the steady increase in airline competition throughout the 1980s, this situation began to change, and rates practices that gave rise to distortions between the officially approved rate and that actually used by the airlines began to become widespread. These distortions—which were already known in the airline business but had not been so prevalent—consist in general in instituting a series of discounts for various reasons (time of year or of day, hours flown by the passenger, time of purchase of ticket, etc.), whereby the airline sought greater market penetration or an improvement in the use of available seats per kilometer. AA has made relatively extensive use of this type of discount, which means that its international market features major seasonal variations that generate long periods of excess supply. This entire phenomenon of departure from the officially approved rate levels has meant that in recent years the prices fixed by the IATA have become suggested rather than obligatory rates.

The existing regulations in Argentina on the procedure for fixing the prices of domestic traffic have also undergone major changes in recent years, which makes it difficult to refer to a specific rates function or rule. Generally speaking, however, for the different routes there is a series of official rates based on diverse parameters (kilometers travelled, distinction between Patagonia and the rest of the country, cost structure of the airlines, demand elasticity of the markets, etc.) from which the airlines may depart up to 60 percent.

From the standpoint of its economic-financial performance, broadly speaking AA has a positive operating outcome but shows losses in nonoperating categories that tend to more than offset those figures (Table 5.7). The vast majority of its operating revenue comes from air services, and there are also some incidental activities (tourism services, duty free shops, etc.) Divided by territory, 75 percent of that operating revenue comes from international activity, and 25 percent from domestic traffic. The nonoperating results primarily comprise debt interest and differences in exchange rates and effects from exposure to inflation.

Table 5.7. Aerolíneas Argentinas: Economic Indicators, 1985–91
(Millions of U.S. dollars)

Description	1985	1987	1989	1991
Operating income	546.5000	660.3000	685.9000	448.5000
Operating costs	596.7000	640.2000	655.5000	465.7000
Operating result	-50.2000	20.1000	30.4000	-17.2000
Net result	-7.1000	13.8000	24.6000	-25.7000
Current assets	216.0000	308.4000	276.3000	171.0000
Noncurrent assets	627.8000	613.1000	518.8000	937.8000
Current liabilities	467.9000	681.4000	372.7000	741.2000
Noncurrent liabilities	638.1000	487.9000	718.5000	98.1000
Net worth	-262.2000	-247.8000	-296.1000	269.5000
Operating profit margin (%)	-9.1900	3.0400	4.4300	-3.8400
Indebtedness (liabilities/assets)	1.3107	1.2689	1.3724	0.7569
General liquidity (CA/CL)	0.4616	0.4526	0.7413	0.2307

Source: SIGEP and Aerolíneas Argentinas, SA.

The very nature of these results means that their level of significance changes enormously depending on the macroeconomic context in which the enterprise operates and is especially sensitive to fluctuations in the real exchange rate (because of the heavy burden of U.S.-dollar debt within AA's liabilities). Finally, in terms of the firm's net worth, the most noticeable, and disturbing, feature has undoubtedly been the enormous weight of liabilities that transformed AA into an enterprise with negative net worth from fiscal year 1983. This condition, which slowly worsened during the period 1983–87, may originate in the abundant external financing used by the airline between 1980 and 1982, which became unmanageable when the real exchange-rate level and international interest rates shifted abruptly.

The Process of Privatization of Aerolíneas Argentinas

Although the process of privatization of AA began in 1989, there are at least two important events immediately preceding that date—the privatization of Austral Airlines and the project to sell AA partially to the Scandinavian airline SAS. Founded in 1971 as a private enterprise, Austral had been nationalized in 1980 and remained under state control through 1987, until its ownership was transferred to Cielos del Sur S.A., its current operator. The aforesaid privatization process of Austral can be viewed as relatively successful because the company continued to operate acceptably (the airline was reprivatized with no liabilities),

but the commitment of new investment stipulated in the sales documents was met only partially by the new concession holder. The idea of privatizing AA emerged approximately at the same time as the process of privatization of Austral culminated, when the national government entered into negotiations with the Scandinavian airline SAS and signed with it a memorandum of understanding designed to arrange the transfer of 40 percent of AA's shares to that European airline. The objective of the agreement was to incorporate operating and administrative technology into the Argentine airline and enable certain economies of scope that could benefit both airlines by allowing the AA to change its flight routes to Europe and the SAS to enter the American market. That agreement, however, was not approved by the Argentine congress, which considered the negotiation not very transparent and put an end to the arrangement.

With the change of government in Argentina in 1989, the privatization of AA regained momentum. This time the process was dealt with by means of international public bidding, and it was decided to transfer a majority of the equity as opposed to a minority share. Because it was included in the list of enterprises to be privatized contained in the national state reform law, the privatization of AA was approved in December 1989, at which time it also was stipulated that it would be transformed into a corporation and its status as flag carrier would be maintained, as would all concessions, authorizations, and permits held by the airline. The bidding schedule and specifications for the privatization of AA were approved in March 1990 and stipulated that the sale of the airline would include 85 percent of the share capital. The assets to be privatized included all goods owned by AA of any type and the designated airway rights for landing international traffic for periods of 5 years (regional services) and 10 years (overseas services). The national government, on the other hand, assumed nearly all the firm's liabilities, with the exception of labor debts and some commercial liabilities. The documents stipulated that the privatization itself should be carried out using the "dual envelope" system, in which the bidders separately submit their background, plan of action, and proposed statutes (envelope 1) and the investments plan and price offered (envelope 2).

The base price for the entire company stipulated in the information for bidders was \$623 million (\$530 million for 85 percent), and it could be paid partly in cash assets and partly by surrendering Argentine external debt papers. The portion paid using the first of these procedures was to be at least \$236 million, and at least half that sum was to be paid in cash. Although initially several economic groups seemed to be interested in participating in the bidding, by the date of opening of the envelopes (July 1990), one valid offer was received from the group comprising the Spanish airline Iberia and a group of Argentine companies headed by Cielos del Sur S.A., the owner of Austral. That offer consisted of a cash payment of \$130 million, a payment of a further \$130 million financed for 10 years at 8.31 percent fixed annual interest, and the surrender of Argentine

external debt papers with a face value of \$1,610 million (\$322 million approximate market value). It also included an operating plan and an investment plan for the company, which provided for the incorporation of 15 new airplanes in the period 1991–94. The shareholder structure included in the offer was a 20 percent stake for Iberia (with the option of acquiring a further 10 percent) and 65 percent for Aeronac S.A. (the name of the group of Argentine enterprises). As in the draft agreement with SAS, the implied intention of this offer was to coordinate AA operations with those of a European airline, with the added feature that in this case the integration also carried over into the domestic market through the formation of a virtual “collusive duopoly” between AA and Austral.

Although when the offer from the only bidding group became known there were major doubts within the Argentine government as to whether or not to proceed with the bidding process, the bidder’s proposal was on the whole deemed to be acceptable. However, as events proceeded and the deadlines expired, a series of facts emerged that invalidated the original offer, and an ongoing negotiation process began. The principal obstacle encountered was the enormous financial instability of the Aeronac S.A. group, and there were also problems in the process of the bidders obtaining the external debt papers. The Argentine government nevertheless decided to approve the transfer of the AA to the bidding group (November 1990), and the consortium was granted a period within which to meet the requirements of the bidding documents (principally those relating to their payment obligations). The Argentine government and the consortium acquiring AA agreed on a payment plan for the financed portion, but at the end of 1991 the part to be paid off by surrendering the external debt papers had not yet been fulfilled, except for a contribution of papers corresponding to the interest accrued on that debt. In addition, the original plans of action and investment were not being fully complied with by the new operators because frequency of flights and incorporation of new airplanes were not accounted for in the figures approved when the transfer contract was signed.

Towards mid-1992, the AA case suffered a new twist in the process of negotiation between the state and the private group acquiring the firm. This stemmed from the presentation of the company’s accounting statements for the first fiscal year (ending June 30, 1991). Those accounting statements not only showed a considerable loss for the first nine months of private management of the airline (\$26 million equivalent) but also revealed a number of factors that confirmed suspicions as to the weak financial position of the purchasing consortium. Most notable was the level of indebtedness—which was assumed to have started from virtually zero, since the enterprise was transferred to the private sector with no debts—which at the date of close of the balance sheet was more than three times the value of the firm’s net worth. The company’s total liabilities were about \$840 million. These liabilities included a series of debts representing unpaid commitments with the government (that AA valued at about \$140 million), but there was

also a large sum consisting of the enterprise's debts with itself (in other words, with enterprises associated with the purchasing group), including about \$360 million in commitments with Spanish banks and around \$63 million of debt with national groups. Of the total net worth shown, 59 percent (some \$160 million) corresponded to a technical accounting balance for the goods used by the airline, represented by the difference between the value actually agreed in the bid and a theoretical recoverable value of the airline's aircraft.

Finally, as a result of this entire process, a new agreement was reached that involved partial renationalization of AA. This was concluded in September 1992, when the Argentine government took over control of 28 percent of the company's capital. Added to the 15 percent it already owned (5 percent directly and 10 percent in the shared-ownership program), this raised the government's share in the enterprise to 43 percent of the total, although the Spanish airline Iberia still had a direct 30 percent participation, a further 17 percent indirect participation, and operated the service. Other consequences of the agreement were the recognition that AA and Austral constituted a single, integrated operating unit and the permission granted to the enterprise to sell and pledge its aircraft. At the same time, the guarantees of the privatization process still in effect were canceled.

Airline Regulation in Argentina

The case of privatization of AA raises—in addition to the purely commercial and financial issues dealt with in the previous section—a series of regulatory concerns. Although in many cases these concerns have not been expressly resolved by the government, they react differently to the situation in which the airline in question operates. Although commercial air transport can be considered as an activity formed by a set of contestable markets (since there are few technological barriers to the entry and exit of new firms), conditions relating to the size and other features of the markets mean it necessitates the introduction of various regulatory mechanisms.

Using the terminology of Baumol, Panzar, and Willig (1982), the regulatory model implicitly adopted by the Argentine government for the case of AA almost entirely embodies the idea that domestic commercial air transport is a case of an unsustainable contestable market and that, therefore, it is necessary to maintain through regulation a virtual monopoly of the routes in order to be able to benefit from the economies of scale, scope, and density that exist. This, to some extent, explains the fact that—despite constant noncompliances on the part of the consortium acquiring AA with clauses contained in the bidding documents and in the contract for transfer of the airline—the government preferred to continue with the negotiations and not force a collapse of the privatization. Further evidence that the Argentine airline market presents such a structure is the tendency of entrepreneurial processes themselves towards the appearance of a single dominant enterprise that currently is managed by the consortium that owns both AA

Table 5.8. Aerolíneas Argentinas: Average Price Movements by Region, 1986–90
(U.S. dollars per ASK)

Description	Dec. 86	Dec. 87	Dec. 88	Dec. 89	Jun. 90	Oct. 90
Europe/ Oceania	7.69	8.77	8.58	8.18	8.85	9.42
United States	8.06	8.40	7.87	7.88	8.16	9.09
South America	9.96	10.33	10.24	10.34	10.30	11.23
Domestic	6.70	6.25	6.40	6.14	8.90	13.47
Overall average	7.64	7.94	7.83	7.74	8.76	10.22

Source: Secretariat of Transport.

and Austral. This, however, is not at all true in the case of the international air routes from and to Argentina, in which the pressure of competition has been increasing sharply in recent years.

The coexistence of one airline in monopolistic and competitive segments of the same market has probably led to the appearance in Argentine air transport of a phenomenon that tends to arise under these circumstances—the emergence of cross-subsidization from domestic services (monopolistic) to international services (competitive). There seems to have been a relatively long practice of cross-subsidization in Argentina, but its intensity has undoubtedly increased in recent years, at least since the process of privatization of AA began (Table 5.8). In view of this phenomenon, the government's regulatory choice has been relatively eclectic, although the price regulations issued in 1991 following approval of the currency convertibility law seem to be moving towards a regulatory policy that seeks to impede the exploitation of captive markets to benefit competitive markets. The possibility of higher domestic rates than those officially approved was eliminated.

The fact that there is essentially only one economic group that manages domestic air transport in Argentina has meant that this rate measure has had little significance as a regulation. The government has resorted to the use of threats to deregulate the domestic market—at least as a minor skirmish in the already lengthy processes of negotiation with the consortium acquiring AA. Such threats are obviously incompatible with the idea that the optimum industrial structure for the airline is that of a regulated monopoly.

Case 3: Privatization of Highway Services

Profile of the Argentine Highway System

The Argentine highway system is notable for its development, its extent, and its high connectivity. The paved system includes 51,000 km, of which 28,000 km

Table 5.9. Highway Services: Evolution of the National System, 1935–90
(km)

Year	Roads			Total
	Paved	Improved	Dirt	
1935	2,936	11,025	18,908	32,869
1940	4,566	8,321	27,627	40,514
1945	6,231	6,127	49,025	61,383
1950	7,322	7,400	45,921	60,643
1955	8,813	7,970	43,402	60,185
1960	9,699	14,264	33,093	57,056
1965	15,212	8,735	21,980	45,927
1970	20,778	8,773	16,622	46,173
1975	24,694	7,773	15,152	47,619
1980	26,475	6,808	4,538	37,821
1985	27,819	7,515	2,298	37,632
1990	28,309	6,196	3,238	37,743

Source: National Highway Department.

belong to the national government and 31,000 to the provincial governments. This paved system is complemented by a further 41,000 km of improved roads and about 100,000 km of dirt roads, which are often impassable during rainy periods. The highway system is completed by about 400,000 km of unpaved roads that can only be travelled at low speeds and are maintained by the municipalities (Table 5.9). Aside from these qualities, around 1990 the system was on the verge of general collapse. The rate of deterioration was 10 percent per annum, but the state's maintenance capacity—using traditional financing mechanisms—was sufficient to repave only 3.5 percent of the total system annually. In 1990 only 30 percent of the paved roads were in good condition, and there was no reason to assume that the situation might improve in the short or medium terms.

The causes of the decline of Argentina's highway system are varied and have been worsening over time. There are three main problems—overuse of the roads, diversion of highway investment funds to other uses, and increase in highway construction and maintenance costs. The first of these issues stems from the gains that road transport has made over time compared to railroad transportation. For an economy such as Argentina's—which has an extensive railroad infrastructure with potential comparative advantages for many types of traffic—those gains seem excessive and can be explained only by the historically low price of gas (which encourages the use of trucks and buses and places trains at a disadvantage) and by the crisis of the Argentine railroads themselves (investment deficit and loss of quality and safety). The overuse of roads has, furthermore, been worsened by the widening phenomenon of excess load per unit of transport, which in

some cases has reduced the useful average life of paved roads to half the international standard.

The second factor in the deterioration of the road system was the steady loss of financing for highway investments. From the early 1930s, that financing had come from specifically allocated taxes on fuel (and to a lesser extent on lubricants and tire casings). In 1945, the fuel tax earmarked for highway funds was on average 35 percent of the sales price; by 1990, this percentage had shrunk to 8 percent. This reduction was part of a process that was stepped up after 1975 because the authorities were diverting specifically allocated funds to the national treasury in order to help close the growing fiscal gap. As a result, although fuel consumption steadily increased as the years went by, highway unit investment (calculated as the ratio between total real income and the length of the national paved system) was in 1990 not even 5 percent of what it had been in 1930.

The third factor in the decline of the highways was productive inefficiency in road construction and maintenance. The economic organization of the sector and the institutional relations that lead to that inefficiency can be described as follows: the state, through the National Highway Department and the equivalent provincial agencies, contracted private enterprises to provide the "road asset," and then those enterprises administered that asset and offered the highway service to users. Because, by their nature or by means of amendment to the work plans and deadlines, the agreements between the state and its contractors ended up recognizing all costs incurred by the latter, the construction companies had no incentive to increase their efficiency. The result was inflated costs and appropriation of extraordinary revenues by the private operators, to which was added low public sector productivity in the tasks of upkeep, administration, and management.

The Process of Privatization and Highway Renewal

The principal objective of the process of privatization and highway renewal initiated in Argentina in 1990 by the government of the Justicialista party was repair of the country's road system and integral solution of its problems of overuse, disinvestment, and productive inefficiency. Theoretically, the alternative chosen by the government had three main elements: rationing by prices on routes with heavy traffic, limiting the use of public funds for routes with light traffic, and using turnkey arrangements for road construction and maintenance under which the private contractor would be responsible for building, ownership, operation, and transfer of the highways (BOOT arrangements). Under this system, the private operators would no longer sell roads to the state for administration but would be responsible for providing the service at their own risk in exchange for toll rates or public funds preestablished by contract (Teplitz-Sembitzky, 1990). The private enterprises would be subject to some sort of quality control and monitoring of compliance, with the contractual parameters by the public sector.

An important precursor to highway renewal in Argentina consisted of setting up mixed consortia (majority private and minority state) to administer trunk roads and access roads to major cities. Those routes would be granted under concession for periods of 10 to 15 years—subject to compliance with an investment program—together with the right to collect a toll rate determined on the basis of standard costs. In this system, the National Highway Department would act in the dual role of member of the consortium and agency monitoring compliance with the contracts and would also continue to administer the remaining routes and be responsible for construction of roads carrying light traffic, to which the earnings from tolls received from its participation in the consortium would be allocated. This project, which was part of a more extensive program for privatization and elimination of monopolies, faced strong opposition at the time, which did not occur with the somewhat similar initiative launched by the new government two years later. Strictly speaking, the most notable differences between the two proposals were that in the Justicialista project the state did not enter into consortia with the private enterprises (privatization in this case was total) and the highway corridors were transferred through bidding to be awarded to the highest bidder (eliminating the direct awarding provided for in the radical proposal). Both initiatives, however, were the same in terms of the use of direct tolls and in the institutionalization of BOOT agreements.

Once the government had defined the highway corridors to be granted under concession and fixed the toll rates by type of user, the national government awarded—subject to public bidding—about 9,800 km of national paved roads (September 1990). Even though only 36 percent of the segment granted under concession was in a good state of repair, the high traffic density on these roads ensured a sufficient return for the private concession holders. According to the initial bidding specifications, however, there were no guarantees of minimum traffic in the bids, and before they could charge a toll, the operators had to complete a series of prior works. The bidding documents were also very strict in fixing operating targets to be attained during the period of concession, which related to service quality, investment to be made, and civil responsibility. The service quality targets were measured by an “index of condition” (IC—reflecting the condition of the roadway with a rating from 0 to 10) and consisted of the 1988 quality levels over three years (which on average had dropped from 6.38 to 4.63 in 1990), in achieving over a subsequent seven-year period an IC of 8 points, and in keeping that index from dropping below 7.5 points in the last two years of the concession. The investment obligations consisted initially of correcting the most serious deficiencies of the roads and of restoring vertical signalling (minimum tasks before charging toll) and later in carrying out priority works (bridges, interchanges, etc.) and complementary works (sanitary services, communications, etc.). Although the documents did not specify minimum amounts of investment in paving, the IC requirements essentially necessitated partial repaving in the first

three years and total repaving over the remaining nine years. The civil obligations, finally, involved the assumption on the part of the concession holders of responsibility for compensation in traffic accidents that were due to the poor state of repair of the roads.

As a result of the biddings held, the state received a total revenue of \$890 million and, in turn, granted the concession holders the right to charge tolls of approximately \$1.5 for every 100 km for light vehicles. That rate—which varied depending on the size of the vehicles and number of axles—was defined in Argentine currency and included a monthly adjustment mechanism through a polynomial expression of the wholesale price index (40 percent), the consumer price index (30 percent), and the index of U.S. dollar fluctuation (30 percent).

Although initially the process of privatization and highway renewal in Argentina seemed to run smoothly, the system chosen soon entered a phase of increasing general unpopularity, and the contracts approved in September 1990 remained in force for only five months. The reasons for this premature collapse were linked fundamentally to the problem of tolls, since on the one hand the starting rates proved to be excessively high and, on the other hand, the indexing mechanism acted perversely by increasing the average dollar rate 53 percent (the period from September 1990 to February 1991 in Argentina saw a strong appreciation of the national currency). All this encumbered the rates structure and affected not only automobile users but also producers of tradable goods, who faced higher domestic transport costs while their final dollar prices remained unchanged. Moreover, the private profitability of the business and costs to users increased because several of the concession holders' initial obligations were not met. Many of them began to charge tolls before they should have according to the schedules and placed toll booths very close to each other to capture short-run local traffic also.

An additional apparent problem of the highway bidding process was that, although a very large number of offers were received (147), there are indications that the process was not highly competitive. This might have been influenced by the fact that the bidding was not international, that several highway enterprises participated in drawing up the documents, and that the call for bids was put out simultaneously for all routes, which encouraged collusive practices on the part of the bidders. As a result, the internal rate of return obtained by the concession holders was on average around a real annual 40 percent, almost double the authorities' *a priori* estimate.

The outcome of this entire process was renegotiation of the concession contracts whereby the toll rate was reduced, the payment to the state was eliminated, and tax relief and explicit subsidies were granted to the concession holders. From April 1991, the new rates (approximately \$1 per 100 km) also were frozen when the currency convertibility and economic deindexing law was passed. This alternative had the advantage of not breaking the legal continuity of the contracts and

of preserving independent public sector financing but also implied a high cost for the treasury, estimated at about \$1,755 million for the duration of the concession period (\$780 million from suppression of the payment, \$285 million from lower taxes, and \$690 million in subsidies).

Efficiency and Income Distribution

The provision of the road assets and consequent highway service presents some economic peculiarities, principally because under certain conditions the roads are a public good and under other conditions they are not. Indeed, with low volumes of traffic, each automobile driver can choose his speed without affecting the circulation of other vehicles, which means his use of “vital space” does not diminish or interfere with the use of the road by others, and this is a classic example of a “pure public good.” As traffic volumes increase, however, each automobile driver starts to interfere with the others, and a negative external effect arises—congestion, also associated with increase in noise levels, pollution, and risk of accidents. Under these conditions, therefore, the road is no longer a public good because the assumption of no competition for use is no longer valid.

The greater or lesser public use of the roads also affects the financing of highway services provided through them. In the case of low-traffic volume routes, the optimum solution from the standpoint of economic efficiency is to not make any charge for use of the road (since the marginal cost of that use is virtually nil) and to finance construction and maintenance from general taxes or specifically allocated levies (for example, fuel consumption taxes). On the other hand, when the problem of congestion arises, along with the associated negative external effects, it is feasible and appropriate to ration available space by price by the introduction of toll rates. Tolls also can coexist with systems of financing through taxes so that the former cover the costs of congestion or additional services of the routes (communications, safety, etc.) and the latter serve to cover fixed costs.

Obviously, the financing of highway services through rates or taxes (and various combinations thereof) also has very different effects on income distribution. An issue that arises immediately in the Argentine case is whether, over time, the savings made by users as a result of the improvement in the condition of the roads are greater than, less than, or equal to the rates paid. To estimate this fact, the authors took into account the initial condition of the system let under concession, a hypothesis of its improvement over time, and a hypothesis of the operating costs of different vehicles based on levels of the index of condition (Table 5.10). The findings are not clear-cut, because—even assuming strict compliance with the quality targets by the concession holders—the majority of users experience welfare losses in the early years of the concession and gains in the latter years. Generally speaking, however, the system introduced is more beneficial in the long term for automobiles than for buses and trucks, and any increase in the

Table 5.10. Highway Services: Ratio of Toll/Saving by Category of User

Year	Index of condition	Automobile	Bus	Truck
0	4.5	—	—	—
1	5.0	1.00	1.50	2.00
2	5.5	1.00	1.00	1.33
3	6.0	1.00	0.75	1.00
4	6.0	0.50	0.60	0.80
5	7.0	0.50	0.50	0.57
6	7.0	0.50	0.50	0.57
7	7.5	0.50	0.43	0.50
8	7.5	0.50	0.43	0.50
9	8.0	0.33	0.38	0.44
10	8.0	0.33	0.38	0.44
11	8.0	0.33	0.38	0.44
12	7.5	0.50	0.43	0.50

rate or noncompliance by the contractors is directly detrimental to all categories of users.

Case 4: Petroleum Privatization and Deregulation

Profile of Argentine Petroleum Activity

Petroleum activity in Argentina dates from around 1907, when the first oil reserves were discovered there. From that time, the hydrocarbon industry began to develop, attained considerable importance in the Argentine economy, and over the years has suffered diverse regulatory and political vicissitudes. Although the private sector participated in oil production from the early years, the Argentine petroleum industry was characterized by the domination at all times of the enterprise Yacimientos Petrolíferos Fiscales (YPF), exclusively owned by the Argentine state. For a long time, moreover, the predominance of the national government in oil production was accepted by Argentine society by almost full consensus, based on considerations relating fundamentally to self-supplying oil, social appropriation of the revenue generated therefrom, and the need to define optimum policies on depletion of reserves.

The first crack in this consensus appeared in 1955, when the government of President Juan D. Perón—which up to that time had defended the traditional policy of maintaining petroleum activity under exclusive state monopoly—pre-

pared a draft contract with the U.S. company California Argentina to explore and exploit reserves in Patagonia. Although this draft was not approved, it was an important predecessor to the subsequent attempt at privatization, which occurred in the period 1958–62 under the presidency of Arturo Frondizi. That attempt involved the signing of contracts with private enterprises for drilling wells in areas already explored, for production of reserves in those areas, and for exploration and subsequent production of new areas. These contracts began to be executed during this period but were subsequently annulled during the government of President Arturo Illia (1963–66). Starting in 1967, however, some contracts were resumed, and a system was established whereby YPF maintained its dominant position in the market but allowed the coexistence of private capital in some stages of the productive process.

From the standpoint of the organization of production, petroleum activity can be subdivided into three major segments: extraction of the mineral itself, refining and distillation, and distribution and sale. In the first of these stages, the structure of the Argentine industry up to the end of the 1980s was characterized by YPF's virtual monopoly, with an output (28,000,000 cubic meters of crude oil) that was around 98 percent of total extraction. Within this amount, however, 35 percent to 40 percent of the crude was produced under contract with private enterprises, under regimes that allowed the contractors a preestablished profit margin over their costs. In the stage of refining and distillation, on the other hand, the installed capacity of YPF—although it was absolutely predominant—accounted for no more than two-thirds of the total existing capacity in the country. Two private foreign-based firms (Shell, of Anglo-Dutch origin, and the U.S.-owned Exxon) had a refining capacity that in both cases exceeded 15 percent of the total. Fuel distribution and marketing were undertaken by numerous distributors and service stations, but these were generally closely associated with one of the refining companies by exclusive contracts.

The regulatory framework governing petroleum activity was relatively complex and characterized by pronounced government intervention, either through its specific agency—the Deputy Secretariat of Fuels—or by means of directives implemented through the state-owned enterprise YPF. Indeed, not only was the level of total oil production decided centrally, but there were also preestablished quotas for the level of activity of each refinery, whether owned by YPF or either of the other companies. Prices also were set by their government, both at the wellhead stage (from contractor to producer) and the delivery prices of the product to the refiner, from the refiner to the distributor, and from the latter to the consumer. The petroleum industry was also an extremely important source of tax revenue because all petroleum products carried high domestic taxes and the oil companies (especially YPF, whose sales revenue traditionally has been less than the amount of taxes collected) acted as major sources of tax receipts for the treasury.

The Process of Privatization and Deregulation

Starting in 1990—and especially since 1991—Argentina launched a process of petroleum privatization and deregulation. This was part and parcel of an entire series of such measures that were undertaken in the Argentine economy, but the hydrocarbons sector was undoubtedly one of the segments of economic activity that faced the most integral and drastic reforms. The objectives of this entire process were to create competitive markets in oil production, open transactions to international trade, change the way in which petroleum revenue is earned, and improve YPF's level of productive efficiency. The instruments chosen to carry out this policy were the privatization of reserves, elimination of fetters on foreign trade, reduction of fuel tax rates, and onset of preparing YPF for its partial privatization.

Privatizing reserves controlled by YPF was the first step in reform of the Argentine petroleum sector. First—at the beginning of 1990—competitive bidding of areas of little interest to YPF were held. Reserves located in areas with an output not exceeding 200 cubic meters a day were sold, together with a concession to explore those areas for 25 years. From all the bids conducted using this system, the Argentine state collected about \$400 million and handed over to the private sector an annual production flow of approximately 800,000 cubic meters. The second step in the privatization was signing contracts of association between YPF and private enterprises to exploit low-risk, high-return reserves. The method of awarding used was in this case a dual-envelope system with a period of prequalification in which the bidders negotiated their work plans with the state-owned enterprise. This process brought in about \$600 million for the state and transferred to private hands around 3,700,000 cubic meters per annum of production. The third mechanism used, finally, was converting contracts that YPF maintained with private enterprises so that the latter became owners of the reserves they exploited, with rights to them for a period of 25 to 35 years. This last procedure involved the transfer of an annual production flow of about 7,400,000 cubic meters, but no counterpart payment to the Argentine government.

The final outcome of the entire cycle of privatization of reserves was a drastic change in the structure of ownership in the production segment of the petroleum market (Table 5.11). YPF went from producing 98 percent of the petroleum extracted in 1989 to only 48 percent in 1991, which includes an additional 3.6 percent that is produced through temporary amalgamation with other firms. The fact that the market is no longer a monopoly, however, does not mean that it has become competitive because—in addition to YPF maintaining a dominant position—75 percent of the private segment is concentrated in the hands of five enterprises, which gives an oligopolistic market structure.

The structure of the segment that includes petroleum distillation and refining is also highly oligopolistic. The changes therein are far less extreme than those in

Table 5.11. Petroleum Sector: Ownership Structure by Segments

Description	Pre-restructuring		Post-restructuring	
	YPF	Priv. ent.	YPF	Priv. ent.
Petroleum production (cubic meters/year)	27,200,000	700,000	13,400,000	14,600,000
Petroleum production (%)	97.4	2.51	47.86	52.14
Installed refining capacity (bar/day)	441,700	272,000	370,700	343,000
Instal. ref. cap. (%)	61.89	38.11	51.94	48.06
Refined petroleum (bar/day)	437,000	300,000		
Refined petroleum (%)	59.29	40.71		
Service stations (%)	55.00	45.00		

Source: Secretariat of Energy.

the production segment. The idea guiding the reform in this sector—in which the privatization process has not yet begun—is to transfer three refineries owned by YPF to the private sector (San Lorenzo, Dock Sud, and Campo Durán) and maintain the other three (La Plata, Luján de Cuyo, and Plaza Huincul) under control of the state-owned company. These changes mean YPF would keep 52 percent of the total existing refining capacity in Argentina, which—together with the share currently owned by Shell and Exxon—would mean that no less than 86 percent of the market would be controlled by only three companies.

The situation in the refining segment might give rise to problems of allocative efficiency if the dominant firms start to adopt collusive practices. The existence in the Argentine economy of major barriers to the entry of imported hydrocarbons (for example, high transport costs from the foreign production centers, lack of fuel storage infrastructure) can exert a strong influence in this regard, allowing the principal refiners to set prices higher than international levels. However, the fact that there is too much refining capacity in the country for the crude oil production capacity could come into play (whereby there would be incentives to increase production and, thus, drop prices), but the latter would soon change if crude oil imports and petroleum product exports became widespread. Preventing oligopolistic collusion in refining, therefore, will require explicit governmental regulation on the matter or the continuation of implicit regulations (through YPF pricing policies) such as those that have been used to date.

The third segment of the petroleum industry includes retail and wholesale distribution and marketing, consisting of departments of the refining companies, autonomous distributors, and service stations. Under the regime before 1990, the installation of service stations required prior authorization, which was based on the need to maintain a minimum distance between outlets and control the private profitability of the businesses. Businesses had a certain fixed margin of profit on sales (the stations did not in fact own the outlets, but these generally belonged to

the refining companies, and the stations received a type of commission for managing them).

The deregulation of early 1991 abolished the requirement of prior authorization for the installation of new outlets, and the sales prices to the consumer of petroleum products were decontrolled, but this has not yet eliminated subordination of the retail trade to the refining companies. Indeed, since the preexisting stock of service stations remains for the most part linked to the refiners by contracts and long-term financial commitments, those stations are rarely at liberty to change the brand name—an essential requirement for the success of deregulation. An alternative that might alleviate this problem would be the appearance of more distributing companies able to check the oligopolistic power of the refineries but competitive among themselves in terms of the retail trade. This could occur if the announced privatization of the YPF distribution network—originally scheduled for 1992—does not transfer the provision contracts as a whole, does not guarantee regional monopolies to the new distributors, and explicitly avoids the sale of that network to the already established refineries.

These issues acquire particular importance with respect to YPF in the new context of Argentine petroleum activity because the restructuring and subsequent sale of this enterprise are the next steps to be taken in the process of petroleum deregulation and privatization. The definition of the role that YPF will play in the new structure of the sector is, therefore, still an unresolved issue, as is one of the most significant questions it raises: Will privatization and deregulation serve to introduce competition into the petroleum market and remove restrictions on trade? The answer seems to be negative for now because the privatization envisaged consists of transferring the majority block of shares of the enterprise as a whole, which means not only will the enterprise retain a good part of its market power, but it also would lose the opportunity to continue acting as implicit regulator in the petroleum sector. In this case, the only solution to avoid a substantial loss in the allocative efficiency of the petroleum products market would be to return to a regime of explicit regulation (although with rules different from those in force through 1990) in order to impede the firms from fully exercising their oligopoly power.

The project to partially privatize YPF entails concluding two different phases—an entrepreneurial transformation aimed at increasing the productive efficiency and profitability of the enterprise and a substantial modification in the capital stock of the firm up to the sale of at least 50 percent of the shares. The first of these stages will include a series of steps such as association with private capital for the exploration and exploitation of new oil fields; the already-mentioned privatization of three refineries; the total or partial sale of three major oil pipelines (Campo Durán–Montecristo, Allen–Rosales, and Rosales–La Plata) and of the enterprise's shipyards and domestic fleet; and the partial transfer of the research center and of YPF's share in the marketing enterprise Interpetrol. The change in the capital structure initially would comprise the redistribution of 49

percent of the YPF shares among the provincial states (39 percent) and the staff of the enterprise (10 percent), and the nation and the provinces would undertake to transfer at least 50 percent of the capital stock within three years. Once this has occurred, the hitherto largest national public enterprise in Argentina will come under majority private ownership.

Microeconomic Considerations and Price Dynamics

In a stylized model, if the economy is open to international trade flows and the transport costs are irrelevant, the structure of the domestic markets of the various segments of petroleum activity should be irrelevant in determining the prices effective in those markets because the opportunity to import and export petroleum and its products would mean domestic prices should be automatically the same as international prices (Gerchunoff and Guadagni, 1987). In the Argentine case, however, the capacity of the openness of the economy to “discipline” the markets is relative because transport costs act as a major barrier to entry (for the import of crude oil, for example, they range from \$2.5 to \$4 a barrel) and there is a lack of adequate storage infrastructure and outlets with real access opportunities.

The high transport costs have the following effect: If, because of an excess supply of crude oil, there was, theoretically, exporter price parity, the actual prices of crude oil and of petroleum products would lie somewhere between the exporter parity and importer parity, and the relative prices of the petroleum economy would depend on the negotiation capacity of producers and refiners. In a case such as Argentina—with the market structures described—the crude oil probably tends towards the exporter parity, and the petroleum products tend to be above that parity. Accordingly, the margin remaining for the refiners would be higher than on international markets, and there would be a disincentive to export (except for surpluses to make use of idle capacity). If, on the other hand, there were a shortage of crude oil, all sector prices would align with the importer parity (up to \$8 higher than the exporter parity), which would mean a greater incentive to produce petroleum and a drop in the refiners’ margins. This drop, however, could be avoided by the refining oligopoly if there were restrictions on competitive imports because, in that case, the crude oil would be limited to the importer parity but the petroleum products could exceed it.

The information available on the Argentine petroleum economy broadly confirms the price dynamics described (Table 5.12). Based on data relating to the domestic values of crude oil, of refined products, and of sales prices to the public, the following conclusions can be drawn:

- In the period of transition before deregulation, the authorities aligned domestic crude oil prices with current international prices, and those values subsequently tended to remain at a level very close to exporter parity.

Table 5.12. Petroleum Sector: Sale Prices, 1985–91
(U.S. dollars per liter)

Description	Prices to refiners		Prices to public	
	Gasoline	Diesel fuel	Gasoline	Diesel fuel
July 1985	0.134	0.131	0.373	0.180
August 1986	0.145	0.143	0.423	0.202
October 1987	0.117	0.110	0.340	0.170
December 1988	0.173	0.159	0.420	0.310
December 1989	0.111	0.104	0.269	0.168
June 1990	0.164	0.153	0.420	0.280
December 1990	0.311	0.292	0.507	0.470
June 1991	0.244	0.203	0.557	0.297
December 1991	0.249	0.226	0.564	0.324

Source: Secretariat of Energy.

- The prices of petroleum products before taxes (export tax values) underwent very sharp adjustments in the stage before deregulation and subsequently remained at levels 50 percent higher than the exporter parity (which certainly reflects the market power of the refineries, protected by existing barriers to entry).
- As a result of the above two points, the refiners' margins are above international levels, which implies that—despite deregulation—the petroleum industry still is able to recover the overinvestment in the refining segment and there are still greater incentives to produce for the domestic market than for the foreign market.
- Although the refiners have not exploited the retail market to the full extent as yet (i.e., the prices of petroleum products are still below the importer parity), this is because YPF has continued to play the role of implicit regulator in the market, setting prices below monopoly prices and forcing price stability over time. That behavior, however, would be lost when the state-owned enterprise passes under majority private control.

Fiscal Impact of Petroleum Restructuring

Unlike changes in the structure of ownership in the regulatory frameworks of other markets, petroleum deregulation has had a negative fiscal effect in the long run (although it was an important source of financing for the state in the short run). The reasons for this fiscal loss were threefold—reduction of the tax ratio in the sector, absence of stable game rules at the time of privatization of petroleum reserves, and allocation of part of the proceeds from the privatization to financing

Table 5.13. Petroleum Sector: Tax on Fuel Transfer, 1988–91

Description	US\$/liter		Austr. (Oct. 91)/liter	
	Gasoline	Diesel fuel	Gasoline	Diesel fuel
December 1988	0.248	0.155	5,364	3,350
December 1989	0.158	0.065	4,965	2,026
March 1990	0.167	0.069	4,305	1,784
June 1990	0.252	0.127	4,689	2,346
September 1990	0.308	0.153	4,287	2,205
December 1990	0.423	0.174	4,329	1,780
March 1991	0.288	0.065	3,272	736
June 1991	0.274	0.062	2,925	658
September 1991	0.275	0.062	2,815	633
December 1991	0.274	0.062	2,729	614

Source: Secretariat of Energy.

public sector recurrent expenses. The first of these was in response to the need to ensure that the adjustment in wholesale prices of the petroleum sector should not carry over fully into the final prices, in order to mitigate the effects of the loss of users' welfare. The consequent fiscal loss arose from a reduction in taxes on fuels made from petroleum and elimination of the tax on crude oil processing (Table 5.13).

The second cause that conspired against the treasury in the petroleum privatization and deregulation process was the lack of prospective and coherent rules at the time the reserves were sold. Basically, this was because—in the absence of a regulatory framework before privatization—the enterprises interested in participating in the bidding were uncertain about some basic aspects pertaining to valuation of the reserves. That uncertainty stemmed principally from the lack of regulations on the use of the oil pipelines that were still controlled by YPF and the fact that the petroleum royalties that would be received by the provincial states were not defined and that the rules that would govern the relationship between the producers and the petroleum refiners were not known either. Moreover, the state's urgent requirement for funds and the need to complete the process as quickly as possible led the government to proceed with its initiatives without taking heed of the fact that some of them would entail permanent fiscal losses (e.g., the disappearance of petroleum revenue in the conversion of existing concession contracts, the holding of bidding for marginal reserves when similar processes were under way in other countries and there was an excess supply of reserves, etc.). An example of this type of loss is seen in the outcome of the first bidding of marginal reserves in mid-1990. As these deposits had a high gas-petroleum ratio, the principal result of the various elements of uncertainty was

that the bidders attributed virtually zero value to the gas—because the economic conditions for the production of this resource were an unknown—and the State disposed of assets likely to generate an “unvalued gas revenue” of around \$120 million.

The third reason for the fiscal loss in the petroleum restructuring process was the allocation of part of the proceeds from the privatization to financing recurrent expenses (another part was earmarked to finance public sector restructuring in some form or another). In fact, the sale of petroleum in 1990–91 was the principal contributor of liquidity from the privatization program, and meant—together with other instruments—that the macroeconomic stabilization policy could be sustained. However, even though the Argentine economy needed this capital revenue urgently, its cost was a major future revenue flow foregone.

Case 5: Privatization of Petrochemical Industries

Profile of the Petrochemical Industry in Argentina

The Argentine petrochemical industry was one of the first to emerge in Latin America. It dates back to the early 1940s, when it was protected by restrictions on the entry of imported products imposed during the Second World War. As in most Latin American countries, the role of the state in this development was crucial, not only because of the prevailing conviction at that time that the petrochemical industry was of strategic importance, but also because this conviction was expressed in this case through public investments, subsidies of private investments, and commercial regulations designed to ensure captive markets.

Toward the end of the 1960s, the Argentine petrochemical industry expanded in a somewhat disorderly manner, with no vertical integration objectives. Production was concentrated in the final goods sector, and there was insufficient domestic supply of intermediate inputs and of basic raw materials (aromatics and olefins) from the production of petroleum and natural gas. At any rate, in the period 1958–70 the industry saw truly explosive development and went in a few years from a production of 212,000 tons per annum to 635,000 tons. This rapid expansion soon generated major bottlenecks in the external sector through a growing need for imports of basic petrochemical products that caused sudden price hikes and shortages every time there was a balance-of-payments crisis in Argentina. This led to the emergence of a growing consensus on the need to integrate the industry, based on the local production of certain basic inputs (especially ethylene, benzene, toluene, and xylene).

This idea to integrate the industry crystallized in the early 1970s with the emergence of the two most important petrochemical complexes in Argentina, located in Ensenada and Bahía Blanca (both in the province of Buenos Aires).

Table 5.14. Petrochemical Industry: Market Structure, 1989

Leading enterprises	Market participation (%)	Type of enterprise	Type of market
Basic Products			
Ethylene (Petrochemical Bahía Blanca)	78.5	Mixed	Oligopoly
Benzene, toluene, etc., (Mosconi Petrochemical General)	61.0	State	Oligopoly
Intermediate Products			
Vinyl chloride; vinyl monomers	66.0	Mixed	Oligopoly
Final Products; Enterprise			
High density polyethylene; Petropol	100.0	Mixed	Monopoly
Low density polyethylene; Polisur	85.0	Mixed	Oligopoly
Chlorine, caustic soda, etc.; Inducolor	60.0	Mixed	Oligopoly

Those complexes grew up around two central state-owned plants (Mosconi General Petrochemical in Ensenada and Petrochemical Bahía Blanca in Bahía Blanca), around which there were several satellite plants that were under mostly private control (Table 5.14). The Ensenada petrochemical complex is responsible for petroleum-based products made from the pure naphtha acquired directly by Mosconi General Petrochemical from the YPF distillery in the La Plata area. Based on that raw material, this enterprise manufactures primarily benzene, toluene, and xylene that it subsequently sells to be processed further into fibers, rubber, and synthetic detergents. The Bahía Blanca petrochemical complex, on the other hand, focusses on natural-gas-based petrochemicals and is engaged primarily in the production of ethylene and other olefins from ethane provided by State Gas from its General Cerri plant. The final use of the complex's output is the manufacture of agricultural inputs, plastics, and resins.

The state is involved in the petrochemical industry in Argentina in two ways—it owned large blocks of shares in different enterprises, and it was closely involved in designing the incentives system on which industry development was based. The first of those roles can be seen by integrating the net worth of the two largest petrochemical companies, in which other national public enterprises hold a majority interest. Thus, 50 percent of Mosconi General Petrochemical belongs to YPF and 50 percent to the General Office for Military Manufacturing, while 51 percent of the capital of Petrochemical Bahía Blanca is state-owned (Gas del Estado, 17 percent; YPF, 17 percent; and Fabricaciones Militares, 17 percent),

and 49 percent, privately owned. The role of the Argentine state as regulator of petrochemical activity was essentially to protect a process of industrial development based on the appropriation of quasi-rents of a closed economy and public subsidies. In this regard, there were permanent restrictions on imported products, major tax exemptions and relief, facilities for importing capital goods and spare parts, and the granting of credits and guarantees from official banking on extremely favorable terms.

The main subsidy, however, came through the fixing of the prices of raw materials for the petrochemical industry (ethane, pure naphtha) by the government at below opportunity cost. This procedure represented a transfer of income to the sector that can be estimated at around \$46 million per annum. This mechanism, which was designed theoretically to stimulate export-oriented investment, meant in fact a flow of benefits that was almost exclusively controlled by the petrochemical producers, given the natural and institutional restrictions on importing and the monopoly power of the national enterprises in the domestic market. Domestic prices of petrochemical products were on the whole higher than international prices, and the producers consequently preferred to sell on the domestic market and export only surpluses.

The Process of Petrochemical Privatization

The process to privatize the Argentine petrochemical industry began in 1990. Unlike other cases of transfer of assets to the private sector, in petrochemicals the process began with relatively marginal firms. The majority state shares in central plants were not put up for sale; only minority blocks of shares owned by the state in a series of satellite enterprises of the Bahía Blanca petrochemical complex were sold (Table 5.15). The first call for bids in the sector was to sell 30 percent of the shares of four companies—Polisur, Monómeros Vinílicos, Petropol, and Induclor—in which the state share belonged to the General Office for Military Manufacturing. The first of those enterprises had a private block of shares with majority control by Ipako; in the other three, the enterprise Indupa controlled the firm.

Polisur is engaged primarily in the production of low-density polyethylene, with an output of about 210,000 tons per annum (75 percent for domestic consumption and 25 percent for export and accounts for 85 percent of the Argentine market for the product. Monómeros Vinílicos, for its part, primarily manufactures vinyl chloride (130,000 tons per annum), and it has a 66 percent share of the domestic market for this product, even though it has only two customers (Indupa and Electroclor) and 50 percent of its output is earmarked for export (almost all to Brazil). Almost all Petropol's production of high-density polyethylene (62,000 tons per annum), on the other hand, is for the domestic market, and its surplus also is exported primarily to Brazil. This is an instance of a protected monopoly

Table 5.15. Petrochemical Industry: Basic Data on Privatization
(Thousands of U.S. dollars)

Enterprise	Cash price	Basic price in debt papers	Final price in debt papers	Successful bidder
Polisur	14,111	39,913	41,000	Ipako
Monómeros Vinílicos	9,381	26,534	26,550	Indupa
Petropol	4,563	12,908	13,000	Indupa
Induclor	17,898	50,525	50,600	Indupa

that obtains domestic prices 120 percent higher than international prices and, consequently, it has no incentive to expand its external sales. Induclor, finally, produces about 240,000 tons per annum of chlorine, caustic soda, and sodium carbonate—almost entirely for the domestic market—and the enterprise is also the dominant producer in a highly restricted oligopoly.

The sale of the state's minority shares in the four enterprises mentioned was a process that was both begun and concluded during 1990. As in other cases, the award went to the best bidder, with a fixed part of the price in cash assets and a variable part in Argentine external debt papers. The winning group was that which offered the largest amount of debt papers. In this case, given a capital structure with private majority interest and given also that the management of the companies was already in private hands (with little interference on the part of the public sector), the search for an operator that would increase the efficiency of the enterprises was not a major problem. Furthermore, there were no investments postponed by public spending adjustment policies, which meant the state's primary objective with these privatizations was to obtain financing for the treasury and reduce the external debt.

The fact that the four enterprises privatized already were controlled by defined economic groups suggested from the outset that the base prices fixed for the bidding would not be exceeded. This was indeed the case because no private group that was not already involved in operating the companies seemed to have any interest in acquiring the blocks of shares for sale and because, at the time of the call for bids, there was some uncertainty surrounding the economic conditions of the supply of ethylene by Petroquímica Bahía Blanca. Indeed, when the envelopes containing the proposals were opened in September 1990, these assumptions were confirmed, which meant the bids had a very low level of competitiveness and were, in fact, concealed direct awards. Thus, Ipako was the only party interested in the Polisur shares, and Indupa the only one interested in the shares of Monómeros Vinílicos, Petroclor, and Induclor. In all cases the quotes received included very small increases over the base prices fixed in the bidding information.

Regulatory Aspects and Incentives Scheme

As in all cases of privatization, in selling the blocks of shares of the petrochemical industry the state faced the dilemma of deciding whether or not to implement simultaneous regulatory reform. The dilemma was, perhaps, greater in this case because these enterprises produce internationally tradable goods but are highly protected from foreign competition. One possible strategy was to eliminate the fiscal cost of promoting the sector, stimulate competition in the domestic market, and effectively open up the economy—putting domestic prices on a par with international prices—subsequently in order to transfer the corresponding shares in the companies. Alternatively, the current regulations and incentives could be retained, to inflate the sales value of the assets and thus obtain short-term financing for the public sector. The first strategy would benefit overall efficiency; the second would secure funds, although at the cost of perpetuating permanent fiscal losses and the monopoly power of the enterprises. In the face of this dilemma, the government chose the middle path. One of the first measures instituted was to eliminate the difference between prices paid by the petrochemical industry for its inputs (pure naphtha and ethane) and the amounts charged by state-owned suppliers (YPF and Gas del Estado). Other promotional measures (tax deferments and exemptions), nevertheless were maintained, and although the petrochemical sector was subject to considerable economic openness, the model of forming monopoly prices also was retained within the domestic markets of the goods produced.

If as a step before the privatization all public sector subsidies were eliminated and the petrochemical economy opened up, the position of each enterprise could be placed in one of three categories: good, bad, and neutral. In the first category, the firm would purchase its basic input at the exporter parity (lowest) and would sell its product at the importer parity (highest), which would indicate excess supply on the domestic market of the input and surplus demand in the product market. In the second category, on the other hand, the firm would purchase at the importer parity and would sell at the exporter parity, due to a shortage of supply of the input and of demand of the product on the domestic market. In the neutral situation, both parities (purchase of input and sale of product) would be the same (importer or exporter). Whatever the case analyzed, however, the domestic market structure would become irrelevant because the openness of the economy would mean that markets were by definition contestable and that the purchase and sales prices would be set at international levels.

The scheme described above is oversimplified in order to examine the petrochemical privatizations, however, because the Argentine petrochemical sector is still highly regulated and—in the specific case of the satellite enterprises of the petrochemical complex—there are also exclusive provision contracts signed with Petroquímica Bahía Blanca that guarantee that the central plant receive a certain

return on its costs. Similarly, although Polisor, Monómeros Vinílicos, Petropol, and Induclor export part of their output, domestic prices of their products remain substantially higher than the corresponding exporter parity. These enterprises can persist in practicing price discrimination because the costs of transport, storage, and insurance are very high in the Argentine economy and a large premium exists for a continuous presence in the country that guarantees supply to customers. These factors enable the firms to set monopoly prices in the domestic market without the threat of imports emerging as a real risk.

Accordingly, at the outset, the first phase of petrochemical privatization in Argentina had certain broad characteristics in common with the rest of the process of transfer of public enterprises (it was not preceded by integral regulatory reform to eliminate subsidies fully, the economy was not effectively opened up, and the game rules essential in cases in which the input-output ratio is so large were not clearly stipulated). Furthermore, the petrochemical enterprises that were privatized maintained a very large share of market power, and no new regulations were issued to prevent them from exercising that power.

Conclusions

Overall Conclusions

This section draws some conclusions and recommendations from the Argentine privatizations of 1990–91 and then considers the cases studied from the standpoint of a series of 11 hypotheses.

The most general lesson to be drawn is that the high weighting of short-term macroeconomic objectives in Argentina had its costs for the organization of socially efficient privatization. Although privatization helped to neutralize the macroeconomic calamities by providing temporary financing to the public sector, this was done at the cost of monopoly formation and of regulations that protected the enterprises more than the users. Consequently, the most general recommendation that can be made is that, as far as possible, the sales of assets should not become an instrument of domestic and external financial policy. It is not always easy to meet this recommendation, but, in any event, the Argentine experience clearly demonstrates what is lost by not complying with it (indeed, under an improved macroeconomic situation, since the government has tried since 1992 to strike a different course for privatization).

The cases studied exemplify and enhance this central point. The privatization of ENTEL and AA preserved (and in the second case accentuated) the concentrated structures of the markets in order to maximize the prices of the assets for sale and recover the largest possible quantity of external debt papers (which was the principal objective). Moreover, the urgent financial needs that prompted these privatizations negated the *a priori* basic recommendations for the privatization of

public utilities. There was no prior reorganization of the enterprises or restructuring of labor relations, nor were rules or regulations designed to moderate the market power of the new private firms or to introduce—particularly in the case of commercial air traffic—some degree of competition. Finally, there was (at least initially) no use of the capital market for these privatizations, which can be explained by the weak nature of that market in Argentina.

In the cases of both ENTEL and AA—as well as the highway services—the future profitability of the enterprises was increased by instituting rate adjustments and consequently appropriating of consumer surpluses. In none of the three cases mentioned, however, could the government guarantee fully competitive bidding that would allow the state to maximize its income from the sale of monopolies with high rates.

The cases of petroleum deregulation and privatization and the petrochemical privatization did not involve public services, but rather tradable goods. Despite this fact, the commercial openness that accompanied the privatization has not been very effective because it has been seen that both the petroleum refining oligopoly and the petrochemical enterprises have maintained their power over the domestic market, setting domestic prices that are higher than the export prices (by taking advantage of natural protection). Furthermore, in the case of petroleum privatization, the state passed up a share in the oil revenue.

Finally, findings on the macroeconomic impact of the privatization (public and external sector accounts) vary depending on the individual cases. The long-term fiscal impact is positive in the cases of ENTEL and the highway service, because even though the bidding was not competitive, the state ended up appropriating a share of the consumer surpluses.

In the case of petroleum, the fiscal outcome was negative because the government allocated a part of the future revenue to recurrent expenses. In the cases of AA and the petrochemical enterprises, the fiscal results are not easy to assess. The effects on the external sector seem to be negative in all cases analyzed.

Testing of Hypotheses

This section describes a series of hypotheses (the results of which are shown in Table 5.16) and the results are discussed briefly.

Labor Capitalism (Monopoly Power–Workers Share Hypothesis)

To date, the distribution of shares to workers has been introduced for public utilities that are natural monopolies or that are maintained as legal monopolies (ENTEL and AA) and have been rejected for enterprises that operate in more competitive environments. In the case of highway services, the possibility of

Table 5.16. Results of Hypothesis Testing

Hypothesis	Not Rejected					Rejected				
	PET	PCH	ENTEL	AA	HS	PET	PCH	ENTEL	AA	HS
Monopoly Power–Workers Share	*	*	*	*	*					
Profitmaking–Minimum Reference Price		*	*	*	*	*				
Closed Bidding Ownership Concentration	*	*	*	*	*					
Buyer Selection	*	*	*	*	*					
Profitability Promotion	*	*	*	*	*					
Input Deregulation	*		*	*	*		*			
Increased Investment	*	*	*	*						*
Fiscal Gains–Current Expenditures						*	*	*	*	*
Interest Rate and Debt Service		*	*	*		*				*
Higher Profit–Price Adjustment	*	*	*	*	*					
Union–Efficiency Deterioration						*	*	*	*	*

worker ownership was not considered, which seems to be logical owing to the specific characteristics of highway maintenance concessions.

Sales Value of the Enterprises (Profitmaking–Minimum Reference Price Hypothesis)

In the case of Argentina, the sales value of the enterprises or assets and the value of the concessions were below the present values of the discounted benefit flows. This was the case because the privatizations examined were conducted by means of conditional auctions and those auctions were not competitive (except for some biddings of oil fields).

Furthermore, the future profits depended to a large extent on prior adjustments of prices and rates that make it difficult to compare the state-owned enterprise before privatization and the future private enterprise. However, in several cases the government set reference values (ENTEL, AA, and petrochemical enterprises), and those values were exceeded by the purchasers.

Stock Market Participation and Ownership Concentration (Closed Bidding Ownership Concentration Hypothesis)

As seen in the case studies, there was no participation of the stock market in the Argentine privatizations until the end of 1991, when the first experience occurred with a fraction of the telephone company shares. This is explained by the small volume of that market following hyperinflation. As a result of the use of conditional auctions, ownership was concentrated, and the stage was not set for the emergence of any form of “popular capitalism.” This implied that the new private

owners of the old public enterprises ended to be big entrepreneurial groups, instead of small stock market investors.

Selection of Purchasers (Buyer Selection Hypothesis)

In most of the privatizations, the dual-envelope method was used. The first envelope represents technical prequalification, and by means of the second, the enterprise is awarded to the best bidder. In no case considered were volumes of investment specified, although for public utilities, goals were set for service quality and expansion.

Profitability and Regulation (Profitability Promotion Hypothesis and Higher Profit-Price Adjustment Hypothesis)

In all cases regulation and effective competition were sacrificed, and prices were adjusted to maximize the value of the sales and thus temporarily finance the public sector, one of the most salient features of the Argentine experience.

Privatization and Prices of Public Inputs (Input Deregulation Hypothesis)

Liberalization of prices of public inputs and their adjustment to marginal costs were not relevant in the cases of ENTEL, petroleum assets, and highway services. In the case of AA, the price of fuel was decontrolled; in that of the petrochemical enterprises, the price of ethylene (produced by a state-owned enterprise undergoing privatization) was kept under regulation.

Privatization, Investment, and Government Revenue (Increased Investment Hypothesis)

In all cases, there seems to have been an increase in sector investment financed by price increases. On the other hand, the permanent fiscal position differs in each case. In ENTEL and highway services, there were fiscal gains; in petroleum there was a loss; in AA and the petrochemical enterprises there are no conclusive findings. In any event, the fiscal impact and effect on investment do not depend strictly on privatization but on the regulatory frameworks and changes in relative prices.

Government, Private Sector and Corporate Resistance (Union-Efficiency Deterioration Hypothesis)

Before privatizations, the state seemed to be defenseless against pressures from labor unions and suppliers of public enterprises. Following privatization and the establishment of a new principal-agent relationship, the corporations' power has decreased. The hypothesis is rejected in all cases.

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Privatization is crucial to a new Latin American development strategy that redefines the state's role in the economy. By substituting activities such as export promotion and regulation for direct government participation in production, privatization has helped several Latin American countries open their economies through market liberalization and eliminate the primary causes of fiscal disequilibrium and inefficiency.

A country's economic policies strongly influence its approach to the sale of public enterprises. Because of this, the methods and the results of privatizing similar enterprises in different countries—for example, telephone companies in Chile, Mexico, and Argentina or banks in Chile and Colombia—can be radically different. *Privatization in Latin America* explores various privatization methods and the effect the process can have on society. The book examines preparatory measures, valuation, sale mechanism and price, buyers and financing, competition, regulation and supervision, productive and allocative efficiency, and fiscal and macroeconomic impact in the sale of 20 industrial and service enterprises in Chile, Mexico, Colombia, and Argentina.

Manuel Sánchez is Deputy Director of Financial Analysis and Investor Relations and **Rossana Corona** is Advisor on Financial Analysis and Investor Relations for the Bank of Commerce (BANCOMER) in Mexico City.

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