

Private Solutions to Public Problems

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Introduction

In the mid-1970's Chile began an extended and profound process of transformation and modernization of its economy. The changes touched not only on macro-economic aspects, but also on the productive sector, social relations, infrastructure and the role of the State in general. An effort was made to implement a new model for development in the country, whose pillars were the market as the primary allocator of resources; private enterprise as the principal motor for growth; and the State -- in a subsidiary role, that is to say, engaging in the activities in which the private sector cannot participate -- which sought to achieve macro-economic equilibrium, ensure the supply of public goods, correct distortions and foster equal opportunity.

It is important to recall that at the point of departure for this process there was a high incidence of State participation in the economy. In 1973 in fact, the role of the public sector, including government and state-owned enterprises, accounted for 63% of GNP.¹ In addition, the economy was shut off from international trade, and regulations imposed by the State in a wide variety of sectors impeded efficiency and the proper allocation of resources. In this regard, it is worth noting that in the early 1970's, there were over 3,000 prices fixed by the Chilean State; for 60% of imports, prohibitive deposits were required (10,000%); tax legislation had such a high number of exceptions that the general norm applied to a very limited number of taxpayers, etc.

Clearly, Chileans are worthy of special merit for having made an extraordinary effort to move toward a more productive economy, starting from particularly adverse conditions at a time when the so-called "real socialisms" had not yet collapsed, nor had Margaret Thatcher or Ronald Reagan yet taken steps toward more open market economies. In this sense, Chile was a pioneer in the world trend toward forms of government based on a free social order.

One of the most interesting, though little known, aspects of the process of modernization can be called "private solutions to public problems." That is to say, a set of micro-economic policies which include the privatization of companies or areas of activity, the introduction of incentives into the market, an environment which fosters participation and promotes private investment in these services and, in those cases where the State continues to play a role as a supplier or producer, the search for competitive conditions, decentralization and other elements which foster efficiency in the delivery of goods and services.

This publication provides in-depth information on the private solutions Chile devised in the areas of retirement, health care, education, local government, transportation, telecommunications and energy beginning in the 1970's. Thus, the Institute for Liberty and Democracy (ILD), as a research center dedicated to the promotion of the role of the private sector, analyzes public policies which, through the use of the free market and individual initiative, enabled Chile to solve

problems which had traditionally formed part of the exclusive domain of the State.

The experiences gathered together and presented in this publication are, on the whole, favorable and serve to confirm the value and advantages that the market system and private property have over State intervention in production, financing and excessive regulation.

The first four chapters of the book are dedicated to policies implemented in social sectors and their respective results. The first, written by former Planning Minister, Luis Larraín, analyzes the most profound and momentous transformations implemented by the Chilean government between 1973 and 1990 in an effort to create a market economy.

As is in many other countries, Chile's retirement system was in dire financial straights and required the allocation of vast quantities of State resources and an inefficient mechanism of taxation (through high payroll deductions) to stay afloat. For example, in 1937, worker's deductions totaled 5% of earnings, while by 1975 that figure had reached an all-time high of 51.4%. There was a complete lack of justice in the distribution of the benefits the system offered. The new pension system implemented as of 1981 is described in this publication, along with a discussion of the objectives the program sought to achieve, the techniques used during the transition between the two systems, the regulations that were established, as well as results and perspectives for the future. The new system called for a program of privately administered individual savings plans with legislation to ensure a minimum pension by the State.

As Larraín's article shows, the 10 years under the new system have demonstrated its advantages, including the fact that retirement pensions now pay 1.4 times what they would have under the old system. A second advantage of the new formula is the contribution it makes to fiscal policy and to the strengthening of capital markets.

The second chapter, dealing with the reforms to the health care system, was written by Mercedes Cifuentes, a specialist in the field. Here, the author discusses the need to introduce the private sector into the field of health care, as well the way the new system improves efficiency, increases resources, and improves working conditions and general well-being. The article describes the transformations in the health sector, that occurred as a result of policies which placed primary importance on first-aid care, coverage of mothers and children, those in high risk groups and the handicapped.

In order to achieve these goals, a variety of instruments, including decentralization and the creation of incentives for efficiency were introduced into the state health care system. Proportional subsidies were established, a private system was created and people were given the freedom to choose between a

State-run health care system and private doctors. This formula led to the creation of 35 Private Health Care Institutions (ISAPRES) which now compete to cover over 16% of the population. The new system has also permitted increased private investment in health care and, as the book indicates, between 1982 and 1989 hospital infrastructure investment increased by 50%, of which 27% was dedicated to private hospitals, 22% to medical centers and 16% to laboratories. Clearly, private action coupled with the introduction of efficiency criteria into the public sector have given way to markedly improved conditions in public health. For example, in global terms, Chile has seen its infant mortality rate drop from 79.3 children per live birth in 1970 to 17.1 in 1989.

Lastly, the research emanating from this publication has led to a proposal to incorporate more decidedly additional incentives for the private sector into the field of resource administration. As a result, a subsidy based on demand is under consideration, along with the transformation of incentives and properties owned by the State hospital system.

The third chapter focuses on the modernization of elementary and high school education. Patricia Matte and Antonio Sancho, Director and researcher, respectively, of the ILD's Social Program, describe how the policies implemented in Chile in preceding decades produced a remarkable increase in educational coverage. Nonetheless, the stimuli were not sufficient to increase quality nor provide equal educational opportunities. Thus, as of 1980, a series of modifications were introduced into the public and private school systems in an effort to improve quality, expand coverage, promote equal opportunity and freedom to teach. In order to achieve these goals, a demand-based subsidy was created, the administrative system was decentralized and freedom of choice between public and private educational institutions was introduced.

As the authors note, the new policies led to an increase in private, subsidized elementary schools from 14% in 1980 to 30.4% in 1988. As for secondary school education, coverage in private institutions rose by 249% during the same time period. This increase has been accompanied by expanding attendance among children from extremely poor families and by greater contributions by the private educational institutions to the quality of education.

Reforms at the university level are discussed in the fourth chapter of the book, written by Gerardo JofrŽ and Antonio Sancho. The chapter analyzes the role of the State and the private sector in this area and reviews the reforms that were introduced into the financial systems used by institutions of higher learning in order to: make them more equitable and promote efficiency; decentralize State universities, and; promote scientific and technological research. Overall, these reforms have provided a significant stimulus to the efficiency of the system and have increased the supply of private educational services, despite a variety of obstacles which arose during their implementation. The results of these policies

have encouraged an increase in the registration rates of institutions of higher learning, from 116,962 students in 1980 to 248,354 in 1990.

The fifth chapter focuses on the modifications introduced at the local or Municipal level. The author, former mayor Manuel Cereceda, discusses the problems of inefficiency, under utilization and excessive political polarization which this crucial part of the State structure faced in the mid 1970's. Moreover, he notes that the policies which were implemented as of that date in an effort to transform the role of the municipalities, and to grant them increased responsibility for solving public problems at the local level. This process of decentralization meant modifications in the financing of municipalities, empowering them to retain an important part of the resources collected in the community; modernizing municipal administration; taking responsibility for new services, including elementary and secondary school education and primary health care. In all of these cases, market incentives such as competition, freedom of prices, etc., were utilized. In addition, services were sub-contracted directly with the private sector, particularly in the areas of waste management, street cleaning and park maintenance. The results have been a marked improvement in general community services and their more effective control by taxpayers.

The remaining chapters discuss a variety of service areas of tremendous importance to productive sectors and to consumers. Specifically, these are: electricity, telecommunications and transportation. In all of these areas, in the past, the State had played a direct and active role through the regulation and ownership of the companies operating in these sectors.

In the sixth chapter, Sebastián Bernstein, former Executive Secretary of the National Energy Commission, analyzes the distribution of electricity. He begins by providing an historic overview of the sector and its problems. Subsequently, he describes the new legislation, which sought to: decentralize the decision-making process whenever technical conditions permitted; stimulate private participation in the field; promote direct competition between companies when possible, or simulate those conditions through "model" companies when price regulations were imposed; establish tariff mechanisms which promoted efficiency; and privatize companies. The results of the modernization described by Bernstein reveal an economically stable electrical sector, with low rates (as compared to other countries) -- in turn an indication of efficiency -- covering approximately 95% of Chile's fragmented territory. The fact that Chile's electrical network is today overwhelmingly private bears witness to the feasibility of private and market solutions to this problem and indicates that continuing to privatize remaining state-owned electrical supply companies is to be recommended.

The seventh chapter reveals the results of a study conducted by Renato Agurto into the transformation of the telecommunications sector. Prior to the application of new norms regulating telecommunications, this field was characterized by a tariff schedule which did not promote efficiency and was under the complete

control of the State. The availability of telephones per resident was comparatively inadequate by international standards. Beginning in the late 1970's and continuing through the 1980's, a series of modifications were introduced to promote competition, establish rates which encouraged efficiency, and create regulations which would encourage investment and improve service. In addition, as of 1982, privatizations began with the sale of the Telex company and continued in 1987 with the sales of the Chilean Telephone Company and ENTEL (a long distance carrier). The results of Agurto's study are favorable, particularly in terms of growth in investment and technology. In fact, while the annual growth rate for telephone lines increased by 6.4% in the period 1960-1967, in 1989 -- once the privatization and the new rate schedule had been completed -- it reached 9.2% and in 1990 leapt to 25.7%. In the future, efforts will continue to expand opportunities for increased competition and market participation in this area.

The final chapter presents the research of ILD Associate Researcher Jorge Asecio concerning four aspects of transportation: shipping, ports, air and railroads. The results for these four sectors indicate that prior to the reforms, they were all State enterprises governed by monopoly-creating legislation which in turn resulted in inefficiency. Suffice it to say that in 1973 Chilean ports were so clogged that payments for over-extended stays averaged US\$70,000. In practice, twenty years later -- thanks to the privatization policies which led to increased efficiency -- Chile's two principle ports (Valparaíso and San Antonio) handled more cargo between them than the entire country had handled in 1973 -- without the need for physical expansion!

The policies implemented consisted of rationalizing public investment: opening the market to domestic and foreign competition; promoting private investment and establishing rules for state-owned companies which eliminated privileges, required that they show a profit and made their management more transparent. In the most successful cases, this also meant the privatization of some state-owned companies including air and maritime transport (although in these two areas a state maritime transport company continues to exist, as does mixed a transport firm.) Neither the railroads nor the port system themselves were privatized, although parallel and complementary activities were shifted into private hands. Thus, in the Chilean port system, private companies currently provide longshoremen services and supply certain services to the railroads. The results indicate that the process was particularly successful in reducing the cost of international transportation -- a tremendously important factor for a country such as Chile which is located so far from the world's key markets. Nonetheless, it is also clear that much remains to be done to intensify the private solutions in each of the fields presented in this publication.

From this presentation and each of the chapters contained herein, the reader will come to appreciate the benefits of private solutions to public problems over traditional statist policies in highly complex areas. Moreover, the reader will

become familiar with the difficulties which arose in Chile as a result of the implementation of the new policies, many of which have yet to be resolved.

In essence, both in the fields described in the coming chapters as in other areas of the Chilean economy, there remains much to be done in terms of deregulation and privatization to incorporate the private sector into the public sector's problem-solving process. Such measures are crucially important if increased economic and social development are to be secured for all Chileans.

SOCIAL SECURITY REFORM

LUIS LARRAIN A.

I. INTRODUCTION

This chapter describes the primary characteristics of the so-called Social Security Reform implemented in Chile in 1980 in an effort to create a privately-administered individual capitalization system through institutions known as Pension Administration Funds (known by their Spanish acronym, AFPs). This reform covered solely old age pensions, disability and survival (widow and orphan) benefits, which, while representing the lion's share of Chilean social security, did not cover all of the services which fall into this category. In fact, the Provisional Health Care Institutions or ISAPRES -- which will be discussed in a separate chapter -- were designed in conjunction with the social security reform and are at times considered to be a part of the larger social security system even though they seek to resolve an almost entirely separate problem. A second area that is not covered in this chapter is the private participation in the social security system which arose through mutuals formed in Chile in the 1950's by businessmen and entrepreneurs in an effort deal with work-related and professional illness.

The first section, prior entering into a description of the reform process itself, provides an analysis of the status of Chile's social security industry as of 1980. The second section deals with the objectives taken into consideration in designing the new social security system. The third section focuses on the measures taken vis-avis the old system and to a large extent addresses the issue of transition. Subsequently, the fourth portion of this chapter contains a description and conceptual analysis of the new system's key attributes, while the fifth section provides an overall assessment of the performance of the industry and of the private pension program based on 10 years worth of operational experience. The sixth and final section addresses the challenges the system will undoubtedly confront in the future.

II. STATUS PRIOR TO THE REFORM

1. PRINCIPAL CHARACTERISTICS OF THE "PAY AS YOU GO" SYSTEM

A distributive or "pay-as-you-go" pension system is one in which pension funds do not accumulate. Thus, active workers (in conjunction with employers and the government) finance the pensions of retired or inactive workers through obligatory contributions or premiums. That is to say, there is a sort of inter-generational commitment whereby active workers finance the benefits of retirees with the belief that future active workers will finance their own retirements.

Although many of the old pension systems were not initially conceived in this fashion, in practice this is the way they have worked.

Under the old system, pension benefits and the obligations of active workers were established by law. Thus, there was no direct relationship between the amount a worker contributed during his/her active life and the pension he/she received. Therefore, there was no incentive for a worker to increase premiums in an effort to secure an enhanced pension. Moreover, such a worker might expect to receive benefits greater than the amount contributed during his or her lifetime if he or she belonged to a group capable of lobbying the government for increased benefits. On the other hand, such a worker could also be affected negatively by the system if he/she were unable to secure additional benefits. In Chile, this lack of a relationship between premiums and pensions received -- which served as an incentive to under-declare income and induced lobbying by certain groups for increased benefits (despite a lack of adequate financing for such increases) -- led to the breakdown of the system and spiraling costs as the government was increasingly called upon to make contributions to the system in order to ensure the ability to meet existing commitments.

12. BRIEF DESCRIPTION OF PLANS AND BENEFITS

Despite the fact that one often refers to Chile's old pension system as a homogenous unit, the truth is that a number of plans were in operation at the time of the reform. These plans, totaling over 100 in 32 Social Security Funds or "Cajas" in existence in 1979, established a variety of retirement requirements, pension levels and mechanisms for calculating benefits for different groups of workers. The effects of this differentiation were most strongly felt among the poor (Social Security Service or SSS employees) whose premiums accounted for 65% of total in-put in 1979. Nonetheless, these employees did not have access to benefits provided to other workers such as pensions for years of service (which enabled some workers to retire as early as age 42). SSS employees, despite their work in fields requiring heavy manual labor, could retire only upon reaching the age of 65 and, moreover, received a smaller portion of their income at retirement than manual laborers belonging to other cajas. In the Bankers caja, as well as those of the Bank of Chile and the Bank of the State, employees could retire at age 55 (or earlier if they met the "years of service" requirements).

A second problem with the "pay-as-you-go" system was the lack of uniformity in the re-adjustability of benefits. At one end of the spectrum were the so-called "chaser" pensions, reserved for a select group of public employees and other small groups which received the same income as their colleagues still in active service. That is, each time the salary of an active worker in a given post was adjusted, the pension of the retired workers who had held that position in the past would receive an equivalent increase in their pension. The majority of pensions, however, were not hedged against the drop in purchasing power caused by

inflation and occasionally legislation was passed to grant a general or partial readjustment.

In addition to the problem of indexation or "re-adjustability" of the benefits granted, the basis used for calculating pensions varied under different plans. These variations, aggravated by high inflation, caused significant differences in coverage. Some retirees saw their pensions calculated on the basis of income over the last year, others on that of the average for the last three years, and still others on the basis of the average over the last five years. In certain cases, only some of those years were adjusted for inflation. For example, in the case of those with five-year calculation periods, the first three years were adjusted for inflation, while the salaries over the latter two were not. Thus, two years of the triple-digit inflation that Chile faced at times reduced the real value of the pension to insignificant levels.

A final characteristic of the old system, that become progressively onerous over time, was the tendency to take advantage of the initial stage of the system by creating new benefits, such as loans. Clearly, such activities drained needed funds from the social security cajas and jeopardized their financial capabilities for the long term. Despite the fact that the old system was designed to provide balanced support, the redistribution of income which resulted from the struggle for special legislation aimed at satisfying interest group demands was clearly regressive.

3. INSTITUTIONS

In 1979, there were 32 social security cajas which grouped together specific types of workers or productive categories. Employees could not select the caja of their choice, nor change cajas unless they shifted into a new line of work. In other words, each institution had a captive market and made no extra effort to provide quality service. The country's three largest cajas accounted for 90% of contributing affiliates (see Table 1).

Caja	Number de Contributors	%
SSS	1,486,400	64.87%
EMPART	403,000	17.59%
CANAEMPU	266,298	11.62%
Others	135,485	5.92%
Total	2,291,183	100.00%

Source: La Previsión en Chile Ayer y Hoy. Impacto de una Reforma; Hernán Cheyre V., CEP.

The purpose of the cajas was to administer the funds collected through payroll deductions, pay pensions and provide other benefits. At the time of the reform, the revenue generated by a majority of the cajas was less than their expenditures. In order to bridge the gap and meet outstanding obligations, they turned to the State for financing. Thus, state contributions to the cajas rose by 13.8% between 1947 and 1980 (see Table 2).

Table 2: Social security System Revenue 1947-1980(Average Annual Percentage Variation)

Caja	Contributors Input	State Contrib.	Investment Revenue	Total Revenue
S.S.S.	6.63	8.29	-7.24	1.20
CANAEMPU	6.50	12.96	-7.28	-1.85
EMPART	4.56	-6.86	-6.40	-0.32
F.F.C.C.	2.51	19.42	-9.88	-3.87
BANCARIA	7.49	-5.66	2.47	-4.45
Banco de Chile	6.50	-	7.65	3.34
SISTEMA	6.34	13.77	0.51	-0.88

Source: Gert Wagner, Universidad Católica de Chile, Instituto de Economía: Estudio de la Reforma Previsional: Previsión Social Chilena, Antiguo Sistema 1925-1980.

In general, the administration of the cajas was inefficient. The slight surpluses occasionally generated by some cajas were poorly invested in hapless efforts to provide instantaneous increases in benefits, such as subsidized mortgage rates (only 1% of EMPART contributors received this bonus benefit), acquisition of properties which could be rented by affiliates at subsidized rates as well as the acquisition of theaters, pharmacies, agricultural lands, etc. Such investments reflected no concern for ensuring adequate counterpart financing and thus the cajas were gradually diverted from their primary objective of granting pensions and fell prey to every imaginable vice inherent in statist and bureaucratic administration.

4. FINANCIAL SITUATION

A "pay as you go" system has essentially three forms of increasing its revenue: 1) Increase premium rates; 2) Increase State allotments; and 3) Decrease benefits. Changes in the ratio between active workers and retirees in Chile required, over a period of time and to varying degrees, the use of all three of these approaches.

In effect, the ageing of the Chilean population, as a result of increases in life expectancy and the incentives of the system itself, meant that there was a continual decrease in the number of active contributors financing the cost of benefits to each retiree. Thus, while in 1955 there was an average of 12.2 active contributors for each retired worker, by 1979 that rate had dropped to just 2.5 active contributors per retiree (see Table 3).

Table 3: Active workers/Retiree Relationship(Number of Active workers per retiree)

AÑO	SSS	CANAEMPU	EMPART	BANCARIA	BCO.CHILE	SISTEMA
1947	1,204.8	10.9	-	-	-	36.9
1950	-	-	-	-	-	-
1955	16.6	6.2	51.0	7.1	5.1	12.2
1960	10.8	7.4	16.9	3.2	4.5	8.6
1965	5.9	4.1	9.5	3.0	3.9	5.3
1970	4.5	8.0	13.1	3.0	2.9	4.4
1972	3.7	7.5	12.3	2.9	2.7	3.9
1975	3.2	6.3	5.0	2.6	2.9	3.3
1977	2.6	4.6	4.4	2.6	2.6	2.8
1979	2.3	3.6	4.3	3.1	2.7	2.5

Source: Estudio de la Reforma Previsional: Previsión Social Chilena, Antiguo Sistema 1925-1980; Instituto de Economía, PUC.

Moreover, as the ratio between active contributors and retirees fell, the resources generated by the former were insufficient to pay for the benefits of the latter. To make up the difference, State allotments were increased or pension levels were reduced. The growing contributions by the State can be seen in Table 4.

An additional form of confronting the problem of generating resources is to increase premium rates. From its inception in 1925 through 1937, the Social Security Service received 5% of wages. This premium had risen to 51.4% by 1975 and fell back to 33.5% in 1980, the year the Social Security Reform was implemented. In the Private Employees Fund (Caja de Empleados Particulares) the rate from 1924 to 1936 was 10%; by 1974 it had reached 64.7% and steadied at 41% in 1980.

Table 4 Evolution of State Contributions for Pensions (includes States obligatory employers contribution)

Year(a)	1989 \$	(Index:1968=100)
1968	71,031.9	100.0

1969	N.D.	-
1970	113,955.4	160.4
1971	185,353.2	260.9
1972	172,785.2	243.3
1973	100,651.0	141.7
1974	90,920.1	128.0
1975	97,740.4	137.6
1976	88,050.8	124.0
1977	120,535.3	169.7
1978	122,921.0	173.1
1979	130,224.5	183.3
1980	153,754.4	216.5

(a) Considera deflactor implícito del PGBSource: La Previsión en Chile Ayer y Hoy. Impacto de una Reforma, Hernán Cheyre V., CEP

In addition to the economic effects of such increases, the system had negative side effects. For example, if the obligatory rate of savings resulting from payroll deductions is greater than the rate a worker wishes to contribute, incentives for evading premiums emerge. This often results in workers under-declaring their taxable income.

Lastly, there is the option of decreasing pension benefits in order to confront financial difficulties in the pension system. The next section will discuss benefit levels in greater detail. Nonetheless, despite the utilization of the three approaches we have noted here: increased State contributions; increased premium rates; and decreased benefits, it is clear that the Chilean system could not have held on much longer. Each of these approaches had its limits. It is hard to imagine premium rates over 50% or decreases in already-low benefits. In fact, a study conducted by ODEPLAN (National Planning Office) projected the financial situation of the system for 50 years as of 1980. The results showed a deficit of 395 billion (1990 pesos) for the final year under study. It is important to note that this study took into consideration a series of reforms to the old system aimed at diminishing the impact of the future financial deficit. These reforms, which will be discussed in a moment, increased retirement requirements for the most privileged groups and significantly reduced the system's short-term financial difficulties.

5.BENEFIT LEVELS

In general, the level of benefits in real terms was extraordinarily varied under the old system. This resulted primarily from the adjustments provided under some

plans (as we have seen, such readjustments were not automatic). Each caja established specific mechanisms for calculating initial pensions for its retirees at the time of their departure from the labor force. In order to compare the plans provided by different cajas, Chilean economist Hernán Cheyre estimated the maximum initial pension a contributor could hope to receive as a percentage of taxable income. Thus, a retiree from the SSS could expect to receive 60.8% of his/her salary as an old age pension, while EMPART employees could expect to receive 86.8% (see Table 5).

OLD AGE PENSIONS SSS			OLD AGE & YRS. OF SERVICE EMPART		
Income(a)(\$)	Maximun Pension (b)(\$)	(b)/(a)(%)	Income (a)(\$)	Maximun Pension (b)(\$)	(b)/(a)(%)
15,000	9,113	60.8	25,000	21,698	86.8
25,000	15,189	60.8	40,000	34,717	86.8
40,000	24,302	60.8	70,000	60,755	86.8
-	-	-	120,000	104,151	86.8
-	-	-	220,000	190,944	86.8

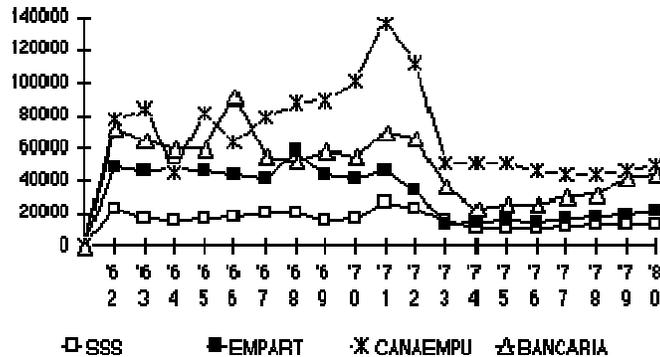
Source: La Previsión en Chile Ayer y Hoy. Impacto de una Reforma, Hernán Cheyre V., CEP

Income(\$)(a)	Contributing as at age 18 Maximun Pension(\$)(b)	(b)/(a)(%)	Contributing as at age 25 Maximun Pension(\$)(c)	(c)/(a)(%)
25,000	20,313	81.25	17,411	69.64
40,000	32,501	81.25	27,858	69.65
70,000	56,878	81.25	48,752	69.65
120,000	97,504	81.25	83,575	69.65
220,000	178,758	81.25	153,221	69.65

The lack of indexation made real pensions fluctuate wildly as can be seen in Chart 1. The uncertainty created by such cases worked against contributors.

Evolution of old Age PensionsReal Averages(in 1989 pesos)

Evolution of old Age Pension: Real Averages
(in 1989 pesos)



The social security system also established maximum pensions. In 1960 the maximum was 8 monthly salaries -- equal to 334,786 pesos (1989 currency) while in 1980 the maximum was 50 monthly salaries -- equal to 220,452 1989 pesos.

The situation in 1980, prior to the social security reform, meant that 70% of retirees were receiving pensions equal to or less than the minimum old age pension of approximately US\$30 per month.

6.EFFECTS OF THE SOCIAL SECURITY SYSTEM ON THE ECONOMY

The lack of a relationship between premiums and pension received, coupled with insecurity and the complexity of calculating pensions led premiums to be widely perceived as a tax. The difference between what a contributor was willing to put into the system based on the benefits he or she expected to receive and what he or she was actually required to contribute was technically equivalent to an "implicit tax" on work (given that premiums were calculated on the basis of pay). This "tax" made hiring more expensive, reduced employment and reduced liquid pay.

Redistribution of income under this system occurred among fairly homogeneous workers belonging to a single caja. Thus, the redistribution was horizontal; that is, among people with similar income levels. Therefore, the structures and institutions in use under the old system did nothing to redistribute pension funds toward the poorest retirees (between different cajas). Moreover, as has been noted, such workers faced discrimination in terms of retirement requirements, the method of calculating pensions as well as a lack of re-adjustability. The primary redistribution was inter-generational, whereby some workers gained from increased rates and benefits, while others were clearly ravaged by the system.

One cannot say a priori that the presence of a pension system will affect overall savings, yet it is clear that if a person is required to contribute more toward his or her retirement than he or she would pay voluntarily, there will be an increase in obligatory savings. However, in these cases, obligatory savings may replace voluntary savings in the same amount. In a "pay as you go" system the so-called "stock" of capital is not affected since no accumulation of reserves is required given that active contributors finance the pensions of retired or "passive" workers.

III. REFORM OBJECTIVES

1. OVERCOMING FINANCIAL BANKRUPTCY

As noted earlier, the "pay as you go" system, given the evolution of expenditures, revenue and fiscal support, would have gone bankrupt sooner or later. Such an occurrence would have required State expenditures for social security equal to the total level of fiscal spending estimated for the year 2000. Clearly, the distributive approach was unsustainable and Chile's social security system was in dire need of reform.

At the time of the reform, the fiscal deficit was growing as a result of commitments to the social security system. Within this context, it is interesting to compare a projection for the Chilean deficit had the social security reform not been implemented with a similar projection with the reform in place. In accordance with the aforementioned ODEPLAN study on the financial perspectives of the social security system over a 50-year period, a surplus of \$65 billion 1990 pesos was projected for 1981, while a deficit of \$395 billion was foreseen for the year 2031. With the reform, however, a 1981 deficit of 261 billion 1990 pesos was expected to plummet to 7 billion by 2031.

From this data it is clear that the shift from a "pay as you go" system to a capitalization system would impose a high initial financial cost on the State (which no longer receives active contributor input and must continue to pay out the pensions of those who retired under the old system). In the long run however, the situation is reversed and becomes good business for the State. The reason for this is clear: the "pay as you go" system has a financial projection of a growing deficit. With the reform, even though revenue drops because premiums by active workers move to capitalization, the State benefits by not contracting additional obligations with those workers who, in the future, will finance their own pensions.

2. DEREGULATION, NEUTRALITY AND THE SUBSIDIARY ROLE OF THE STATE

Although the State has an obligation to oversee pension systems -- given that it imposes an obligatory level of contributions on workers -- this does not mean that

the State must provide the services associated with this type of activity directly. The concept of the subsidiary role for the State which served as a guideline for the economic and social reforms in Chile was also used in designing a new pension system. The reform implemented in 1981 sought to introduce the administration of individually capitalized pension funds in private hands. This created a new industry in Chile and allowed private administrators greater freedom and maneuverability in terms of account management. Nonetheless, the responsibility of the State to oversee and regulate the new-born industry remained intact and a so-called Superintendency was created for this purpose.

Moreover, the concept of the redistribution of income was reformulated. The system was no longer expected to redistribute income (as the benefits received are closely tied to the funds accumulated in each individual account). Rather, programs aimed at assisting the poor, including direct subsidies, were devised. The old system had resulted in a complex system of taxes and subsidies in which it was not clear who benefitted and who was dispossessed. Thus, under the new system, the only linkage between income redistribution and the pension system is the minimum pension established by the State. It is important to note, however, that under this system the State benefits go only to the most needy.

3.IMPACT ON THE ECONOMY

The new system sought to reduce the tax on employment created by high obligatory pension premium rates. The idea was that if the new system were capable of supporting itself financially based on reduced rates of contribution, the cost of hiring workers would drop and over the long-term increased employment could be achieved (as compared to the old system which served as a disincentive to hiring). Moreover, the implicit tax (the difference between what a worker contributes and the amount he or she would voluntarily contribute given the benefits in question) is also lower, by nature, in a capitalization system. Thus the side-effects created by the new system could be expected to generate employment -- a particularly important result given the inability of the Chilean economy for many years to create sufficient employment. In fact, from 1965 to 1970, the increase in the number of private sector jobs created was lower than the increase in the size of the work force.

As noted earlier, the specific impact on overall savings of the shift from a "pay as you go" system to individual capitalization is not clear. Nonetheless, one would hope that the accumulation of capital generated by the new system would be greater, given that the reserves it produces take the form of savings. This in turn means an increase in the "stock" of capital -- with its subsequent impact on capital markets -- and, eventually, the development of the economy. In any case, it is clear that such a system makes it possible to design modern, sophisticated capital markets which arise from the need to invest pension funds. Thus, private pension fund administrators become the largest institutional investors in the market.

4.SYSTEM EFFICIENCY AND BENEFIT LEVELS

Although the objectives noted earlier, namely: resolving the financial breakdown of the old system; moving forward in deregulating the economy; and, converting the social security system into an catalyst for economic growth rather than posing an obstacle to change were important, they were not decisive. Rather, the primary objective of the reform was to provide Chileans with a means of living out their old age in dignity and of confronting disability and death without ravaging the economic stability of the victim's nuclear family. Thus, the key element in designing the new system was that it provide adequate benefits, which in turn necessitated the creation of an efficient framework for administering workers' savings.

Actuarial calculations indicated at the time of the reform that in order for men to retire at age 65 and women at age 60 with a pension equal to approximately 75% of their final year in the labor force, a system was needed that would generate an average profitability rate of 4% in real terms. An efficient private administrator could be expected to achieve this goal.

The efficiency of the new system needed to be based on competition between private pension fund administrators (AFPs), freedom of affiliation and the justify of workers to change institutions. This meant that the administration firms would endeavor to reduce their administrative costs and obtain an increased number of participants through higher benefits and lower commissions.

Logically enough, the assumption was that each AFP would seek to obtain the best rate of return on the capitalization funds it was administering, thereby retaining existing affiliates and attracting new ones.

IV.STEPS TAKEN TO MODIFY THE OLD SYSTEM

The transition from a fully operational "pay as you go" system to one of individual capitalization requires that a series of steps be taken -- some in advance and others in conjunction with the implementation of the new system -- in order to ensure a smooth transition process.

1.UNIFORMITY OF RETIREMENT REQUIREMENTS DECREE LAW 2,448

In 1979, prior to the study aimed at reforming the pension system and, in fact, before the political decision to do so, a decree law (No. 2,448) was approved which sought to make uniform the requirements for old age retirement. An across-the-board minimum age of 65 was established for men while the minimum for women was set at age 60. Furthermore, retirements based on years of service and so-called "chaser" pensions were eliminated. Even if the type of system had not been modified, these changes were needed in order to avert the financial collapse of the old system and introduce greater equity into the benefits

offered. Once the decision to revise the entire system was adopted, it became evident that this initial step was of extraordinary assistance in facilitating the transition process given that the age requirements in existence under the old system could be transferred to the new one. Clearly, the new system would have been wholly incompatible with the variable age requirement structure in place prior to the promulgation of Decree Law 2,448.

2.MODIFICATIONS TO THE RATE OF CONTRIBUTION

Between 1973 and 1980, there was a tendency toward a reduction in the rate of contribution to the social security system (as a percentage of taxable income) among some Cajas and the system on the whole (see Table 6):

Table 6:Contribution Rates based on income(%)

Año	SSS	EMPART	SISTEMA
1973	49.9	59.0	54.34
1980	33.25	41.0	37.61

Source: P.U.C., Instituto de Economía: ÒEstudio de la Reforma Previsional: Previsión Social Chilena, Antiguo Sistema 1925-1980.

Moreover, in early 1981 rates were reduced by 20% for all of the Cajas and employers premiums to the pension system were eliminated. Workers salaries were then increased in the same amount as the employer's premium so that the workers' net income did not vary. This change was made in an effort to clarify the impact the new system would have on workers and to bring home the concept that the system of individual capitalization was based exclusively on contributions made by the worker. Premiums under the new scheme, moreover, could be expected to be lower than those required by the old system. Thus, a worker opting for the new system would immediately perceive the reduction in costs proffered by the new pension system (through an increase in his/her net income.)

3.RETIREMENT RECOGNITION BONDS

With the modification of the pension system, workers were given the option of remaining in the old system or shifting over to the new one. Those agreeing to join an AFP were granted a "recognition bond" in acknowledgement of their earlier contributions to their respective Caja. These "bonds" were offered to all workers who, in the five years preceding the enactment of the social security reform, had made at least 12 contributions per month to any given social security institution. That institution, in turn, issued the "bonds" in the worker's name.

The value of the bond is adjusted for inflation and obtains a real profitability of 4% per annum. These funds are added to those accumulated in the worker's

AFP account and are made available solely when the worker has fulfilled existing retirement requirements (except in cases of death or disability).

4. INSTITUTIONS: FORMATION OF THE INP AND CAJA MERGERS

In 1981, the state-run social security system was grouped together into three key institutions (with the exception of the cajas belonging to the Armed Forces and National Police):

- EMPART-SSS: the Private Employees Caja, some smaller cajas and the Social Security Service;

- CANAEMPU-FF.CC. (and Hippodromes): the Public Employees Caja, Railroad Caja and several cajas from the racecourse sector.

- CAPREMER-TRIOMAR: the officers and seamen of the Merchant Marines Caja.

These pension programs were brought under the sole jurisdiction of the Ministry of Labor and Social Security which was responsible for appointing caja directors. Supervision and control of these organizations fell to the Superintendency for Social Security.

Furthermore, an Institute for Social Security Normalization (known by its Spanish acronym, INP) was created to propose measures aimed at reforming the system, reconstructing individual accounts to enable the amount of recognition bonds to be calculated and administering a special fund (composed of State contributions, income generated by the sale of the assets of some institutions and investments) to be utilized to cover the deficit generated by the institutions functioning under the old system as well as the payment of recognition bonds transferred to the new system. Thus, by 1988 the three key social security groups mentioned above had been fused into a single institution under the direction of the INP.

5. RELIEF PENSIONS

In 1974 a system of relief pensions aimed at the aged and the handicapped with limited resources and no insurance was implemented. Specifically, such pensions were granted to handicapped persons over age 18, those over 65 and the mentally handicapped of all ages (so long as the latter were not generating family-oriented subsidies). In order to qualify, applicants were required to possess either no sources of income or independently-generated income of no more than 50% of the minimum pension if they lived alone. For those residing with family members, the total family income could not be greater than 50% of the minimum pension.

V.THE NEW PENSION SYSTEM

1. INDIVIDUAL CAPITALIZATION: WHY CHANGE THE SYSTEM?

The adjustments introduced into the pension system by Decree Law 2,448 made uniform the requirements for retirement and helped solidify the system's long-term financial stability. Thus, one must ask why Chile continued to push forward with a reform process aimed at modifying the very nature of its pension system. The response is quite simple. Evaluations conducted at the time showed quite clearly that the problems with the "pay as you go" system arose from its very conception and that specific efforts to correct some of its most negative aspects ran the risk of being repeated over time with new modifications which might once again put the system's financial health in jeopardy. Such modifications could include discriminatory norms and other actions resulting in an unjust, inefficient, bankrupt pension system.

In essence, the destruction of the old system was inherent in its design: by eliminating ties between premiums and the level of benefits received, the system served as an incentive for individual interest groups to press for special legislation aimed at improving their benefits without a corresponding increase in premiums. One way of demonstrating this relationship is to compare the ratio between active workers and retirees in the old system with those of the country as a whole. While in 1960 the relationship was 8.6, in 1975 it reached just 2.5. From this data one might conclude that a large demographic shift, resulting in a substantive increase among the aged, caused the system's financial breakdown. However, in 1960 the population over age 60 represented just 15.58% of the population aged 20-60. In 1980 this relationship stood at 16.74% -- a notably undramatic shift -- indicating that the system was designed to offer benefits beyond its ability to finance them. If Chile had rested on the results of Decree Law 2,448 there was no reason to believe that in another 50 years the system might not once again face a similar crisis (as a result of subsequent legal modifications, the pressure for which, as we have seen, was inherent in the old system).

2.PRIVATE ADMINISTRATION: THE NEW AFPs, EXCLUSIVITY AND DOMAIN

Once the decision had been made to replace the "pay as you go" system with an individual capitalization program in which benefits were to bear a direct relationship to premiums, there were in essence two potential ways of organizing the new system: insurance or capital accumulation.

a.Insurance or accumulation?

An insurance-based system means that a worker contracts with an insurance company to receive a pension in exchange for payment of a periodic premium (retirement contributions). The relationship between the premium and the

pension is essentially determined by long-term market interest rate in effect at the time the agreement is signed. The primary advantage of this system for the worker is that he/she will know exactly how much pension money will be available upon retirement. However, this system represents a tremendous risk for the insurer who has to set a long-term variable. Moreover, in the Chilean case, the situation was further complicated by the underdeveloped and exclusively domestic financial market in which long-term investment instruments of this type were rare.

Since the Chilean capital markets did not offer good investment options, insurance companies might have been able to off-set their risks through large capital holdings and reserves. However, such a procedure would have created a barrier to market participation, thereby limiting competition. In addition, given that there was a risk of an imbalance of funds -- resulting from the rigid economic environment which the insurance companies would not be able to overlook -- in all truth the economic risk would have remained even if it could have been off-set financially by increased capital and reserves. These conditions led policy designers to believe that such a system could increase operational expenses to the point of making it inviable.

The better option, then, was the accumulation of funds, setting a minimum premium and allowing the amount of the pension to be the floating result of the profitability of the investments made with the funds accumulated in an individual account. Thus, while the risk to the worker would be greater under this system, the overall risk for the system was modest. Moreover, the accumulation system ensured greater competition since did not require large amounts of investment capital. In an effort to compensate for the risk undertaken by individuals, mechanisms were implemented that allow additional voluntary contributions to increase the amount of the pension and the option of moving forward the retirement date.

b. Administrative Institutions

In order to administer the system, private institutions were needed. These institutions, in turn, would have to be efficient in order to remain competitive. The idea of granting administration to banks, through a trust, was discarded for practical reasons. At the time of the 1980 reform, there were doubts as to the financial stability of the banks and the efficiency of existing banking supervision mechanisms. Two years later, a crisis in Chilean capital markets proved that the decision had been a good one. Furthermore, the question of a possible conflict of interest arose given that bank deposits were one of the logical investment options for social security funds.

Thus, Chile's policy planners opted for a system administered by new private institutions, so-called AFPs, which were created specifically for this purpose, with exclusive domain over retirement funds. An oversight agency was also created,

the Superintendency of AFPs, whose staff was small and highly qualified. The time lag between passage of the new legislation and the starting date of the new system gave private investors time to design the new institutions. The AFPs were to be financial intermediaries or "mandatees" of the funds they were administering (rather than the owners of said funds). Thus, a separate "Pension Fund" was created as an independent patrimony in which worker premiums and investment profits were to be kept.

Naturally, the question of whether AFP-style institutions with exclusive domain are the best alternative for administering this type of system is open to debate. Insurance companies or financial institutions engaged in similar areas of business might also be valid options, depending on conditions in any given country.

3. INVESTMENT: PROFITABILITY, RISK, DIVERSIFICATION AND GUARANTIES

The level of benefits, and therefore the merit of the system, depended on the profitability of the investments made. As we have said, actuarial calculations indicated that in order for men to retire at age 65 and women at age 60 with a pension equal to approximately 75% of their final year of income, a system that provided real profitability of an average of 4% per annum was needed. This figure appeared to be well within the realm of possibilities for the Chilean economy. The next matter was to formulate a portfolio of investment instruments available to the AFPs that would enable them to achieve this rate of return.

The objectives of profitability and competition to attract affiliates had to be compensated with the protection that contributors' payments warranted. Workers were being required to save for their pensions and therefore a supervisory agency was created to oversee the system. Furthermore, investment diversification regulations were established in order to reduce risks. Investment options and limits were established by law. Initially, the options were oriented toward debt instruments, especially public debt. There were three reasons for this: first, there was a need to generate trust in the system (investments in paper backed by the State would achieve this); second, it was a way of relieving the cash-flow problem generated by the social security reform itself; and third, capital markets at the time did not offer other options (this *modus operandi* would give the market time to develop other alternatives).

Eventually, new investment options were opened up to AFPs, among these corporate stocks were particularly important. This helped to broaden fund options, allow for higher profitability rates than those granted by set-income instruments as well as to reduce Chile's debt-capital relationship by capitalizing companies which had been affected by the crisis of 1982. Lastly, the option of investing in private stocks was of particular use to the government in moving forward with its policy of privatizing state-owned companies. The availability of

institutional buyers for the shares issued by these companies was a distinct boon to the privatization program which required large-scale purchases and vast purchasing power.

From the start, the system included regulations on diversification, establishing limits on investments issued by a single party and limits on types of instruments. Later it became clear that investment instruments needed to be classified and, given their fluid nature, a risk classification commission was created.

These mechanisms ensured reasonable safety in the investment of pension funds. In addition, two mechanisms were created aimed at ensuring a minimum profitability for pension funds. The first consisted of establishing a maximum deviation a given AFP's profitability on investments could have as compared to the system's average. For this purpose, a profitability fluctuation reserve was created as a part of the fund with monies obtained through excess profits generated at an earlier date. If profitability for a given period drops below the maximum permissible deviation, reserve funds are utilized. Should the drop be greater than the available reserve funds, monies from the system's required reserves (equal to 1% of Pension Funds) are utilized. As of the time of this publication, this had occurred only once in the 11 years the system has been in operation.

The second "safety" mechanism is the State's guaranteed minimum pension. If, with all of the other mechanisms mentioned above in effect, an affiliate reaches the end of his/her active life with a total pension lower than the minimum established by law, the State will make up the difference so long as certain basic criteria, in terms of the number of years of contribution, are met. Thus, the State's contribution reaches only the most needy, making the system solidary; a true network of support between the wealthy and the impoverished.

4.BENEFITS: TYPES OF PENSIONS, LIFE-TIME INCOME, SCHEDULED WITHDRAWALS

The new social security system was designed to provide three types of benefits: old age, disability and survival. The variety of needs affecting each of these categories determined the new framework in which these benefits were to be provided.

Old age, at least in chronological terms, is a fact of life. Thus, old age pensions can be covered through an accumulation of funds as described above. In order to achieve this accumulation, a minimum obligatory contribution rate of 10% of worker income was established to finance an old age pension (additional contributions are voluntary).

Affiliate disability or death, on the other hand, are not predictable occurrences and may occur at any time. Thus, it is possible that an affiliate may not have

sufficient funds accumulated at the type of the mishap to ensure a pension that bears some resemblance to his/her level of income. Therefore, insurance is required. AFPs periodically acquire insurance to provide affiliates with disability and survival pensions should tragedy strike (an additional variable fee which fluctuates between 2% and 3.75% is charged). The relationship between this insurance and income level is established by law. The additional fee for these benefits is part of the AFP's pay and therefore has become one of the areas in which the Administradoras compete for affiliates. Furthermore, the AFPs may charge affiliates commissions to cover administrative costs.

a. Disability Pensions

Non-retired affiliates who do not meet the minimum age requirements for retirement who lose at least 50% of their work ability, either through illness or the weakening of their physical or intellectual strength, are entitled to disability pensions. A committee of three physicians appointed by the Superintendency of AFPs, through its offices around the country, determines whether a person qualifies for a disability pension. In order to be declared completely disabled, the loss of capabilities must be over 66%. Other affiliates losing over 50% but less than 66% of their capabilities are considered partially disabled. The legislation also contemplates "transitory disability," which entitles the affiliate to a three-year pension. Upon completion of the three year period, a second review is conducted to determine whether such benefits will be retracted or whether a permanent disability pension will be granted.

b. Survival Pensions

Benefits are provided to affiliates' survivors. No differentiation is made as to whether the affiliate is active or retired at the time of passing. Pensions are granted to widows/widowers, orphans, mothers of children born out of wedlock and the mother or father of the affiliate if there are no other beneficiaries.

c. Withdrawal Options

Old age retirement occurs when certain requirements have been met such as age (65 for men, 60 for women) or when the amount of accumulated funds allows for early retirement. In the latter case, the amount of funds required is tied to before-retirement income so as to ensure that early retirement affiliates will not become a burden to society in the future nor suffer a dramatic drop in living standards.

Affiliates who fulfill old age or disability requirements and survivors of deceased affiliates may make use of the funds available in an individual account in order to form a pension in the following fashions:

- Immediate Life-Time Income

The funds accumulated in the individual's account are transferred to a life insurance company chosen by the affiliate in exchange for a life-long monthly payment expressed in readjustable monetary units. A survival pension for beneficiaries is also contemplated in this agreement. In order for the affiliate to select this option, the pension offered must be equal to or higher than the minimum monthly pension established by the State.

- Scheduled Withdrawal

Accumulated funds remain in an account with the AFP and monthly withdrawals in readjustable monetary units are made in accordance with a pre-established schedule that is recalculated annually. Under this system, there is no life-time insurance, rather the value of the pension is recalculated annually in accordance with the retiree's life expectancy. In this sense, it is less "certain" since the amount of the pension may drop over time if the retiree lives longer than the initial life expectancy calculations would have indicated. However, this option does have two important advantages: 1) larger pensions may be obtained during the early years of retirement; and 2) any funds remaining in the account after the affiliates death may be transferred to his/her legal heirs.

- Temporary Income with Differed Life-Time Income

A combination of the other two options. The affiliate takes out insurance for a monthly life-time income as of some future date established in the contract and leaves sufficient funds in an AFP account so as to insure a Temporary Income until the date the life-time income payments begin.

VI.PERFORMANCE OF THE NEW SYSTEM

1. IMPLEMENTATION

Implementing the new system naturally posed a series of challenges. First, there was a need to have qualified institutions with state-of-the-art technology capable of managing the vast quantities of information inherent in an individual capitalization program in an efficient and accurate fashion.

The system, moreover, needed to be prepared to confront a start-up period characterized by high levels of unawareness and misinterpretation among workers, employees as well as considerable disarray resulting from the competition among AFP sales forces in their effort to gain affiliates.

Thus, it was crucially important to confront these challenges with an oversight agency which would be strong enough to manage the system but was committed to the advantages of private administration. Such an agency would set operations regulations for the AFPs aimed at fostering trust the system's credibility and security among affiliates and employers alike.

Furthermore, such an agency needed to have both a profound understanding of the nature of the system and creativity in order to implement on-the-spot adjustments to correct weaknesses in the system as they emerged. Superintendency of AFPs, created for this purpose, was able to provide these services through its small but highly qualified and knowledgeable staff.

2. INDUSTRY CHARACTERISTICS

In 1981, the first year the new system was operational, 12 Administradoras de Fondos de Previsiones (AFPs) were formed. As of December 31, 1990, that is, almost ten years later, 14 AFPs were in operation, dividing among them a market of 3,739,544 affiliates. The annual average rate of affiliation, 10.3%, takes into consideration the initial rush when the AFPs commenced operations, a pace that has stabilized over time. The evolution of affiliates can be seen in Chart 2.

a. Market Participation

Of the 3,739,544 affiliates, the three AFPs with the largest market share are Provida (29%), Santa Mar'a (20.1%) and Habitat (17.1%) which comprise 69% of the pension fund market (see Chart 4).

Chart 2 Evolution of affiliation in the New System

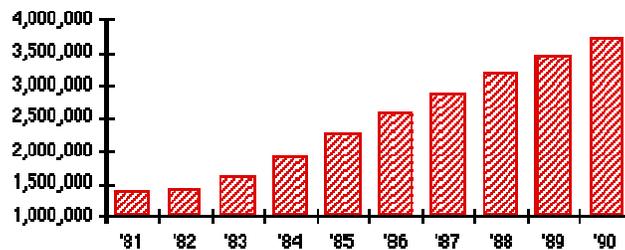


Chart 3 Affiliates by Sex (as of Dec 31, 1990)

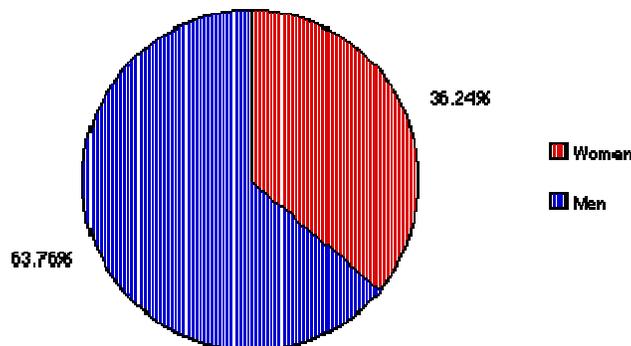
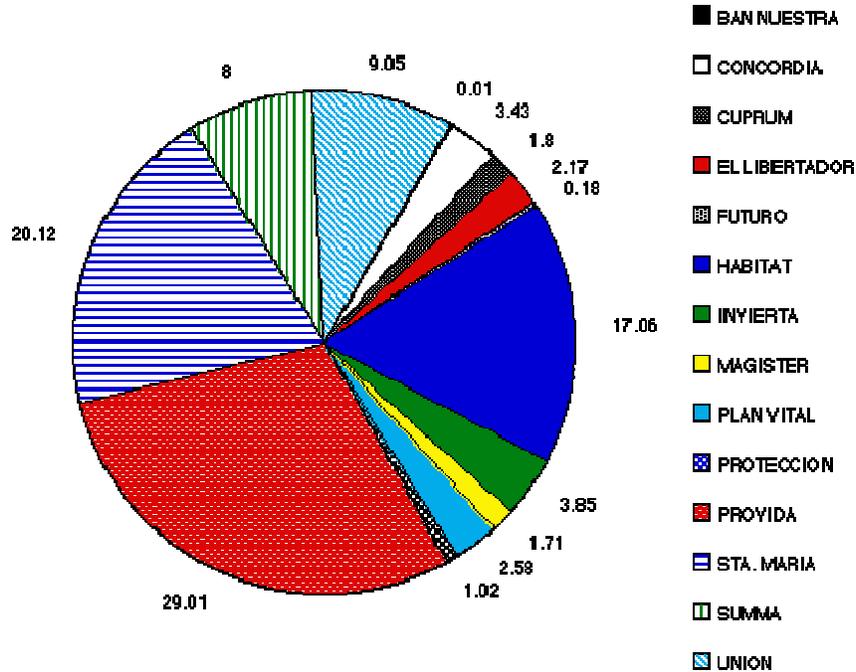


Chart 4 Market share of Affiliates (as of Dec 31, 1990)



In 1981 the three largest AFPs accounted for 73% of affiliations to the new system, thus, it is apparent that over time a certain dispersion has occurred.

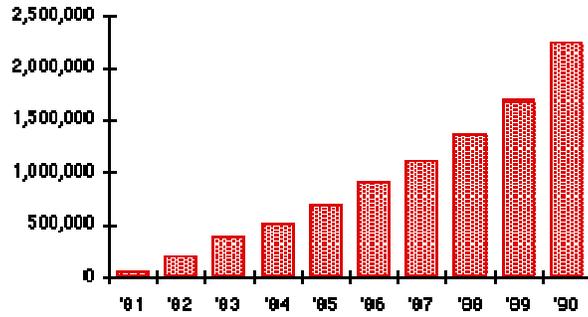
b. Resources Administered

In December 1990 the resources accumulated in pension funds totaled over 2.4 billion pesos, reflecting a growth rate of 33% in real terms as compared to the previous year and an average annual growth rate of 42% as compared to December 1981 (Chart 5).

c. Premiums and Commissions

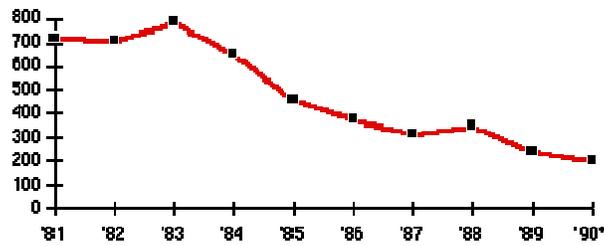
The commissions charged by the AFPs have tended to decline over time while the 10% basic premium rate has remained intact. Furthermore, a percentage commission based on annual account balance was eliminated in 1988 (Chart 6).

Chart 5 Funds Accumated as of December of each year
 (\$ as of December 1990)

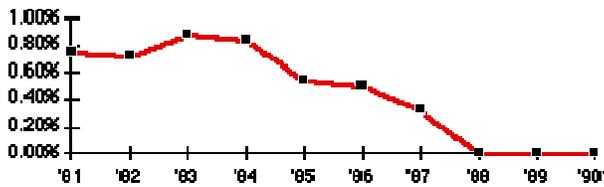


Source : Bolet'n Estadistico Mensual S.A.F.P.

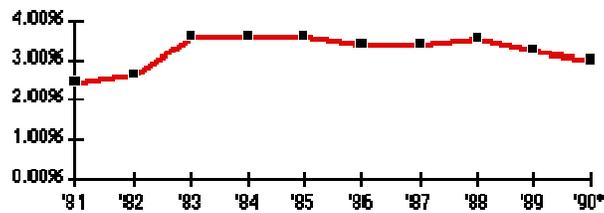
Chart 6 Evolution of Fixed Commission(in December 1990 \$)



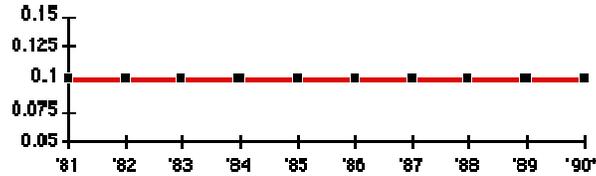
Evolution of Percentual Commission(Annual % of account balance)



Evolution of Additional Contributions(% of taxable income as of Dec. of each year)



Evolution of Basic Contribution(monthly % of taxable income)

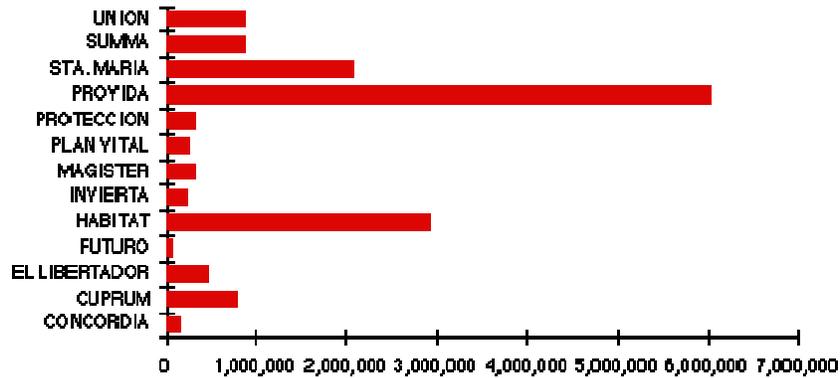


Source : Bolet'n Estadistico Mensual S.A.F.P.

d. Results of the AFPs

The operating profits of the system for 1990 totaled over 15.6 billion pesos. Provida showed the highest operational profit at 6.037 billion, while Futuro registered the smallest profits with 5.3 billion (Chart 7).

Chart 7 Operating Profits of AFPs for 1990

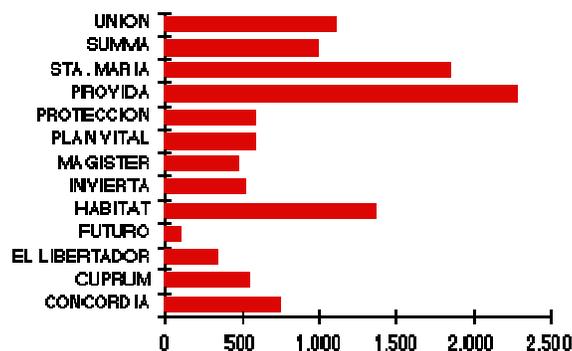


e. AFP Employees

As of January 31, 1991, there were 11,565 people working for AFPs, including sales staff. This figure nearly triples that of December 1982 (Chart 8).

Chart 8 Number of workers per AFP

(As of Jan 31, 1991: includes sales force)

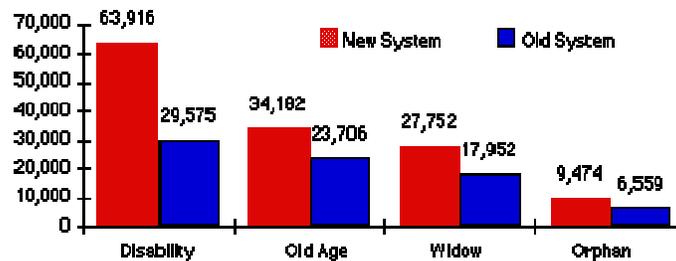


Source : FECU as of Jan. 31, 1990

3. PENSION LEVELS

As can be seen in Chart 9, the average pension paid by the new system for all types of pensions are higher than those paid out by the cajas under the old system. Average pensions in December of 1990 were: old age, \$34,182; disability, \$63,916; survival, \$27,752; and orphanhood \$9,474. The differences between the AFP system and the old one amount to 1.4 times for old age, 2.2 times for disability, 1.5 times for survival and 1.4 for orphanhood pensions.

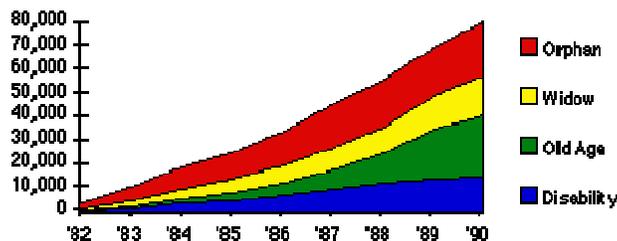
Chart 9 Average Amount Paid by the New System and the "Cajas" in Dec 1990



Source : Bolet'n Estadistico Mensual S.A.F.P.

Furthermore, the number of pensions paid out rose from 4,465 in 1982 to 79,946 in December of 1990 as a result of the maturation process the new system is undergoing (Chart 10).

Chart 10 Evolution of the # of pensions paid in Dec. of each yr.



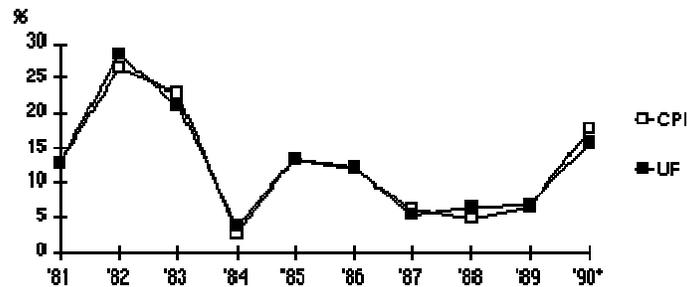
Source : Bolet'n Estadistico Mensual S.A.F.P.

4. PROFITABILITY OF INVESTMENTS AND IMPACT ON THE CAPITALS MARKET

The profitability of investments made by the AFPs can be measured by the profitability of monthly premium as reflected in the fluctuation that those

contributions undergo. Thus profitability evolution has been as follows (see Chart 11):

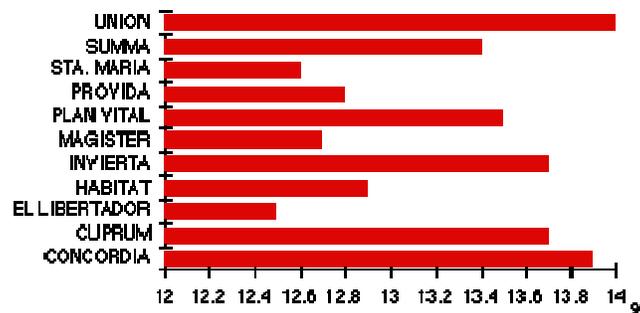
Chart 11 Real Annual Profitability of payments(adjusted for CPI and "UF")



Source : Bolet'n Estadistico Mensual S.A.F.P.

This data shows a real, annual, system-wide profitability rate of 13% between July 1981 and December 1990. The AFP obtaining the highest profitability reached 14% while the lowest came in at 12.5% (see Chart 12).

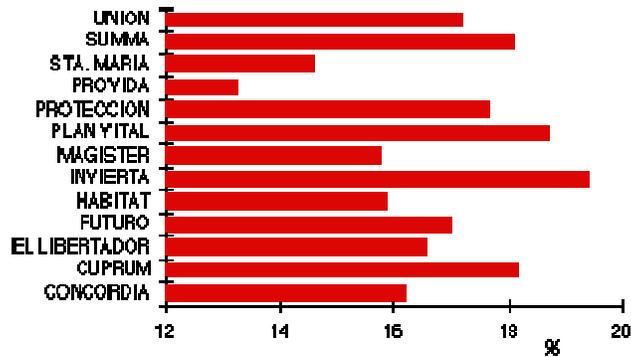
Chart 12 Annual Average Accumulated Profitability July 1981 - Dec. 1990(adjusted for UF)



Source : Bolet'n Estadistico Mensual S.A.F.P.

For the period January-December 1990, the system's real average profitability rate was 15.6%, with a range among different AFPs from 13.3% to 19.4%. (See Chart 13).

Chart 13 AFP Profitability in 1990(adjusted for UF)



Source : Bolet'n Estadistico Mensual S.A.F.P.

Although profitability is hard to predict over the long term, the very fact that these levels have been achieved provides an initial endorsement of the system since future pension levels will be even higher than early projections, representing a significant improvement over the old system. These factors can be expected to consolidate the Chilean social security reform as a highly successful experience.

a. Impact on Capitals Markets

The impact of the social security reform on capital markets has been extraordinarily important. Investments made by the AFPs have changed the structure of Chile's financial and stock markets. For example, as of September 1990, 56.1% of mortgages and 53.9% of corporate bonds were held by Pension Funds. From this, we can deduce that pension funds are helping to finance homes and investment in private companies in addition to their participation in other areas of the economy. In October of 1990, pension funds accounted for US\$564 million (8.9% of total Fund investments) worth of shares. By June of 1991, that rate of investment had increased to almost 1.7 billion, representing 19.9% of the Funds' total. The AFPs have served as important institutional investors, providing an additional source of financing for the entire economy and serving as a key element in the development of an efficient, transparent capital market in Chile.

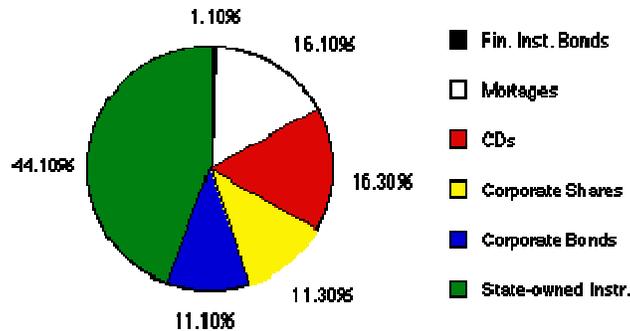
In December of 1990, the accumulated monies in Pension Funds totaled 2,244,481,000, equivalent to 26.6% of GNP. In 1982, that ratio had been only 3.6%. Compared with financial liabilities, these funds represented 19.5% of the 1990 total whereas in December of 1982 they represented 5.3%. Lastly, in December of 1990 pension funds represented 44.6% of new investments made in the financial system; in December of 1982 that figure had stood at just 4.4%.

Another aspect worth noting is the impact, both in quantity and quality, of the presence of large quantities of pension funds on the life insurance market. In 1990, sales-generated income for life insurance companies totaled US\$492 million. Of this, US\$92 million was in sales to AFPs for affiliate disability and

death coverage, while US\$300 million was in sales of life-time income plans, one of the pension options established by the legislation that created the AFP system.

The 2,244,481,000 pesos accumulated as of December 31, 1990 were invested as shown in below (see Chart 14).

Chart 14 AFP Investment Portfolios



VII. REMAINING CHALLENGES

The success attributed to the new system by a broad range of observers and analysts does not mean that challenges do not remain. The system's natural evolution and the evolution of the context in which it develops (the Chilean economy), give rise each day to new challenges which must be overcome. Some of the key issues currently under discussion in Chile are as follows:

1. PENSION FUND INVESTMENTS

The challenges facing pension funds for the future are tremendous. The magnitude of the funds and their rapid growth have meant an important and expanding demand by the AFPs for additional investment options. However, the number of potential financial instruments is limited, expands slowly and is further complicated by the restrictions on how and where AFPs can invest the nation's pension funds. Clearly, ways need to be found to increase the types of investment options available and adjust to the AFPs growing needs. In order to do this, the private sector needs to make every effort to increase investment possibilities while the public sector must seek to create the necessary conditions and loosen regulations on investing in new or existing instruments in an effort to ensure an adequate supply of investment options for the AFPs until pension fund growth stabilizes. Naturally, the level of pensions AFPs are able to provide their affiliates will depend to a large extent on the availability of attractive investment options.

Chile's Pension Funds are growing at over US\$200 million per month and accumulated monies now total close to US\$10 billion. In five years, this figure

could double. The most immediate effect is that existing authorized investment options for AFPs (consisting of Central Bank and Treasury documents, mortgages, corporate bonds and debentures, CDs with financial institutions and stocks), with their classifications and limitations, are already fairly saturated. The lack of options could lead to an over-investment in these types of instruments. This would clearly not be healthy for the capital market nor for the economy as a whole. For example, analysts have attributed the consistent rise in stock market price indexes to the unwavering and growing demand for instruments in which to place pension fund monies. As noted earlier, in October of 1990 Pension Funds accounted for US\$564 million (8.9% of total Fund investment) in stocks. By June of 1991, that rate of investment had increased to almost 1.7 billion, representing 19.9% of the Funds' total. In other words, an increase of over 1 billion dollars in just eight months.

The new options under study are: participation in the financing of public works through private concessions; financing of new investment projects; investment funds; and risk capital. All of these options, assuming appropriate operating mechanisms are found, appear to be interesting. In fact, the primary element under discussion is what instruments will be used to permit pension fund monies to be utilized in this type of investment. It seems that bonds which can be converted into shares may be the best way of entering into these new fields.

Another option put forth by some analysts is the possibility of investing pension fund monies in the commodities market, such as futures and options.

A third clear option is investment abroad. According to existing legislation, the AFPs may invest between 1 and 10% of pension funds in instruments emitted abroad. Nonetheless, the Central Bank, the Risk Classification Commission and the Superintendency of AFPs have not yet reached the agreements necessary nor issued regulations which would make this system operational. Nonetheless, at the time of publication, such changes were under active study. The existing regulations allow for AFPs to invest abroad no more than 1% per year of their funds over a five year period. The percentage of investment may then be increased to 10%. The Central Bank is responsible for setting the maximum limits for overseas investments in any given year so long as that limit is within the bounds of the law.

A study conducted by Chilean economist JosŽ Ram—n Valente and published by the Center for Public Studies (CEP) suggests that allowing pension monies to be invested abroad would increase the rate of return and significantly reduce risk.

If funds were invested in accordance with current legislation (which excludes stocks), Valente concludes that pension levels could be increased by 18%. If the legislation were modified to permit investment in stocks, the study projects that the increase in pensions could reach over 40%.

Clearly, the most important issue the Chilean social security system faces today is how to expand options for investing the vast quantities of funds being generated, including the option of investing abroad. The breakdown of the old system, as we have seen, was caused by a variety of factors. However, the most important effect of its collapse was to sentence a generation of Chileans to living out their old age in precarious conditions. Any measure which, based on rational criteria, offers the possibility of increasing pensions under the new system serves as a guarantee that history will not repeat itself.

2. NEW PRODUCTS, EXCLUSIVE DOMAIN AND MARKET EXCLUSIVITY

Just as the possibility of opening up new areas of investment for AFPs has been under study, so has the option of allowing them to offer new products to affiliates. The argument in favor of permitting them to do so sustains that, given that such a long time goes by between the date contributions commence and the date of retirement, affiliates feel out of touch with their AFP. Increased levels of affiliate identification, based on new products, are said to enhance the perception workers have of the system. Such an attitudinal shift, the argument affirms, would help to strengthen the system overall. Detractors note the temptation of utilizing the accumulated monies to provide benefits which in the long run will only reduce the value of pensions. After all, they say, the system was created to provide pension benefits. In any case, we cannot overlook the fact that this is precisely what happened under the old system.

The authors of Chile's social security legislation believed strongly in the latter argument and thus AFPs were not authorized to provide any other type of benefit. In 1988, however, a special voluntary savings account was introduced. These accounts are managed separately from the obligatory contributions and withdrawals can be freely made up to four times in a calendar year. This form of savings also has certain tax benefits. Subsequent modifications made it possible for funds accumulated in these accounts to be considered part of advance savings required for Chileans to apply for State housing subsidies. Clearly, these new products do not endanger the end goal of providing quality pensions to affiliates. However, the challenge of creating a greater sense of identification between affiliates and their AFPs persists.

The issue of the exclusive domain of the AFPs has given rise to a second debate. If AFPs are permitted to move into other areas, why not allow other institutions, such as banks and insurance companies, to participate in the administration of pension funds? Although a profound analysis of this matter is beyond the purpose of this publication, it is worth mentioning two elements which must be taken into consideration in analyzing this situation:

a. The decision to adopt an exclusive domain for AFPs, as we have said, was made on the basis of a series of practical considerations dealing with the overall objectives of the system. Those objectives were, essentially, to provide good

pensions within a reasonably secure framework for affiliates and to work within the bounds of the financial markets existing in Chile at the time of the reform. These objectives continue to be valid. In order to analyze the situation properly, one would have to review whether the current situation in Chile's financial markets meets the demands these objectives impose.

b. There would be a conflict of interest for some institutions interested in entering the social security field given that many of the AFPs investments are channelled through banks and life insurance firms. In order to permit participation by these institutions, a review of existing regulations would have to be conducted to see if affiliates interests would be sufficiently protected.

3. COMPETITION: PRICES, COMMISSIONS AND TRANSPARENCY

Competition in the AFP market is crucial to the extent that it ensures that private firms participating in the industry will seek to be as efficient as possible. Consumers, in this case the affiliates, look for the AFP which offers the most attractive conditions. Thus, competition in this industry emerges in the effort to provide the best services and, naturally, the lowest prices.

The commission structure AFPs utilize to charge their affiliates is fairly complex, and thus the pricing structure is equally complicated. In other words, affiliates do not have access to fully transparent information. With the initiation of the system, AFPs were authorized to charge commissions for the deposit of periodic premiums, individual account maintenance, transfer of the balance to another AFP and for withdrawals made under scheduled withdrawal plans. These commissions could be either pre-set or percentage-based.

The complexity of the problem has diminished over time with the simplification of commissions structures. At present no fee is charged for account maintenance or for withdrawals while fees for account transfer are rare.

Set commissions affect the balance accumulated in individual accounts, while percentage-based fees are calculated on the basis of contributors net income. The composition of commissions has varied over time, thereby increasing the importance of those which affect net income. In any case, following an increase between 1981 and 1983, cost of commissions has tended to drop.

The book Ten Years of History for the AFP System, published by AFP Habitat, contains a broad range of information on the development of AFPs which was compiled by a team led by economist Augusto Iglesias. Their data on commissions indicates that in 1983 the average cost to a contributor was 5% of pay and that by December of 1990 that figure had dropped to just 3.2%.

The challenge in this sense is to devise the simplest possible price structure, thereby providing accurate information to affiliates on the conditions offered by

each AFP. The idea is not, however, to limit excessively the items for which AFPs may charge commissions, as these items must be representative of the costs that an AFP effectively encounters in administering affiliate accounts.

4. OLDER GENERATIONS

Lastly, a word about the older generations may be of use to others designing a social security reform. The new Chilean pension system was not aimed at solving the problems of those who had retired under the old system. Thanks to its design and capitalization-based concept, the new system was conceived as a way of avoiding the retirement trauma of the elderly among future generations of Chilean retirees. Thus far, the system has been successful in achieving this goal.

This perspective, which is conceptually clear to any country which has accumulated oversized liabilities, is not always understood, particularly among older retirees. Thus, in practice, government authorities cannot ignore the often dramatic situation of those who retired under the old system, even after a social security reform has been successfully implemented. In other words, a reform, no matter how well conceived, cannot be the panacea for all of the social security problems a country may face.

HEALTH CARE

MERCEDES CIFUENTES C.

I. BASIC CONCEPTS

The responsibility for satisfying health care needs, as well as those of education, housing, sustenance and others, belongs primarily to individuals. Health is a state of well-being and therefore constitutes a good which will inevitably be in demand by individuals who seek to improve their quality of life and postpone their death. Moreover, health is a determining factor in the productive capability of human beings, in their capacity to generate income and constitutes, therefore, an investment in human capital. Thus, we may conclude that **health care should be a primary concern of individual themselves.**

Nonetheless, in underdeveloped countries such as Chile, where levels of poverty exist that limit individuals' ability to adequately satisfy their health care needs, **the State must play a role** in bolstering existing resources to complement individual efforts.

The action of the State is also justified in materials which constitute a part of the public good such as those aimed at eradicating preventable illnesses, controlling pollution and regulating the quality of foodstuffs as well as those aimed at improving human capital and the productivity of individuals who are unable to do so for themselves. The State's role in these areas is justified because the benefit to society is greater than the benefit for the individual.

1. PRIVATE SOLUTIONS IN HEALTH CARE

When we speak of privatizing the health care industry, we mean transferring to the private sector some of the activities in which the public sector has traditionally engaged and can, because of their very nature, be performed better by the private sector.

The task of privatizing is slow and difficult; it is often misunderstood and exploited politically. Such conditions mean further delays in its implementation, despite the fact that benefits and strategy may be perfectly clear. Nonetheless, incorporating private sector-type initiatives into the public sector, in an effort to achieve greater efficiency in the use of resources, is also an important step toward privatization.

For the purposes of this analysis, we shall classify the activities of the health care industry as follows:

- **Regulatory Activities:** establishing, enhancing, modifying and eliminating legal statutes and regulations and overseeing compliance with existing legislation;

- **Implementation Activities:** implementing health care services, both out-patient and hospital care and overseeing the corresponding biomedical variables;

- **Financial Activities:** collecting health care contributions, charging fees for services provided and financing partial or complete healthcare for a certain sector of the population.

Of these three activities, the State should have full responsibility solely for the regulatory activities.

The private sector may participate in the implementation activities involved in providing services to individuals, while the State retains responsibility for controlling the biomedical variables. Furthermore, the financial activities or the collection of premiums, fees for services and the administration of those resources can be easily done by private organizations. Responsibility for the distribution of subsidies to support the most needy, as well as the financing of measures in the public interest, must fall upon the State.

The first step toward privatization is making a distinction between the financial role of the State -- the redistribution of income, through State-financed subsidies, to complement the personal resources of the most needy -- and the role of administrator of those resources. The latter can easily be delegated to other institutions. Second, regulatory and oversight activities must be separated from implementation activities. The State forms policies, develops plans and programs, establishes regulations and oversees the activities in which public, municipal or private institutions engage. The first step toward privatization, then, is to differentiate clearly between the subsidiary and regulatory role of the administrator, in terms of both services and financing.

To those individuals who lack resources of their own, privatization means the justify to choose a health care provider, either public or private, without losing the State's subsidy. The most needy may, initially, choose their health care provider from among different public or municipal institutions. Later, the individual may choose between public institutions and private ones, achieving better quality care as a result of competition to attract patrons. Ideally, the institution an individual selects should benefit financially from that choice so that a greater incentive is created to provide good service.

For those individuals who have resources of their own, privatization means allowing them to associate directly with the organization offering health care services in a free and competitive marketplace. In this case, privatizing means the opportunity to select health care establishments, both in terms of physical and financial services, with the clear option of moving to another institution if adequate service is not provided.

THUS IT IS CLEAR THAT PRIVATIZATION IS NOT:

- **Leaving the poor without health care:** People are often fearful prior to privatization. Some believe that if the State does not manage healthcare the poor will be left unattended. This presupposes that the State will not fulfill its role in guarantying a minimum level of satisfaction of the population's needs. Privatizing is not releasing the State of its obligations; rather, it is limiting its field of action to the areas in which its participation is truly necessary and allowing the State to concentrate on providing optimum services in the tasks it undertakes.

- **Diminishing the State's control over health care:** Some people may believe that with privatization the State loses control over healthcare-related activities. This is not the case. In fact, the regulatory and financial roles are separated and only a portion of the latter are privatized.

Thus, allowing for private sector participation in the health care sector does not mean that the State's responsibility -- both in terms of the formulation and oversight of regulations and support for the most needy -- ceases to exist. Furthermore, by diminishing its implementation-oriented and financial roles, the State may concentrate on reviewing, modifying and overseeing compliance with existing regulations, on development and protection and, in matter of the public interest, on providing services to the neediest sectors of the population.

- **Exploitation of health care professionals by health care entrepreneurs:** In general, the salaries of health care professionals are determined by the market, that is, the relationship between the availability of professionals and the need for their services by public or private institutions or by individuals who request their services directly. Health care entrepreneurs will have to compete, through salaries and other working conditions, to secure and retain the most qualified personnel possible. At present, salaries among the private sector are higher than those in the public sector.

A lack of concern about infectious-contagious diseases: The prevention of these diseases constitutes a public interest and therefore the State continues to be responsible for planning, formulating and financing programs even though it is the private sector that implements them under the express direction of the Ministry of Health.

- **Layoffs:** In the Chilean health care sector there was no excess of personnel and therefore privatization did not produce wide-spread layoffs. Nonetheless, employment stability under the new system depends on the quality of services rendered, a situation common in other productive sectors. This is diametrically opposed to the old "tenure" system.

- **Public health measures will not be taken:** All activities for which it is difficult for private persons to obtain individual benefits constitute matters of public

interest. The responsibility for scheduling and financing these actions continues to reside in the public sector. This is another area in which the State can be more efficient if it privatizes and concentrates on those fields in which it is irreplaceable.

- **Poor service at an excessively high cost to the user:** Many people fear that businessmen, in an effort to increase profits, will offer sub-standard health care and charge excessive prices for these services. This situation cannot arise if competitive conditions exist and users are given freedom of choice. Even in places where health care tends to be a monopoly, competition among health care-financing institutions will improve conditions for users. Furthermore, we cannot forget the regulatory role of the State -- which can be vastly improved if it is relieved of its responsibilities in the area of implementation -- which ensures freedom of choice and competitive conditions.

2. BENEFITS OF PRIVATE PARTICIPATION

The concept of permitting private participation in health care is based on the fact that a purely state-run system or one in which the State has excessive influence poses risks in terms of the quality of attention, coverage, the efficient use of perennially limited resources, monopsonic State control over the salaries of health care workers, the influence of political criteria over technical recommendations, and the limited participation of professionals in the investment decision-making process, among others. Thus, the presence of a private, competitive health care sector is advantageous. Such a sector can grow, take advantage of the benefits of private administration and achieve coverage levels to the extent that individual resources and subsidy policies permit.

Specifically, privatization is justified because it:

a. Improves efficiency

- Activities are conducted on the basis of the proper incentives which naturally leads to increased efficiency. In a private company, the owner decides what type of activities the firm will engage in, what type of resources will be allocated and how those resources will be organized in order to maximize benefits. In this case, the way to obtain increased income is to obtain the predilection of the beneficiaries or "clients" by providing good services. The results obtained from these decisions and the activities implemented are the responsibility of the entrepreneur and those he/she charges with the implementation of those policies. Naturally, the same group is subject to the consequences and results of those decisions. This responsibility is therefore an important incentive to maximizing efficiency. In the public sector, on the other hand, the responsibility for decisions is diluted, as are the consequences and results of management. Therefore, in the public sector there is no such natural incentive to be efficient.

- The increase in competition resulting from private participation breaks the State's monopoly in health care services and provides an incentive for efficiency by establishing competition to attract clients. This means a reduction in costs and an improvement in the services provided. The presence of alternatives to state-run health care centers imposes a competitiveness on the public sector which means that quality, coverage, opportunity and efficiency increase. Similarly, the presence of private health care centers helps to identify and resolve inefficiencies in the state-run system.

- Efficiency is augmented by permitting and fostering the participation of new health care centers and new entrepreneurs in the marketplace. This "new blood" brings organizational and production capabilities to the industry, increases competition and raises returns. In other words, the number of people seeking better ways of "doing things" increases.

b. Increases industry resources

- In addition to enhancing management capabilities and increasing investment and new business options for the private sector, an incentive for the participation of new capital is generated and sources of financing for the industry's operations and investment are diversified. Moreover, by permitting private resources to be utilized in the realization of health care industry projects, the work of the State is reinforced. A lack of a strong private sector means that a large portion of the population receives its medical attention exclusively through state-run agencies. People are, therefore, unable to support the most effective and efficient health care provider through the option of free choice.

- Improvements are made in infrastructure. The broadening of opportunities for doing business in the industry provides an incentive to a larger number of investors to participate. This means an expansion in the number of projects developed and an increase in the infrastructure available for medical care.

An increase in new technology and in the demand for supplies, medical products and hospital-based support services also expands interest in participating in the health care market while simultaneously fostering variety and competition.

- The quality of investment improves. The presence of an array of technological options makes it difficult for public officials to select and prioritize those most urgently needed in each region of the country. Furthermore, the use of new technology means assuming certain costs, such as training for users and repair personnel. The participation of the private sector reduces the risks incurred by the State in the decision-making process over what type of equipment to acquire and involves a greater number of professionals in that selection process.

- Areas of specialization are improved. Specialization and sub-specialization are more and more common in medical fields. This means that specialized institutions must also be created to attend to specific needs. If the State is the sole entity taking responsibility for this diversification, the complexity of the health care network will increase, further attenuating efficiency.

c. Improves working conditions

- The State -- a monopsonic employer which sets rules, determines pay scales and working conditions unilaterally -- is replaced by a variety of private employers who compete in order to attract the best personnel.

- Work opportunities increase with the expansion of the industry and the participation of a larger number of related businesses. The easier it is and the more freedom there is to create private health care-providing entities (or instances of financial support for those services), the larger the ranks of such institutions will be and the demand for qualified professionals will be all the greater, as will the trend to increase their wages.

- There is greater demand for specialized personnel. The opening of the industry to more participants means an increase in competition to bring in additional technology and, consequently, an additional demand for the professionals trained to use such equipment.

- Development of the teaching field. Lastly, academic centers are needed in order to prepare and provide additional training for medical personnel. A larger number of hospitals and health care centers will increase the supply of potential training sites.

d. Individual well-being improves

- Freedom of choice is consolidated for the population at large, for professionals and for potential investors in the health care industry.

- Private participation fosters more equitable taxation. Distribution fund systems frequently mean that the benefits obtained are of low quality as compared to the premiums paid. This leads many contributors to believe that their contributions are not bringing them benefits. Thus, they are unjustly assessed a tax in excess of that established by law.

- Competition increases and serves as an incentive to reduce costs and increase quality through innovation.

II. CASE STUDY: THE CHILEAN SITUATION

A case study review will give us a better feel for the impact of healthcare industry reform as well as its projections for the future and the time required to implement the changes.

In order to understand the reasoning behind the modifications to the Chilean health care system, it is important to understand the evolution of the industry and the problems it faced at the time of the reform. The first part of this chapter, then, will provide background information on the Chilean health care system, while the second will focus on the objectives the reform sought to attain through the policies that were implemented.

1. BACKGROUND INFORMATION

Prior to 1952, Chile lacked an umbrella organization responsible for regulating, administering, planning, financing and overseeing the healthcare system. Rather, up to that date, a variety of organizations, both public and private, provided health care services. There was no real concern for the most needy nor was protection against the risk of illness broadly promoted. However, in 1952, with the creation of the National Health Service (known by its Spanish acronym, SNS) under the auspices of Law 10,383, the public health care system was born, directed by a single organization in which the State's role for financing and administering health care was preponderant. The SNS was responsible for providing health services to Chile's manual laborers and indigent population who received both initial services and medication free of charge.

The National Health Service was organized through the creation of 13 Health Zones located throughout the country. Each Zone was administered by a non-career official dependent on the Ministry of Health. The system was financed by premiums paid by workers (15%), with contributions from the national budget (54%) and income derived from the use of assets. The population covered by the system was approximately 60% of the national total.

Later, in 1968 new legislation was introduced (Law 16,781 on Curative Medicine) to make distinctions between manual laborers -- who continued to receive the same SNS benefits -- and "employed persons" (white collar workers) who would receive treatment from the National Employees' Medical Service (SERMENA), an agency created under the auspices of the new legislation. The primary function of the Service was to provide financial support for the medical attention required by "employees" and its statutes called for it to operate through a mechanism known as Free Choice. Under this system, beneficiaries were entitled to select their own medical professional, who would see them on an out-patient basis, from among those registered with the service. For in-hospital care, the SNS' centers were available. Financing for the system was drawn from premiums paid by beneficiaries and by fees charged when services were provided (fees were capped at 50% of the cost of the service. This system covered approximately 25% of the population.)

During this time period, the private health care industry experimented moderate growth, providing out-patient and hospital care to the wealthy and rounding out state-run ambulatory care services among the rest of the population.

Thus, in the early 1970's, Chile's health care system was composed primarily of three agents: the National Health Service (SNS); the National Employees Medical Service (SERMENA); and the private sector.

The SNS was responsible for attending to the health care needs of workers-- who paid an obligatory premium -- their dependents and the indigent population. Beneficiaries could not select the health care institution of their choice (they had to use the one closest to their place of residence), nor the doctor they would see.

SERMENA was responsible for financing the health care services selected by employees and their dependents and on rare occasions provided services directly.

The private sector attended: SERMENA beneficiaries who opted to see private doctors or utilize private hospitals within the bounds of the Free Choices system; sectors of the population that did not have any other kind of health insurance but had the resources to pay for services directly; and individuals who belonged to some type of private health insurance program such as the Bankers' *Caja* or security mutuals.

Forms of Financing and options for care

by type of employment

Type	Care Provided at	Financing
Worker	Nat. Health Service	State Sub. + Obligatory Premium
	Private Sector	
Employee	Nat. Health Service	Personal + State Sub.
	Private Sector	Obligatory Premium + Subsidy
Other	Private	Personal + Private insur.

This system meant that workers could only receive subsidized treatment at the SNS centers and impeded them from seeking treatment in non state-run institutions even when they had the resources to pay for a portion of these services such private institutions might grant. In order to see

physicians outside the SNS system, workers were obligated to pay the full cost of treatment themselves. This was not the case for SERMENA beneficiaries, who received, on the one hand, a lower State subsidy for services provided in SNS institutions (this was true even if a SERMENA beneficiary's pay was lower than a worker's) and had the option of having their subsidy applied to services provided outside the SNS system, on the other. Moreover, alternatives to the state-run health insurance program were generally limited.

In the 1960's, the level of well-being among Chileans was low on the Latin American scale, occupying 9th place -- as shown in Chart 1 below -- on the basis of the infant mortality rate.

Table 1

Infant Mortality in Latin America in 1970

(rate per 1,000 live births)

Country	1970	
	Inf. Mort.	Ranking
Argentina	59	4 ^o
Colombia	70	7 ^o
Costa Rica	62	5 ^o
Cuba	38	1 ^o
Chile	79	9 ^o
Ecuador	77	8 ^o
Peru	65	6 ^o
Paraguay	94	10 ^o
Uruguay	43	2 ^o
Venezuela	49	3 ^o

Source: UNICEF, "Las condiciones de Salud en las Américas"

2. THE NEW POLICIES

The level of well-being in a country is influenced by a variety of factors. These factors were taken into consideration in seeking to design a strategy aimed at modifying health conditions in Chile. That health care strategy responded to a set of objectives, policies and measures which sought to improve the status of the Chilean population's health as quickly as possible. In order to facilitate analysis and focus on the measures taken, we can summarize this multiplicity of factors along four key lines: level of socioeconomic development, environment,

characteristics of the population and measures pertaining to the health care industry.

A strategy for the industry was designed in accordance with these guidelines and within the framework of the socioeconomic development policies -- emphasizing social issues and economic freedom -- being implemented at the time. The new approach served as the basis for a large portion of the measures taken which, as a whole, sought to modernize the health care industry. Nonetheless, the implementation of these policies was difficult and often incomplete given the numerous obstacles which arose. Among these we should highlight a lack of understanding among beneficiaries, the economic recession of 1982-1985, the opposition of health care workers and perhaps most importantly, the lack, during the first few years the policies were in place, of an overall, persuasive and viable solution to the industry's multiple problems.

2.1 OBJECTIVES

1. To achieve longer life expectancy among the population, especially lower income groups.
2. To maximize Chileans' physical and mental well-being throughout their lifetimes, beginning at conception.
3. To provide equal opportunities among Chileans in terms of both access to medicine and, particularly, a degree of physical and mental development to enable them to participate normally in national life.

2.2 POLICIES

a. General Policies

The basis for social development and, therefore, the basis of the new health care strategy, is economic growth aimed at increasing employment and the population's income, making it possible for individuals to satisfy their basic needs on their own.

The State provides subsidies to those who through their own efforts are unable to reach a minimally-acceptable standard of living.

In Chile, continual efforts were made to ensure that subsidies were concentrated primarily among the most needy in order to avoid excessive social spending that would be a drain on the nation's growth. In the long run, such a drain would only serve to deplete the very social development the spending sought to enhance. Clearly, to the extent that resources were not diverted to those capable of paying for their own health care, the funds available for subsidies to the most needy would increase.

The basic cleanliness of people's surroundings was also considered a priority health issue. Here, the measures taken by other actors, such as providing drinking water, solid waste and garbage management, basic hygiene and cleanliness within the home, etc., were as important as those adopted by the health care industry.

b. Health Care Industry Policies

- Setting Priorities

Setting priorities is inevitable given that there never are, nor ever will be, sufficient resources to do everything one would like to do. Thus, priorities must be established as conscientiously as possible in a scientific fashion, in order to ensure that the tasks that remain to be done are not more important than those that are being undertaken. Responsibility for setting these priorities should be given to the most suitable person at each level.

The following were the **criteria used in setting priorities in Chile**:

- **Measures aimed at fostering health and the prevention of illness** were given top priority. Recovery and rehabilitation were considered secondary since the most important issue was to avoid illness and reduce pain. Moreover, recovery and rehabilitation measures are usually less efficient and more expensive than prevention.

- **Primary care** was considered a priority over secondary and tertiary care. This enables the system to receive a larger number of people, reduce unit costs and provide timely solutions to the majority of health care problems.

- **Mothers and children** from the time of gestation were considered preferential beneficiaries as compared to the rest of the population. This decision was based on the concept that health care problems in early childhood can have life-long impact and thus should be avoided or treated early-on.

- **High-risk groups** were targeted and given a high priority in order to increase the efficiency of the program.

- **Priority care for the most needy** rather than for those capable of paying for their own medical treatment was granted, thereby rationalizing state expenditures.

In sum, a constant effort was made to ensure that the impact of available health care funds would be as great as possible. This was achieved through low cost unitary measures benefitting the largest possible number of people for whom the effects would be the greatest over an extended period of time.

- Fostering health-related preparedness

People are exposed throughout their lifetimes to a series of risks to their health. Thus, families should take measures to protect themselves financially against potential accidents and/or temporary disability. Such accidents frequently mean additional expenses or a drop in family income.

Thus, the creation of a health-preparedness or insurance system was fostered. Particular emphasis was placed on initiatives by the private sector as a source of insurance for those in a position to pay for health care services.

- **State subsidies**

- Beneficiaries

The State provides health care subsidies to families lacking sufficient resources to obtain a minimum level of health care that the country is in a position to grant without assistance.

Indigent citizens receive health care free of charge and are fully subsidized by the State. Families that are better off, on the other hand, have slowly begun to finance their own health care, leaving the State's limited resources available for allocation to the most needy.

Those who are in a position to finance only a portion of their families' health care needs receive a partial subsidy from the State.

Services that receive implicit subsidies and are considered part of the public interest, such as vaccinations, continue to be provided by the State.

Considerable progress has been made in implementing the new system. However, continued work is needed in order to enhance the system's mechanisms for focusing on the most needy.

- Financing subsidies

The State finances both explicit and implicit subsidies through income from the national budget (without falling into crossed subsidies). The bases for this policy are:

Equality: Chileans are subject to a tax system which provides for a global taxation structure. Without entering into the discussion over the need to refine this system, it is unfair that certain individuals are again taxed through implicit sectoral duties. This distorts the basis of societal equality and the overall efficiency of the general taxation structure, as occurs in any system involving crossed subsidies.

Transparency and efficiency: Crossed subsidies tangle up the origin and destination of funds and make it impossible to understand the prices being

charged for services. Thus, it is impossible to ascertain what services are lacking. Under these conditions, identifying and selecting subsidies is difficult and the incentives for the optimum allocation of resources are rendered inoperative.

Effectiveness: with crossed subsidies, people are obligated to contribute more than they will receive and therefore have a strong incentive to dodge the system. This tends to lead to chronic financing difficulties in this type of system.

- Subsidizing demand

The State provides health subsidies, both implicit and explicit (as is the case of services provided free of charge), whether the provider is a public or private institution. A structure was established to channel subsidies to beneficiaries in such a fashion as to ensure the participation of private entities in providing services (under conditions equivalent to the public sector).

- System uniformity and freedom of choice

The State must offer the population uniform, non-discriminatory alternatives for satisfying its health care needs. Thus, systems which discriminate on the grounds of activity or any other arbitrary basis must be eliminated.

Chileans should be able to select their health care institution freely, whether public or private, in which they will be able to ensure coverage of health-related expenditures and receive proper care. Although advancements have been made to achieve this equity, there is still much to be done.

- Decentralization

In an effort to improve the administration of resources, the SNS was decentralized both in terms of its regulatory/ oversight responsibility and in providing services.

The system's chain of command was consolidated prior to initiating the effective decentralization of policy making, oversight and implementation sub-divisions. Furthermore, the budget was also decentralized to allow for a greater correlation between areas of responsibility and decisions on expenditures.

Subsequently, the administration of public health care centers was transferred to the municipalities. Moreover, the pyramidal structure was strengthened through the implementation of derivatory systems between the primary, secondary and tertiary care levels.

- Financing with incentives for state-run establishments

The system used by the Ministry of Health in distributing resources sought to serve as an incentive to state-run establishments to provide better quality services at a minimum cost.

3. SPECIFIC MEASURES TAKEN TOWARD PRIVATIZATION

The following is a brief summary of the key measures taken and the goals they sought to achieve:

1. In 1979, Decree Law 2,575 was passed to enable workers to participate in the Free Choice system, including the right to establish agreements with private hospitals. Thus, the discrimination between blue collar and white collar workers was eliminated and the health care options of a vast portion of the population markedly increased.

2. Within the state-run sector, there was a pressing need to modernize institutions and organizational structures to enhance their functioning, adapt them to the regional structure and avoid duplication of effort. In order to do this, the regulatory, implementation-oriented and financial aspects of the system needed to be separated and administration needed to be decentralized (the Ministry of Health would continue to serve as the key oversight agency).

In 1979, the Ministry of Health and the SNS were restructured in accordance with Decree Law 2,763, to separate regulatory, financial and implementation-oriented activities. Thus, the National System of Health Services (SNSS), composed of 27 autonomous agencies responsible for providing preventative and curative services in pre-determined geographic areas, was created under the tutelage of the Ministry of Health.

These measures were aimed at decentralizing administration and providing increased decision-making power at the local level to complement the municipalities' increased responsibilities. These objectives represented the first step toward the incorporation of proper incentives into public administration.

3. In 1980, the system's financial responsibilities were transferred to the National Health Fund (FONASA), responsible for receiving and distributing resources donated by the State as well as administering premiums paid by affiliates and the payments beneficiaries make through the Free Choice system. Moreover, FONASA is responsible for administering the services provided under the Free Choice system. Premium-paying individuals participating in FONASA may seek health care at any of the SNSS' centers or at the health care establishment of their choice so long as the center or physician selected is registered in the FONASA system. FONASA then pays for 50% of such services in accordance with the approved rate schedule in effect at the time.

4. In 1980, Decree Law 1-3036 was enacted to regulate the transfer of so-called medical "posts" (*postas*, basic health care centers) and *consultorios* (equipped medical centers) to the Municipalities. This was done to enhance decentralization by bringing decision-making to the local level so that priorities could more accurately reflect actual needs.

In 1981 transfer commenced of primary care establishments (rural and urban *consultorios*, rural medical stations and rural *postas*), from the Ministry of Health's services to the local authorities (this process was completed in 1988.) Some municipalities chose, in turn, to shift responsibility for the administration of these institutions to private, non-profit corporations.

5. In 1981, legislation was enacted to allow for the creation of Private Health Preparedness Institutions (ISAPRES). The **obligatory premium** which workers had been paying into the state-run system could now be freely redirected by the beneficiary to a private insurer (or continue to be paid to FONASA). This option increased freedom of choice among workers, created a competitive insurance field and, furthermore, diminished the number of beneficiaries in the public system.

ISAPRES relieve the State of the obligations which can be undertaken by private individuals; they do not receive State subsidies and operate within a competitive environment.

The ISAPRE system is based on an insurance scheme whereby beneficiaries in a position to pay for their health care do so through prepayment or periodic contributions (premiums). So financed, they select the health care facility or physician of their choice and expenses are charged to the ISAPRE. Deductibles or partial payment for certain services may also be required.

Thus, in cases of emergency, an ISAPRE finances the health care provided to an individual beneficiary with the premiums being paid into the system by remaining beneficiaries not making use of the system at the time. Lastly, each ISAPRE has a patrimony that can be utilized for expenditures beyond the resources it generates. If these funds are not used -- in compensation for the risk they incur -- interest can be earned on unspent monies.

Participants in this system are free to choose the ISAPRE from which they wish to receive coverage. Furthermore, within any given ISAPRE they may choose the health care plan under which they will receive coverage. Thus, ISAPRES must compete for affiliate preference by designing competitively-priced plans that suit individuals' needs.

ISAPRES have been criticized for not being solidary institutions. That is, for not imposing solidarity among their affiliates in an effort to subsidize the most needy. The response to this argument is that it is the State's responsibility to redistribute

income through the tax system. Therefore, it is inappropriate to finance subsidies with premiums. Moreover, if such subsidies were to be permitted, crossed subsidies would be generated, producing a plethora of problems. ISAPRES represent a legitimate option for users to finance better quality health services.

6. In 1985, Law 18,469 created the Health Services Regimen which categorized SNSS beneficiaries according to their level of income and provided subsidies in an inverse proportion to that income (the neediest were granted free treatment). FONASA beneficiaries were also permitted to choose the public health care establishment where they wish to receive treatment.

The State, through the Health Services Regimen ensures individuals a minimum level of health care in accordance with available resources. Thus, each beneficiary must pay for services to the best of his/her ability and level of income. Those beneficiaries seeking treatment at public healthcare centers are divided into four groups as follows: Group A, indigents; B, C, D, premium payers. The level of coverage is determined on the basis of these categories, fluctuating between 100% for Groups A and B, 75% for group C and 50% for those belonging to Group D. Thus, resources are allocated primarily among the most need. Furthermore, for services provided under the Free Choice System, a three-tiered system of Levels was devised. Under this system, all of the levels are reimbursed in the same amount. At present, for example, the reimbursable amount is equal to 50% of a Level 1 service. Thus, a beneficiary who selects a more expensive Level 3 service receives the same refund as a beneficiary having the same procedure done at a less expensive establishment. The assumption here is that the person opting for a Level 3 establishment or physician is in a position to pay the cost differential out of his/her own pocket.

7. Furthermore, measures aimed at creating a system of incentives to improve management efficiency at public sector institutions was also implemented. Such measures included decentralization, resource allocation mechanisms, training and the use of new administrative tools.

The National Health Fund was charged with implementing resource allocations in accordance with directives received from the Ministry of Health. Thus, funds were forwarded to the nation's 26 health services and The Environmental Health Service¹ to cover the following line items:

- Salaries
- Subsidies
- Investment
- National Nutritional Complementation Program (PNAC)

- Supplies and services

Through 1978, resources were allocated on the basis of past expenditures by state-run establishments. This system created a dramatic incentive to increase expenses that went beyond any sense of social profitability. As of that year, a series of mechanisms were introduced which sought to create incentives which would foster more efficient behavior, emulating as much as possible the private sectors' profit incentive. In essence, the public health industry, because of its complexity, size, variety of services offered, the large number of employees, extraordinarily high presence of governmental spending and social role, constitutes one of the most difficult organizations in the nation to manage. Moreover, the public health industry requires decentralized administrative structures; managing this mammoth directly is quite impossible.

Thus, administrative decentralization commenced and was gradually followed by budgetary decentralization. The latter is still incomplete, but the system does contemplate a variety of mechanisms which seek to achieve the greatest possible efficiency rather than serving as a mere validation of existing levels of expenditures.

In order to provide an incentive for improved use of the funds allocated for Salaries, Subsidies and the PNAC (which always seemed to be insufficient and whose budget consistently ran a deficit making it impossible to ensure efficiency at the central level), the following set up, in use through 1989, was established:

- The Ministry of health established an itemized budget in accordance with expenditures from the previous year and performance. Thus, in devising the salary budget for example, performance and the need for additional human resources were considered, as were the institutions which had been transferred to local authorities. In setting the budget for subsidies, statistics on medical leave were taken into consideration when necessary. In order to set the PNAC budget, the nutritional condition of children under 6 years of age at the respective Service was factored into the calculations.

- Resources were forwarded by FONASA to dependent agencies in pre-determined monthly stipends.

- Health Services were obligated to spend in accordance with their annual budget. In an effort to rationalize administration, a variety of measures were taken to optimize the use of resources and decentralize the management of the budget. Furthermore, incentives were created to foster better resource management, including a "prize" for those institutions coming in under budget and "punishment" for those exceeding authorized spending levels. Thus, institutions spending less than their authorized level were permitted to utilize the excess resources as they best saw fit. Those running a deficit, however, were required to make up the difference with funds from their respective Service. This system created an

incentive for quality management and allowed for transference of funds from one line item to another. While this system was in operation, the number of patients seen increased, as did overall nation-wide indicators of well-being.

In terms of the funds allocated for investment, the Ministry of Health moved to decentralize the decision-making process, assigning a portion of the authorized budget for large-scale infrastructure acquisitions (which required the approval of governmental planning and financing instances) and distributing the remainder among the Health Services.

In order to perform this distribution, the Ministry of Health called for studies and proposals to be elaborated on projects relating to the maintenance, replacement or acquisition of medical equipment and vehicles. If approved, the Ministry also provided any training that might be needed to the Services receiving new equipment.

The total funds allocated to each Health Service depended on the investment projects they presented, the quality of support studies and the financial situation of each Service.

In addition, the funds allocated to the Supplies and Services line item were distributed in accordance with the number of services provided (70%) and quality indicators (30%). The funds distributed in this fashion constituted an additional incentive to efficiency among public health care centers.

The payment for services is known as Invoicing for Services Provided (FAP) which establishes service categories in accordance with their complexity. The respective Service receives a certain percentage of the Services Rate Schedule established in Law 18,469. A full 100% of the rate is not paid because, as we have seen, financing for personnel, subsidies and investment is provided elsewhere. Thus, the FAP constitutes solely a source of monies for the acquisition of supplies and services for each Health Service. Given that the FAP was intended to increase the number of services provided and not results, a set of indicators was devised to evaluate quality while measuring efficiency in the use of resources. Thus, the resources utilized for services determined on the basis of four bio-medical and three financial criteria which are weighted accordingly.

The resources allocated to each Health Service in accordance with preexisting indicators help correct problems which may arise with the FAP and constitute a good incentive for technical and administrative efficiency.

In addition to these incentives, a Management Information and Monitoring System (SIGMO) was implemented in 70 hospitals throughout the country accounting for 83% of hospital-oriented expenditures. The SIGMO is of use in analyzing the administrative management of human and material resources at health care centers and provides systematic, organized insight into hospital expenses. With

the SIGMO, it became possible to evaluate periodically results obtained as compared to objectives, identify reasons for discrepancies and introduce measures leading to a more efficient use of resources in a timely fashion.

8. Public health care establishments were authorized to attend non-beneficiaries, and special rates for such private individuals were established by each center on the basis of operating costs. Thanks to this program, private parties can make use of public infrastructure, so long as an appropriate price is paid. This payment structure prevents such services from causing a drain on benefits provided to subsidized beneficiaries.

9. In an additional effort to increase efficiency, state-run agencies were authorized to hire private specialists to engage in a variety of activities, including providing health care services and complementary fields. However, a expenditure cap of approximately 10% of the supplies and services item was established for such subcontractors.

10. Public assets were sold to the private sector to obtain resources and reduce operating costs.

4. RESULTS ACHIEVED

The results achieved through the policies and measures described above are as follows:

4.1 GROWTH OF THE PRIVATE SECTOR

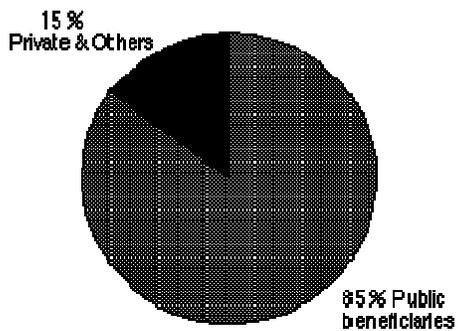
The private sector has developed substantially, creating alternatives and options so that people may choose the health care facilities which best suit their needs. This has been achieved through a reduced role for the State in health care thanks to policies of subsidies, fostering responsibility among individuals and freedom to select a health care option in accordance with one's resources. Industry growth can be measured in terms of the evolution of the number of beneficiaries and the number of health care institutions in operation.

a. Increase in beneficiaries under the private system

Prior to the reforms of 1980, the SNS provided coverage to approximately 60% of the population while SERMENA accounted for approximately 25% (see Chart 1).

Chart 1

Beneficiaries by System, 1980



In 1987, beneficiaries in the private system totaled 25% of the population³, of which 8.7% belonged to ISAPRES (see Chart 2). At present, ISAPRE beneficiaries represent fully 16% of the population (see Chart 3).

With the creation of the ISAPRES, there is a clear reduction in the number of public sector beneficiaries⁴.

Chart 2

Beneficiaries by System, 1987

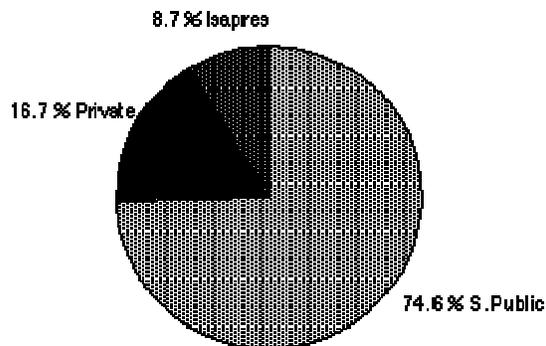
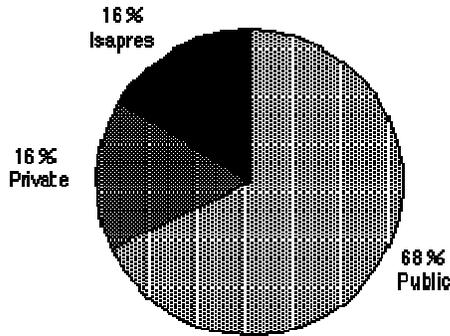


Chart 3

Beneficiaries by System, 1990



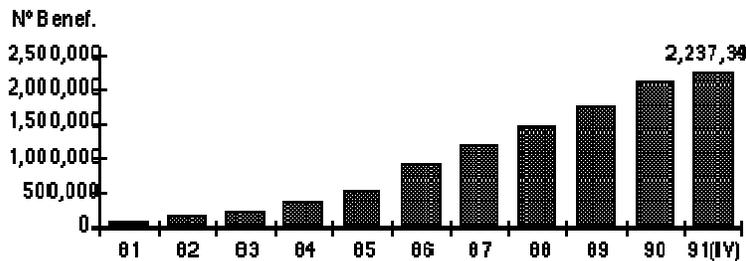
b. Extraordinary increase in the number of participants and beneficiaries in the ISAPRE system

As of June 1991, premium-paying participants in the system totalled 951,814 while total beneficiaries numbered 2,282,164. Growth in this industry has been constant as can be seen in Chart 4.

Chart 4

Isapre beneficiaries

1981-1990



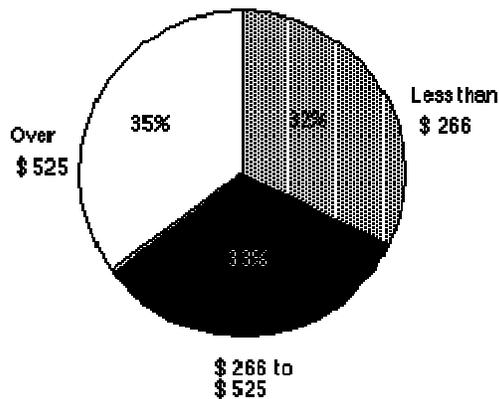
In the early stages of the implementation of the ISAPRE system, some critics sustained that its impact would be minimal, accounting for just 20% of the wealthiest population and 8% of the remainder. Their calculations were based on the assumption that the system would function only among the most affluent. In fact, ISAPRES now cover people from a wide range of income levels: 32% of participants have incomes below \$80,000 pesos and only 35% earn more than \$160,000 pesos (see Chart 5).

Chart 5

Distribution of Contributors

by taxable income 1990

(In US\$)

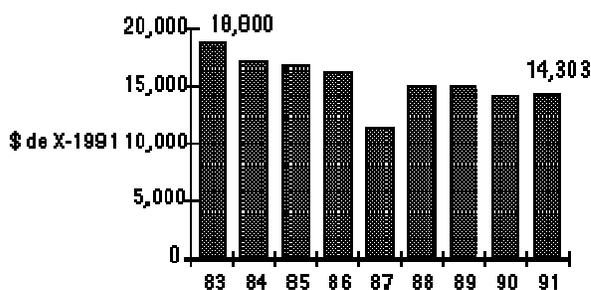


The increase in the number of beneficiaries has meant a rise in the diversification of risk and the attainment of economies of scale which, when coupled with the level of competition in the marketplace, has made it possible to reduce rates and allow for ever larger portions of the population with limited resources to participate in the private system.

In any case, the trend is definitely for ISAPRES to cover an increasing number of people with smaller incomes, as reflected in Chart 6 showing the evolution of the average premium. As can be seen here, premiums have continued to drop even as real wages have risen in comparison with their 1987 levels. This can only be explained by an increasing presence of affiliates with lower incomes.

Chart 6

Average Premiums

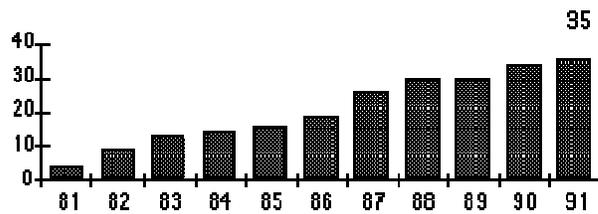


c. Increase in the number of ISAPRES

The number of health preparedness or insurance companies currently totals 35, providing for a highly competitive market in terms of the quality and cost of services offered. Clearly, this works to users' advantage (see Chart 7).

Chart 7

Evolution in the number of Isapres

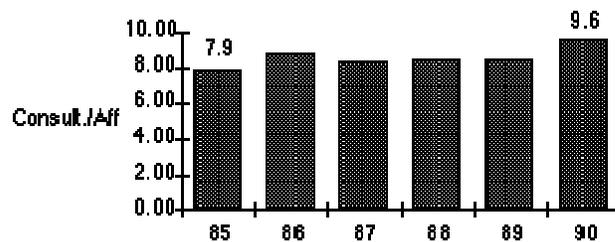


d. Increase in services provided by the ISAPRE system

In 1990, the system provided over 20 million health care services, resulting in an average of 9.6 services per year per affiliate; a 22% increase over those provided in 1985 (see Chart 8).

Chart 8

Total Consultations per Affiliate under Isapres



4.2 INCREASE IN HEALTH CARE INDUSTRY RESOURCES

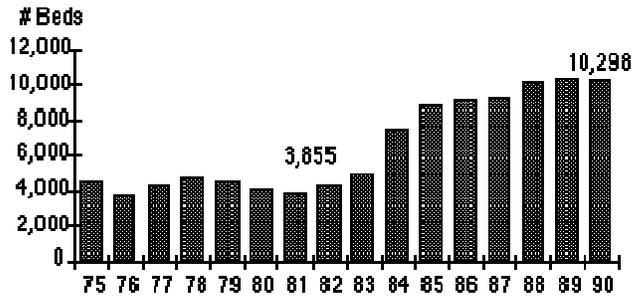
a. Private investment

Another criticism that was formulated at the inception of the ISAPRE system was that their creation had not led to an increase in private investment in the industry and, therefore, private infrastructure was not being developed. Nonetheless, since its foundation, demand for health care services has risen, resulting in increased utilization of private infrastructure. This, in turn, has generated increased economic benefits for these companies and fostered the implementation of new projects aimed at modernizing equipment, developing infrastructure and utilizing new technology.

Chart 9 shows the evolution of the number of beds available in the private sector from 1975 to date. Clearly, growth in this field accelerated with the creation of the ISAPRE system, reaching a total of 10,298 beds in 1990.

Chart 9

Private Sectors Beds, 1975-1990



Moreover, an important increase has also been registered in the number and type of health care facilities available (see Table 2).

Table 2

Private Infrastructure

Private Infrastructure	1982	1989	% increase
Hospitals	16	24	50
Private Clinics	134	170	27
Med. Centers	289	385	33
Laboratories	335	389	16

Source: Instituto Nacional de Estadísticas (INE)

b. Municipal investment

During the period 1982-1985, the constructed area of municipal healthcare facilities increased by 45% (see Table 3) and the number of examination rooms rose by 38.3%. These statistics do not include repairs or additional construction on existing structures.

In terms of equipment, the number of *consultorios* and *postas* with one or more dental facilities increased by 75%. Sterilization equipment increased by 85%. Prior to the transfer there were no laboratories for processing test results; in 1985 there were 7.

A large number of accessories that are difficult to enumerate, including stretchers, scales, refrigeration equipment, furniture, etc. also increased significantly.

In rural areas, primarily, it is important to note the availability of basic services, such as water, electricity, telephone and heating. At the time of transfer to the municipalities, fully 82% of these health care facilities had no communications equipment (telephone or radio) and almost 59% lacked any type of heating. By 1985, these percentages had fallen to 39% and 14% respectively.

Table 3

Increase in infrastructure among

Municipalized establishments 1982-1985

	Urban area	Rural areas	Total
Constr. area (m ²)	76.0 %	24.7 %	45.5 %
Exam. Rooms	58.0 %	26.0 %	38.3 %
Dental equipment	-	-	75.0 %
Steril equip.	-	-	85.0 %

4.3 INCREASED EFFICIENCY

a. The private sector

The cost of administration and sales shows a steady decline from 23.6% of revenue in 1986 to 17.7% in 1991 (see Table 4). This is a result of the economies of scale obtained thanks to the increase in the number of beneficiaries and greater efficiency as a result of competition.

Table 4

Administrative and Sales Costs

Percentage of income

	1986	1987	1988	1989	1990	1991
Total System	23.6	24.2	21.7	18.5	20.1	17.7

b. The public sector

- Concentration of resources among the most needy

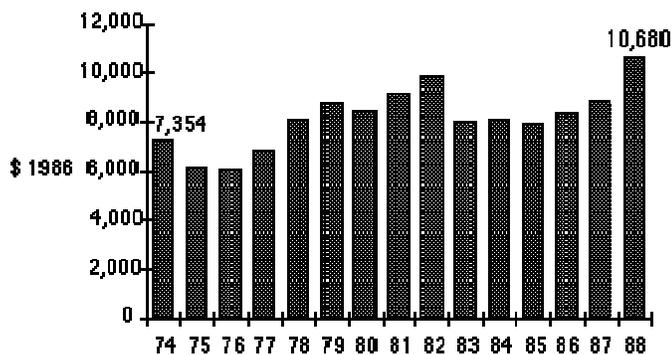
As noted earlier, the participation of private health care facilities in the market enabled the public sector to focus its resources on attending the needs of the most impoverished sectors of society while increasing its own operational efficiency and effectiveness. Nonetheless, the system's detractors sustained that the mass exodus of people from upper income categories would result in the bankruptcy of the public health care system since the highest premiums would no longer enter public coffers.

In effect, the premiums paid by the moneyed classes were transferred to the private sector. With them, however, went the higher expenses that accompanied the demand for costly services that this sector of the population generated. Thus, this shift in premiums is no longer considered an obstacle to the success of the program. Moreover, the redistribution of income is conducted by the State and paid for from the national budget, and here the wealthy continue to pay their share through higher rates of taxation. Furthermore, one must consider the reduced expenses or savings generated by FONASA with the withdrawal of individuals from higher income groups. First, there is a savings in the subsidy granted for each service provided, as well as the subsidy for days of work missed. Second, an additional savings is generated because the affluent tend to utilize health care facilities with greater frequency than those with more modest incomes.

The evolution of public spending has tended to increase in both absolute and "per capita beneficiary" terms. Thus, from 1974-1988, the former increased by 51% while the latter rose by 45% (see Chart 10).

Chart 10

Per capita expenditures on health-care



Source: Ministry of Health⁹

Considering that the population with lowest incomes has remained as a beneficiary of the public system and that the per capita expenditure in this sector

has increased, one can say that a concentration of public spending on the most needy has effectively taken place.

- Increased efficiency in the use of resources

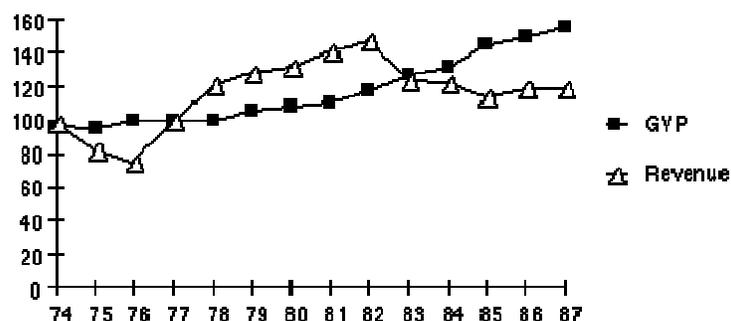
In addition to the efforts undertaken to allocate the largest possible portion of resources to the public health sector, as of 1980 a series of modernization measures were implemented. These steps included administrative decentralization, modifications to the system used to transfer resources and incentives for good management which, despite their recent implementation, have had notable effects on the efficiency of resource utilization. Thus, despite the inevitable reduction in resources available to the health care industry as a result of the recession, progress in the well-being of Chilean citizens continued to be achieved. In fact, this efficiency enabled the industry's productivity (measured through the Central Bank's Gross Value of Production in Domestic Accounts -- VBP) to rise even as income fell (see Chart 11).

Chart 11

Comparison between the gross value of production (GVP)

and revenue in the Public health care sector

(base index 1977=100)



Source: Ministry of Health.

It was therefore possible to modify the composition of that income by increasing premiums and reducing State contributions to focus expenditures on the most needy. This was accompanied by the efficiency described earlier and reflected in Chart 11 in conjunction with the positive evolution of the VBP.

4.4 INCREASE IN PEOPLE'S CONCERN FOR THEIR HEALTH

Because families are the key support structure for the well-being of their members, they have been responsible for paying an ever larger share of their income for systematic health-care savings. The increasing concern among individuals in participating in financing of their families' healthcare requirements can be seen in the rise in premiums and the reduction of State subsidies.

a. Premiums rose from 4% to 7% of wages

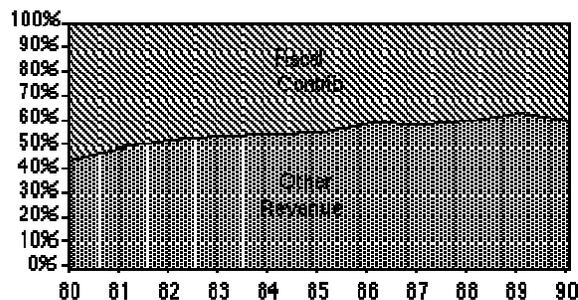
b. ISAPRES do not receive State subsidies of any type. That is, close to 1 million premium-payers and 2 million beneficiaries use this system without recurring to State subsidies.

c. Beneficiaries of the public health sector finance a larger portion their health care. State contributions to the public health care system fell from 56% of revenues in 1980 to 39% in 1990. The remainder of the system's resources, primarily user payments, rose from 44% of revenue to 61% during that time period (see Chart 12). This was possible thanks to an increase in the premiums paid by affiliated workers and the requirement that users pay for the services provided to the best of their ability.

Chart 12

Distribution of Revenue in the Public Health Sector

1980-1990



4.5 IMPROVED QUALITY OF TREATMENT

Treatment and care are always difficult to measure. However, some data is available thanks to on-site research.

a. Metropolitan Region

According to the results of polls taken in 1977 and 1983, the care component of health services improved notably between those years.¹⁰

- The number of patients receiving what they perceived as satisfactory treatment rose by 14%. There was a significant increase in the rate of reported sicknesses and treatment for chronic illnesses. It is important to note that Chile's population is aging and therefore there are an ever rising number of medical queries arising from chronic complaints (fully 31%).

- A drop of 25% in acute pathologies.

- Increase in the types of treatment available including: 80% for chronic illnesses; 29% for acute illnesses; 16% for check ups, including healthy-baby programs and adult care; and, 11% for dental care.

- In 1983 there was a significant increase in the number of people seeking treatment and a drop in medication-related questions directed to the staff of pharmacies.

b. Better doctor-patient relationship in the private sector than in the public health care system¹¹

- "Private centers are known for having flexible regulations, physicians and the staff establish direct and informal relations with patients, which tend to produce a comfortable and friendly environment where patients and doctors work together to obtain and provide health care. Patients are usually pleased with the service provided and return to the health care center. In state-run medical centers, however, the institutional organization which envelops doctors and patients alike is characterized by routine care and medical practices and by rigid administrative procedures. The doctor-patient relationship becomes impersonal. Physicians identify patients by number and rarely see the same patient twice. This prevents communications from being established between patient and physician and thus feelings of satisfaction or pleasure are less likely".

4.6 INCREASED WELL-BEING

a. Increase freedom of choice

Over 2 million people associated with the ISAPRE system choose the health preparedness institution which will best insure their health.

Some 6 million people affiliated with the public system may at least opt for private sector institutions and physicians through the Free Choice program implemented by FONASA. The only limitation is that their own resources may not be sufficient to cover certain types of private care.

Three million beneficiaries receive free medical care at the public health care center of their choice.

b. Increase in the number of treatments (per capita)

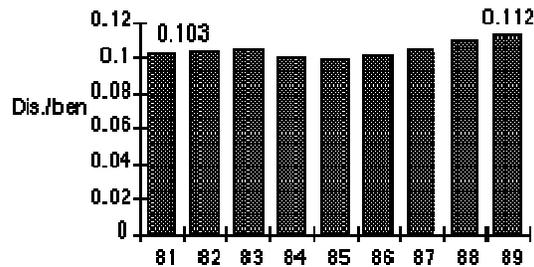
- The number of treatments provided to beneficiaries in the public sector has risen

As noted earlier, with the implementation of the ISAPRE system there was concern in some circles about ending up with a public system with reduced resources responsible for treating people from lower income groups. The following describes the activities conducted and resources available to the public health care sector, by beneficiary, for the years 1975-1979:

Chart 13

Discharges per beneficiary, public sector

1981-1989



Once again, there is a slight drop between 1980 and 1987 (see Chart 13). This was caused by the economic recession which affected Chile at the time rather than the introduction of the reforms given that for the period 1987-1989, despite the growth of ISAPRES, the number of treatments per beneficiary in the public sector also rose.

Chart 14

Imaging exams by public health care beneficiaries

1975-1989

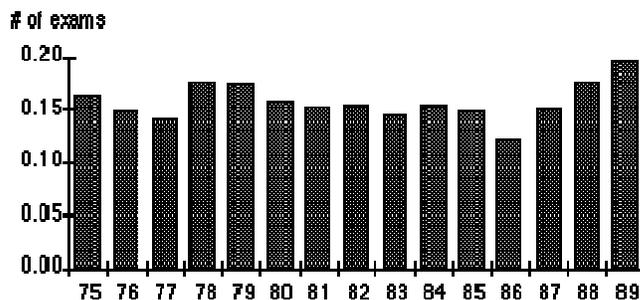
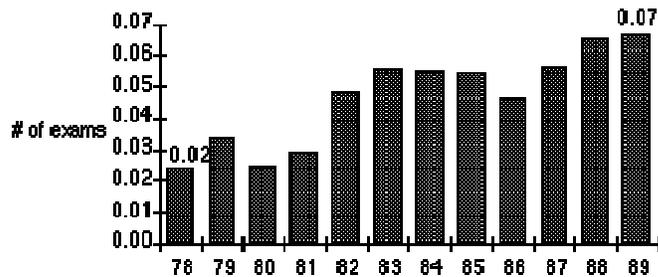


Chart 15

Diagnostic exams by public health care beneficiaries

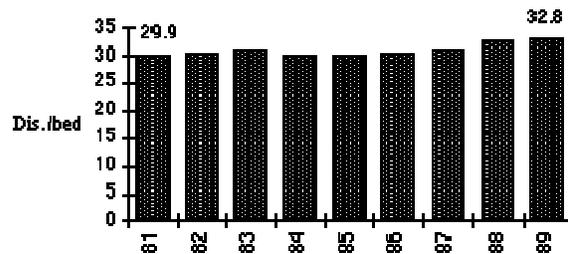
1978-1989



The trend for an increase in the number of laboratory exams and pathological anatomy per beneficiary is clear throughout the period in question.

Chart 16

Public sector discharges per bed 1981-1989



The increase in the efficiency of the system is reflected in the number of discharges per bed.

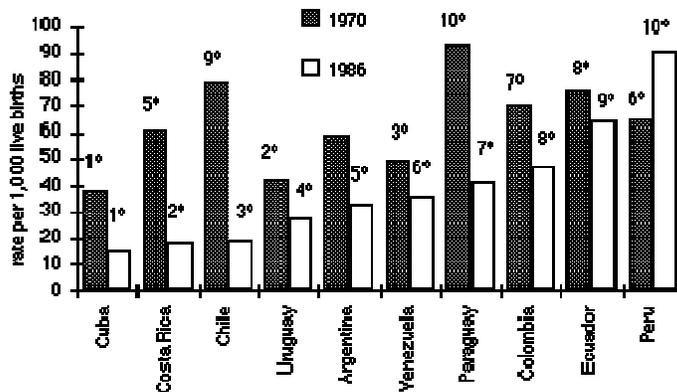
4.7 CONSISTENT IMPROVEMENT IN HEALTHFULNESS AMONG THE POPULATION

The economic and social development policies implemented in Chile made it possible for the population's overall healthfulness to improve at a much faster rate than in the rest of Latin America. Thus, Chile rose from ninth place in the infant mortality ranking for the region in 1970, to third place in 1986.

Chart 17

Infant Mortality in Latin America and changes

in ranking between 1970-1986



The data shows a clear trend toward a drop in infant mortality throughout the region, except for Peru. Nonetheless, the velocity of this change varies greatly from country to country. Thus, only Chile, Costa Rica and Paraguay improved their relative position in the ranking and the improvement in Chile was the most spectacular (plummeting from a rate of 79.3 children per 1,000 live births in 1970 to 19.1 in 1986 and 17.1 in 1989).

This achievement was not due solely to the changes implemented in the health care industry, but rather to the set of consistent policies adopted in both the economic and social arenas.

From this data, then, we may conclude that the gradual incorporation of the private sector into the implementation of tasks traditionally reserved for the public sector not only did not have a negative impact on the population's overall well-being -- as some of the detractor of privatization predicted -- but rather coincided with improvements in this field whose speed outstripped that of the rest of Latin America.

5. PERSISTING PROBLEMS

5.1 THE PUBLIC SECTOR

Despite the efforts made in the public sector, the lack of incentives to achieve greater efficiency in the use of resources persists. This, coupled with the inherent problems of administrative inflexibility and the limited or non-existent responsibility of individuals in the decision-making process impede progress and sustain, and in some cases intensify, the following problems:

- Overuse of the system resulting from a lack of decision-making ability at the health care facilities. This produces an excess of derivations, resulting in the wasting of resources and poor service.
- Progressive increase in expenses resulting from a lack of incentives to rationalize and prioritize expenditures in accordance with available resources. This is compounded by the increasing cost of new technologies and the increase in life expectancies (the elderly tend to become ill more often and require more frequent and extended treatment).
- Lack of financing in the industry as a result of increasing "must-have" items beyond the country's real needs. This leads to growing discontent among both personnel and beneficiaries.
- There are still 6 million people, namely contributors to the public health care system and their families, who lack effective freedom to choose the system which best suits their needs according to their preferences (access to the private system is difficult because of their limited incomes). Furthermore, there are almost 3 million people with limited resources who do not pay premiums, receive state-subsidized health care and have no way of improving their situation through a more efficient use of the resources made available to them.

These problems frequently go unnoticed in light of more obvious difficulties such as depressed wages and, in some cases, insufficient infrastructure. Both sets of problems have their roots in a public sector with monopsonic characteristics in the labor market, a persistent lack of resources and the effects of the reduction in public spending implemented during Chile's recession of 1982-1985. The drop in industry resources began to be reversed in 1986, but this has not kept working conditions and hospital infrastructure from being the target of political attack. Such criticism has often served to cloud analysis of the industry's problems and thwart the search for real solutions.

The industry's problems are frequently oversimplified, focusing on the amount of resources available with no concern for the concept that no matter how much money is allocated to the system, the need to find ways of improving the use of those resources and bolstering efficiency in order to enhance the well-being of all Chileans continues to persist.

5.2 THE PRIVATE SECTOR

The advances made by the private sector have been noteworthy. However, certain problems must be addressed if the system is to be consolidated. Among these are:

a. Misuse of the system

- As with the public free choice system, the misuse of identification cards in order to secure benefits for non-affiliated individuals has been detected. Furthermore, the number of doctor-authorized work absences has increased wildly. This results in payments by the health insurer for days of work missed.

- Dependence on legislation that more often responds to political than technical criteria. Stable rules of the game need to be established.

III. CONCLUSIONS AND PROPOSALS

1. CHALLENGES

1. To enable all Chileans to effectively choose their health care system and receive better quality care.

2. To control the increased costs generated by technological developments and the increased demand for services resulting from access by new sectors of the population to the system and the increased life expectancy among beneficiaries.

2. STEPS TO BE TAKEN

Considering the tremendous efforts undertaken to introduce incentives into the management of the public health sector, it is clear that the success obtained has been slow in coming and less than wholly satisfactory. Furthermore, the measures taken in the public sector are vulnerable given that they are subject to the criteria of the personnel on each rotation. In order to move forward in solving the problems that persist, ways need to be found of introducing private-sector incentives into the administration of public resources.

The incorporation of these incentives must take place whether or not public spending is increased and must take advantage of all of the sector's resources, both physical and human. Moreover, efforts must be made to foster preparedness and personal responsibility for well-being.

In order to attain these goals, a resource allocation system must be designed which contains sufficient incentives to allow for the best possible management of available resources. This can only be achieved through a competitive system, where users can select the type of institution where they believe they will receive the best coverage of risks to themselves and their families.

The State must provide support to the most needy through a subsidy which, in conjunction with contributions made by the beneficiaries themselves, allows them to select the health care institution of their choice.

Health care establishments, therefore, should obtain their financing by securing the preferences of users. This can be achieved by competition among private and public centers and through their revenue and the occasional sale of shares. The periodic revenue should be drawn from subsidies and premiums channeled to the health care establishments in accordance with users' selections.

State-run establishments should be organized as self-financing autonomous health companies earning attractive profits. These companies may be public, municipal or private property; the key is that they function according to the norms of the private sector. Moreover, they may be privatized over time with the participation of the health care team in both ownership and results.

In implementing a system of subsidies according to beneficiary preference, it is important to keep the State from having to finance the establishments it currently operates -- in addition to the subsidies -- without taking into consideration the relative success achieved in attracting the preference of users.

This privatization process would conclude in the ideal situation of families being responsible for the health and well-being of their members, allocating a portion of their resources to systematic savings or premiums to cover illness and health services provided by competitive institutions freely selected by the users.

Under this ideal scheme, the State would define and monitor health care programs at the national level, taking responsibility for those actions deemed in the public interest that are beyond the responsibility of individuals. Moreover, the State would continue to support families with limited income through subsidies which, when combined with personal resources, would enable them to obtain an acceptable level of healthfulness compatible with the nation's level of resources.

1 The budget for this service was considerably smaller than the others.

2 Tarsicio Castañeda, "El Sistema de Salud Chileno: Organización, Funcionamiento y Financiamiento".

3 ODEPLAN, CASEN poll, 1987.

4 Ministry of Health "Estimaciones de la Población Beneficiaria a Base de los Controles de Niño Sano 1986-1988.

The estimates for 1990 assume that the population seeking treatment as a private individual remains constant.

5 Source: Superintendency of ISAPRES. Data as of June 30, 1991.

6 Catholic University of Chile "Muestra de 30 Municipalidades. Evaluación de los Traspasos".

7 Source: Superintendency of ISAPRES. Data for 1986-1990 as of December 31 of each year. Data for 1991 as of June 30.

8 The years which do not fit into the historic trend, 1981 and 1982, was a time in which expenditures in the industry rose extraordinarily before falling during the recession, although the decline was less than that of overall Internal Expenditures. Recovery commenced in 1986 when spending reached levels higher than those of the 1976-80 expansion reaching its maximum level in 1988.

9 The Per Capita Beneficiary Expenditure is the ratio of Public Health Expenditures over the Beneficiary Population in the public sector.

10 Revista Médica de Chile 113. Drs. Ernesto Medina and Ana María Kaempfer and Mr. Francisco Cumsille, "La Atención de Salud en la Región Metropolitana: Comparación de las Encuestas de 1977 y 1983".

11 Source: University of Chile. M. Soledad Fuenzalida Puelma and Alicia Pincheira Muga, "La Comunicación Médico-Paciente y su Relación con la Atención Médica. Un Análisis Sociológico en el Sistema Estatal Privado". 1983. Thesis for degree in sociology.

PRIMARY AND SECONDARY SCHOOL EDUCATION

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I. INTRODUCTION

In recent years, as of the beginning of the 1980's, Chile has witnessed a surge in the educational facilities available in the country -- registering particularly strong growth in the number of private, state-subsidized schools. This growth has been accompanied by almost full coverage of elementary school education, thereby resolving for the first time one of the most important concerns of Chilean society. It is important to note that not long ago, in the mid-1970's, the Map of Extreme Poverty elaborated on the basis of information from the 1970 census indicated that 43% of Chilean school-aged children did not attend classes. Private education has made an important contribution to resolving this nagging problem.

Similarly, the system of subsidizing private schools has been an important factor in improving the quality of education. In order to ascertain quality, the Chilean State devised a scientifically-organized system for measuring educational quality. Information collected in this fashion indicates that-- from their inception -- private educational facilities with the same, or fewer, resources as the State-municipal system have achieved better quality in the education they provide.

The formulation by the State of clear, non-discriminatory rules has made it possible for the private sector to increase its activities in the educational field. This participation has sought to resolve one of the basic functions of Chilean society: to provide equal access to elementary school education. Ideally, that education will improve in quality and enable all citizens to adapt to the benefits of development. Thus, the private sector has been an important co-participant and actor in the resolution of a public problem of significant magnitude.

The primary benefits of this participation have been an increase in the coverage of elementary school education -- making children's Constitutional rights a reality and incorporating the most needy into the system; a significant increase in secondary school coverage; a rise in the average number of years of schooling Chileans receive; and a substantial drop in the illiteracy rate.

An important portion of these results has been achieved thanks to the introduction of competitive conditions between the public and private sectors. Furthermore, the implementation of mechanisms aimed at measuring the quality of education has meant that this competition has been particularly transparent and makes it

possible to identify the positive results obtained by the private sector as opposed to public sector accomplishments.

This chapter provides an in-depth discussion of the structural reforms implemented in Chile in the fields of elementary and secondary school education in order to achieve these results.

II. BACKGROUND INFORMATION

It is difficult to understand the educational system present in Chile during the period of conquest and colonization in terms of current concepts of public and private education. In effect, the classification of education in one or another sector depends on the category assigned to the Catholic Church. At that time, the Church was closely tied to the Spanish crown, and therefore to the State. However, for the purposes of this chapter, we shall consider Church-run education establishments as a part of the private sector in order to provide greater historical cohesion to the decisive role of Catholic Church educational establishments in Chile.

By taking this liberty and considering Church-run schools as private establishments, we can briefly reconstruct the following chronology of Chilean educational history.

In the early days of the Colony, the totality of educational establishments in Chile belonged to the Catholic Church and religious orders; work for teaching professionals was extremely limited.

During this time period, members of religious orders dedicated to teaching began to arrive on Chile's shores. The first were the Franciscans, Dominicans, Augustines and Our Lady of Mercies, who jointly brought the highest level of financing of their times to what had previously been the precarious development of learning in Chile. In 1589, the Dominicans formed an establishment which would later become the first university in the Capitanía General. The Jesuits arrived in 1593, immediately opened a school and a year later began teaching philosophy to both clergy and lay people. The Church's norm that each parish should maintain a primary school within its borders had a tremendously important impact on Chile's pre-independence period.

The first appearance of the independent government in education occurred in 1819 through the issuance of regulations on professorial appointments. Later, in 1821, a decree was passed obligating convents where "the people permit these fields of enlightenment" to hold classes in Latin, philosophy and theology. This requirement, however, was not always heeded. As of that date, State intervention began its expansion through the establishment of programs of study and the creation of a "Teaching State."

In 1832, the Prieto administration dictated a decree aimed at stimulating private participation and reiterated the obligation of convents to maintain schools. The latter, moreover, were required to be free of charge since "the government is convinced that neither our municipal nor national public treasuries are sufficient to cover such expenditures."¹

The State's official doctrine in education -- which established the government's concern for such matters -- was enshrined in the Constitution of 1833 which created a Superintendency of Education and called upon Congress to prepare a nation-wide general education plan. In 1843, the Ministry of Education -- in accordance with the spirit of the legislation passed 10 years earlier but in clear violation of some of its statutes -- granted responsibility for monitoring partial exams to the National Institute.

As a result of this increased concern by the State for direct action in education, by the mid 1800's some 41,157 students were registered in elementary school (of which 69% were State schools; the private sector accounted for 31%²).

In the early 20th century, there were some 20 or 22 religious congregations dedicated to teaching. Of these, several congregations maintained exclusively primary schools which, coupled with mission and parish schools, comprised the private educational system which functioned, in practice, as a parallel to the State's program.

In the second decade of the century (1910-1920), the results obtained by both systems were favorable. For example, illiteracy dropped by 50%; elementary school registration totaled some 350,000 students; secondary schools accounted for 33,000 and specialized academies served 14,000 registered students.

The growth in elementary education, measured in terms of registration, has consistently been much higher than the rate of ageing throughout Chilean history. Thus, in the almost 100-year period of 1865-1957 the population increased threefold while the school-going population increased 26 times. According to this data, in 1865 only 10.9% of the population of school age was registered in primary schools. By 1957 that figure had jumped almost 6 times to 61.5%³

During the first half of the 20th century, there was a trend toward centralizing the system and an accelerated involvement of the State in education which resulted from the concept of the "Teaching State" which had gained precedence since the inception of the previous century. For financial reasons which will be addressed in a moment, under this system only those establishments which were supported by religious orders or those who charged a fee for their services were able to function.

By 1964, the Chilean public education system was highly centralized. The medulla of the system was the Ministry of Education which was responsible for

formulating and implementing policies and plans, creating and maintaining educational establishments; determining curricula and the preparation, appointment and salaries of teachers. Furthermore, the Ministry exercised strong control over private schools. During the second

half of the 1960's the educational system was modified and an 8-year cycle of general education was established. Following this initial or elementary level, a 4-year cycle of secondary education offered students classes in the sciences and humanities or technical fields. Following completion of the second cycle, higher education was available to continue the study of areas of specialization.

Table 1

Students registered by type of establishment

(1969-1979)⁵

Year	Fiscal Reg.	%	Private Reg.	%
1960	1,031.0	68.3	479.1	31.7
1961	1,104.9	69.2	491.9	30.8
1962	1,179.6	69.5	518.7	30.5
1963	1,242.6	70.1	531.2	29.9
1964	1,287.5	70.1	549.9	29.9
1965	1,442.2	72.4	548.8	27.6
1966	1,548.5	75.0	515.8	25.0
1967	1,662.6	75.7	533.3	24.3
1968	1,786.6	76.4	552.6	23.6
1969	1,878.6	77.0	561.6	23.0
1970	1,963.0	77.8	560.6	22.2
1971	2,246.1	79.2	590.4	20.8
1972	2,371.7	79.4	613.8	20.6
1973	2,505.3	80.6	604.3	19.4
1974	2,567.6	80.6	618.9	19.4
1975	2,620.7	82.4	559.4	17.6
1976	2,624.3	83.0	538.9	17.0
1977	2,637.8	82.5	560.9	17.5
1978	2,616.1	81.5	592.3	18.5
1979	2,610.5	80.9	617.3	19.1

Source: Banco Central de Chile, Indicadores Económicos y Sociales 1960-88.

In sum, we can see how education in Chile, from an administrative standpoint, commenced primarily in private hands and how the State gradually acquired a preponderant role through its own educational establishments. The data on coverage makes this perfectly clear.

As can be seen in Table 1, although there is a consistent increase in school registration in both the public and private sectors, rates for the former are considerably higher. This enabled the public sector to increase its share of overall registration from 68% to over 82% while the private sector saw its participation drop from close to 32% to 17%.

In terms of coverage, important progress was made during the four centuries between the colonial period and 1960. That year gross school attendance reached 104% (this rate is obviously augmented by an important number of people considered beyond elementary school age -- 11 years old -- attending primary school classes).

Despite this progress, illiteracy in 1960 remained at over 15% of the population and coverage of secondary schools totaled 24.6% of the eligible age group. Similarly, in 1970 the Map of Extreme Poverty, devised on the basis of data from the census taken that year, showed that 43% of school-aged children in extreme poverty did not attend classes. Furthermore, that same year, the average number of years of schooling among Chileans totaled just 4.5 years. That is to say that centralism, bureaucracy, and a lack of incentives for private education kept Chile from obtaining better results in the formation of its human capital despite the resources allocated to education. Although overall coverage had been expanded, results among the most needy sectors of the population were less favorable.

We cannot conclude this brief historical overview without making mention of the mechanisms utilized in Chile to finance primary school education. During the colonial period and the early days of independence, the authorities prevailing at the time provided monies for education through decrees and specific laws favoring certain educational establishments.

Later, in 1929, Decree Law 5,291 was passed to grant private elementary or "vocational" schools a subsidy of \$25 per student so long as the schools: remained free of charge; provided education similar to that imparted in State-run schools; satisfied certain minimum attendance requirements, depending on whether they were rural or urban; and operated during the official school year.

Subsequently, in 1951, Law 9,864 established that primary, secondary, professional and teacher's schools which complied with certain requirements had the justify to a per student subsidy equivalent to half the per student cost at State-run establishments. Furthermore, this legislation called

for these subsidies to be paid in whole on an annual basis during the first quarter of each year.

This benefit was subsequently extended (in accordance with article 104 of Law 10,343 approved in May of 1952) to all private secondary schools not contemplated under Law 9,864. This meant a subsidy of up to 25% of the cost of running analogous public institutions for schools charging fees for educational services.

During the 1960's and 70's, legally, the State's subsidy to free private institutions was equal to half the per pupil cost of public education for students in the same grade. This can be seen in Chart 2, drawn from "The Financing of Private Education in Chile. Problems and Alternative Solutions" by E. Schiefelbein (1970). According to the author, this equivalence was solely in nominal terms, given that the real per pupil subsidy was much lower as a result of the drop in purchasing power caused by the delays with which the subsidies were paid out.

Table 2

Subsidies to Private Education

(1964-1970)

Year Sub. per Student Fiscal Expense per Student

Private Ed. (\$ 1970) (\$ 1970)

1964	272.1	544.2
1965	316.1	633.8
1966	285.1	570.3
1967	346.9	644.2
1968	322.1	693.9
1969	361.7	723.4
1970	392.5	785.1

Source: E. Schiefelbein, op. cit.

It was common for subsidy payments to be made with a delay of at least a year. This meant that, on average, the real subsidies in those years represented just 25% of the costs that the State would have to incur were it to assume responsibility for the education provided by private establishments.

Although the State appeared to support private education through subsidies, the amount paid and the method of payment produced discrimination against private

initiative in this field. This may well be one of the reasons, and perhaps the most important reason, for the decline in the participation of the private sector as reflected in Chart 1.

III. REFORMS PRIOR TO THE 1980'S

1. ANALYSIS

Until 1980, the Chilean educational system was characterized by a high level of State intervention in education, totalling over 80% of registration. Its administration was centralized, presenting the same problems as the majority of public school systems throughout the world: coverage was insufficient and the quality of education was not cost-effective. Furthermore, the system had only a limited ability to expand to absorb the poor people it had come to exclude.

The primary cause of these problems was probably the lack of proper incentives in the different levels of the educational bureaucracy and among providers. The absence of such incentives meant that a supply of quality education proportionate to the efforts made by society was not available. Moreover, it would simply not have been possible to efficiently administer the huge centralized system even if those incentives had existed.

In fact, the system itself was imbued with unpropitious incentives, including: (i) tenured personnel; and (ii) a pay-scale designed at the national level that had nothing to do with performance, quality of education or the number of children attended.

Essentially, the public system was plagued by the following problems:

- a. It contributed to a low level of educational quality and efficiency in the system (as measured by the drop-out and failure rates), since administrators had no incentives to attract and retain students. Furthermore, there were no supervisory or control mechanisms.
- b. Teachers' salaries were low as a result of the huge bureaucracy which consumed a large part of the budget. The impact of this was heightened by the monopsonical power of the State as the primary employer.
- c. A lack of conditions propitious to competition among different types of educational establishments. This further contributed to the absence of efficiency and quality.
- d. A rigid and inflexible curricula was established that could not be adapted to local conditions.
- e. Community participation in school affairs was not encouraged.

2. GENERAL REFORM CONCEPTS AND OBJECTIVES

The overall structure of the reforms undertaken can be summarized as an effort to establish clear, objective rules that could be applied to all of the actors providing educational services. Particularly important was the introduction of a single system of financing based on the number of students served. Within this framework, the public sector was required to adhere to the same regulations, financial rules, administration, control and supervision as the private sector. This established the basis for effective competition which, stimulated by the effort to attract larger numbers of students into the classroom, solved the problem of the lack of coverage and contributed to an overall improvement in the quality of education. This was possible thanks to an objective, impartial system with common parameters.

Under the new system, the State was to play a subsidiary role and promote equal opportunities in the field of education, engaging in a variety of areas of action through a framework applicable to both public and private institutions. The State's presence covered all aspects of normal education, that is, pre-elementary (nursery schools), elementary and secondary schools.

As we have noted, prior to 1980 the educational system was composed of a huge centralized apparatus which impeded incentives for increased efficiency from functioning properly because, at the end of the day, the State always covered the inefficiencies of a system that was already out of control.⁷

The modernization plan that was implemented sought to achieve the following objectives:

- a. To improve the quality of education
- b. To increase the scope of the educational system
- c. To establish equal opportunity in education.
- d. To promote freedom of education

In order to achieve these goals, a new system of incentives was devised which, unlike its predecessor, established a framework for subsidies based on services provided (that is, based on demand). The previous system utilized a criteria of the "needs of the service" to allocate financing (that is, based on supply).

The concept behind this idea is that the establishment that offers the best educational service will obtain the largest number of students; since revenues will depend on the number of students in attendance, the school will have an incentive to maximize quality. However, the resources available to the institution do not go beyond those obtained on a per pupil basis. Therefore, schools must

seek to provide maximum quality at the lowest possible cost. To the extent that an educational institution is successful in optimizing its cost-effectiveness, it will gather excess funds and therefore be in a position to expand. This method permits growth in the supply of educational services throughout the system while simultaneously bringing an increase in quality.

As a logical complement to this policy, State administration of schools through the Ministry of Education was eliminated; the Ministry would no longer continue to be the chief direct employer of teachers at the national level. Thus, public education was transferred to the municipal (local governmental) level, which was to have complete administrative freedom so long as they adhered to the technical norms emitted by the Ministry (private facilities were also required to adhere). This freedom also included, obviously, justifying over the contractual relationship between teachers and the municipalities.

In an effort to achieve the aforementioned goals, in May of 1980 reforms were introduced into the elementary school curricula. These changes were followed in 1981 by modifications to the program of study applicable in secondary schools.

3. THE REFORMS

The most important aspects of the administrative and financial reforms can be summarized as follows:

- a. Transfer of technical secondary educational institutions to non-profit private groups.
- b. Transfer of pre-elementary, elementary and secondary schools to municipalities.
- c. Creation of incentives through a per pupil subsidy in an effort to foster the founding of private, subsidized schools.

The transfer of technical schools to private institutions sought to enhance involvement of the private productive sector in the administration and design of programs of study in order to make such educational facilities more compatible with the real needs of the labor market. Moreover, the transfer of schools to municipalities sought to improve administration of public schools, increase the number of students registered and improve the quality of the education provided. The per pupil payment system promoted competition to obtain and retain students between municipal and private-subsidized schools. This competition generated an increase in the availability of education (without requiring a financial and organizational effort on the State's part).

Table 3

Per Student Subsidy in municipalized and private subsidized schools

Type of School	As % of UTM
1. Pre-Primary	0.46
2. Primary	
a. General	
Grades:	
1-2	0.46
3-5	0.52
6-8	0.56
b. Special Ed. (all grades)	1.17
c. Adults (all grades)	0.16
3. Secondary	
a. General	
1. Daytime	0.63
2. Evening	0.19
b. Technical	
1. Daytime grades 1-2	0.37
2. Daytime grades 3-5	0.63
3. Evening	0.19

UTM = Monthly tributary unit
Source : Ley de Subvenciones. Decreto N° 3.476, Agosto 1980.

As noted, a per pupil subsidy was established independent of whether the educational institution was municipal or private. Differentiation was made, however, in terms of the level of education being provided and whether the services were provided during the day or in the evening. The value of these subsidies was expressed in Monthly Tributary Units (UTM) as can be seen in Table 3.

Initially the per pupil subsidy was tied to the Consumer Price Index (IPC) -- through the UTM -- and was set at 30% above the existing implicit public school subsidy and 61% above the subsidies provided to private-subsidized educational establishments.

The increment in subsidies for private schools was so large that new schools burgeoned, registering a total increase of 63%. Thus, while in 1980 there had been 1,674 private schools, by 1985 there were 2,643.

The new subsidy framework was implemented at the same time as the transfers of public educational institutions from central hands to the local level. The situation in 1983 was as follows:

- a. 87% of schools (5,692) had been transferred.
- b. 78% of teachers (65,234) had made the shift.
- c. 83% of students (1,618,904) ceased to belong to schools run by the central government.

Further transfers were suspended in 1983, while a total of 841 educational establishments, 19,528 teachers and 331,110 students remained under the tutelage of the Ministry of Education.

At the time transfers were halted, the first effects of the economic crisis which hit Chile in 1982 began to be felt.¹⁰

In June of 1982 the indexation of subsidies according to the UTM was discontinued and instead a policy of adjustments in accordance with salary increases in the public sector was established. With the suspension of UTM-tied indexation, deficits began to accumulate at municipal schools.¹¹ Despite the fact that salaries, which constituted the most important line item in the budget, could be adjusted at the same rate as subsidies, this was not possible with items whose rate of adjustment was greater than that of public sector salaries. A surge in municipal deficits (see Chart 4) reflects the inability of the decentralized state-run system to adjust to the new conditions.

Table 4

Municipal deficits

(Millions of pesos per annum)

Year	\$
1982	180
1983	450
1984	1,143
1985	1,705

Source : Informe Social 1985, ODEPLAN and subsequent modifications.

The economic crisis generated a series of changes which caused distortions and discrimination against private educational facilities. For example, the State chose

to cover a portion of municipal deficits, leaving the remainder to be paid by the municipality. This represented serious unfair competition against the private establishments receiving State subsidies.

In addition, there was mounting pressure to level-off the salaries of teachers who were no longer State employees with those their colleagues remaining in the State's employ.¹² An attempt was made at resolving this situation by creating a new allocation that

paralleled subsidy resources. This approach introduced additional disruptions for a variety of reasons:

- In addition to the subsidy, the central government was now providing supplemental pay to teachers. This sent them the wrong signal by suggesting that the Ministry of Education would always guarantee their income.

- Any salary increases teachers may have received from the municipalities were now augmented by the central government.

- Mayors were expressly prohibited from firing employees, meaning that educational establishments were unable to administer personnel requirements in accordance with their own needs. One of the basic conditions needed in order for the subsidy system to work was shattered. It was no longer possible to establish a cost-quality relationship which maximized profits at each institution given that such an important part of the budget -- salaries -- were set *ex-ante*.

- Furthermore, legislation was passed (Decree Law 3,476, article 3, letter h) requiring that the Regional offices of the Ministry of Education provide a notarized statement indicating that there was not an excess of educational services available in areas where a new private school was to be formed. The objective here was to limit freedom of access to the market. The argument was that the creation of a successful private school would take students away from the municipality, thereby augmenting the deficit. At the same time, however, this concept contradicted the very essence of the subsidy system; under a competitive system, if a private school takes students away from a public institution, the students serve to benefit from the shift in terms of a better quality education. The municipalities should have been forced to compete or reduce their costs.

Lastly, rural education became a problem because subsidies were calculated on the basis of a normal student-teacher ratio (normally 30:1). In rural areas where it was often not possible to attain this ratio, problems of underfinancing tended to arise.

Clearly, Chile's economic crisis of 1982-1985 imperiled the decentralization process and the incorporation of the private sector into the field

of education. Fortunately, the process was not abandoned and the schools remaining under central control were transferred to municipalities between August and October of 1986.

At that time, moreover, a global effort was made to resolve the institutions' deficit problems. Two hypotheses as to the root cause of those deficits were discarded: indexation; and rural location.

The conclusion was that the primary and perhaps only cause for the deficit was the excess number of teachers as compared to the number of students. This situation produced three effects which limited the quality of education:

- The excess generated a deficit, which the State then had to cover. This meant that fewer funds were available to upgrade subsidies.
- Educational establishments utilized their resources to fund the salaries of excess personnel instead of using them to improve the quality of the service provided.
- Educational establishments and municipalities continued to use those resources to cover the deficit, effectively abolishing the incentives created by the subsidy system.

The solution consisted of limiting and gradually reducing the resources allocated to paying off the deficit in such a fashion as to eliminate such payments by February of 1988. Simultaneously, the restriction which impeded mayors from administering their personnel in a decentralized fashion was lifted.

The problem of supplementary, **ad-hoc** payments to teachers, in addition to subsidies, was resolved by upgrading the subsidies paid to the private and municipal sectors to meet those of the public sector and doing away with the additional payments.

The problems of rural schools -- those over 5 kilometers away from urban areas -- were resolved by establishing a differentiated per pupil subsidy rate in which the subsidy dropped as registration rose.

These steps helped put the incentives that had been introduced into the system back into alignment. In addition, the legislation on subsidies was modified to allow for the per pupil rate for each grade level and type of education to be expressed in Educational Subsidy Units (USE).

Table 5

Direct Subsidy to Free Schools

Type of Estab.	Subsidy USE/Student	Value of Subsidy1
Pre School (2 ^o level)	0.909	\$ 2,254.50
Basic Elem. (1 ^o -6 ^o grade)	1.000	\$ 2,480.20
Basic Elem. (7 ^o -8 ^o)	1.107	\$ 2,745.50
Basic Elem.Adults	0.316	\$ 783.70
Basic Elem. Special/handicapped	1.000	\$ 2,480.20
Higt School (1 ^o -4 ^o grades)	1.245	\$ 3,087.80
Evening & Adult High School	0.375	\$ 930.00

Note : 1- In 1987 pesosSource : Official Gazette D.L. 18.681,Thursday, Dec. 31, 1987

The value of the USE was set at \$2,480.20 pesos and was be

incremented at the same time and in the same percentage as wage increases granted to the public sector. Changes could also be made when discrepancies between the number of pupils effectively attending a given educational establishment and the average number of registrants was detected through on-site inspections.

The new legislation on subsidies also called for a reorganization of the grade levels and types of education eligible to receive governmental funding. Furthermore, an article was added which contemplated an additional subsidy for technical-professional education. The latter were differentiated by areas of activity and maximum and minimum payments were established. Subsidies for special education (physically and mentally handicapped, etc.) were included in the new legislation in excess of the standard subsidies for educational institutions.

The legislation also noted that these amounts were to be "corrected" by a zone allocation factor, which would increase the assistance provided in proportion to the geographic distance of the province from the central area of the country.

Under this new format of subsidization, income for educational institutions was dependent on the type of services provided, that is, the number of students in attendance. Moreover, the expenditure structure was practically fixed on a month by month basis. Rural schools, furthermore, faced the problems of fluctuations in attendance and a low student/teacher ratio. These conditions often meant that the income rural institutions perceived was insufficient to cover expenses, thereby generating operational deficits.

In an effort to resolve this problem, the subsidy granted for students in rural schools was increased over 1987 levels and a 'rural factor' was established which varied in accordance with the number of students attending classes. The additional expenditures based on this 'rural factor' were capped at 240,000 USEs annually.

Thus, for between 1 and 11 students the factor was 2.0 of the USE and for 84-85 students that factor was 1.05. For these purposes, rural schools were defined as educational establishments located at least 5 kilometers from the closest urban limit.

IV. IMPACT OF THE REFORMS

1. COVERAGE AND PARTICIPATION OF THE PRIVATE SECTOR

The outcome of the establishment of clear, equal rules for all of the actors participating in providing educational services was as follows:

In 1988, 2,004,710 students (children) attended regular primary school (8.3% lower than those registered in 1980) and were distributed among 8,500 educational establishments.¹³

The coverage of private education in terms of private-subsidized schools increased significantly as of 1980. By 1988, the number of students attending such schools reached 610,381, representing 30.4% of the elementary school population. As compared to 1980, this meant an increase in private participation-- with State assistance -- of 117%. The first year the new program was in operation, that increase was just 14%. The increase in the number of students attending private-subsidized schools amounted to 99.3% between 1980 and 1988, representing almost double the number of students in free private schools. The greater coverage obtained by private-subsidized schools can be partially explained by the negative experience with municipally-run schools (by 1988 registration in the latter had dropped by 27.2% as compared to 1980).

Table 6

Population Receiving Elem. Education

(Children)

Estab..	1980	1983	1984	1985	1986	1987	1988
Fiscal-Municipal	1,743,964	1,524,324	1,445,678	1,406,767	1,345,696	1,299,266	1,269,030

Private Sub.	306,196	448,502	511,597	549,171	594,934	592,329	610,381
Private Paid	136,422	112,280	88,618	106,406	107,477	115,767	125,101
Corporate						141	198
TOTAL	2,186,582	2,085,106	2,045,893	2,062,344	2,048,107	2,007,503	2,004,710

Source : Ministry of Education

In terms of the number of private establishments with State support, the numbers rose from 1,674 in 1980 to 3,583, that is, an increase of 114%.

In terms of the overall rate of school attendance, Chart 7 indicates that this figure dropped from 109.8% in 1980 to 102.7% in 1988. This phenomenon can be explained by the reduction in registration of students over age 14 at these grade levels.

Table 7

Gross Rate Elem. Schooling

Year	Rate
1980	109.8
1981	108.1
1982	106.8
1983	107.3
1984	106.1
1985	107.3
1986	106.2
1987	103.7
1988	102.7

Source : Central Bank of Chile, Indicadores Económicos y Sociales, 1960, 1988.

Secondary education, available to those having completed primary school, takes two forms in Chile: 14 science and humanities-oriented; and vocational-technical. The former is comprised of four years of study following which graduates may opt for continued studies at institutions of higher learning. The latter has a duration of

4-5 years depending on the area of specialization (trade, industrial, technical or agriculture) and graduates are prepared to move into the labor force.

Secondary school attendance in 1988 totaled 735,701 people, of which 601,760 (81.8%) studied science and the humanities, while 133,941 students (18.2%) received vocational-technical education. Moreover, 92.1% of students were registered in institutions receiving State support while the remaining 7.9% attended private, non-subsidized institutions. In comparison, in 1980 there was a total of 541,639 secondary school students, of which 371,626 (68.6%) studied the sciences and 170,013 (31.4%) opted for technical training.

In 1988, the private-subsidized sector received 40.8% of total secondary school registrations, while municipal establishments registered 51.4% of the overall total. The remaining students attended private, non-subsidized schools. The figure for the private-subsidized sector represents an important increase over the 1980 figure of 15.9%. It is also important to note that this shift took place at a time of overall expansion in the number of secondary school registrations nationwide.

The number of students attending private sector schools receiving at least some State financing -- including those supported by business organizations -- increased from a total 85,981 students in 1980 to 300,079 in 1988. This represents an increase of 249% in coverage by the private sector, almost tripling the educational services provided in this area. Furthermore, private, non-subsidized establishments charging fees increased attendance levels from close to 50,000 students in 1980 to almost 58,000 in 1988.

Table 8

Population Receiving High School Education

(Children)

Type Estab.	1980	1983	1984	1985	1986	1987	1988
Scient. Human.	371,626	488,346	524,907	539,150	552,978	579,826	601,760
Fiscal-Municip.	284,382	333,909	342,686	330,893	326,952	319,425	332,153
Private Sub.	38,178	109,463	139,565	156,062	174,255	207,277	212,128
Private Non Sub.	49,066	44,974	42,656	52,195	51,771	53,124	57,479
Techn.-Prof.	170,013	125,200	112,186	128,647	127,060	116,037	133,941
Fiscal-Municip.	121,992	76,342	58,191	66,118	67,124	37,867	45,607
Private-Sub.	47,803	42,690	44,560	60,496	59,645	48,609	57,683
Private non Sub.	218	6,168	9,435	2,033	291	236	383
Corporate						29,325	30,268

TOTAL	541,639	613,546	637,693	667,797	680,038	695,863	735,701
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Source : Ministry of Education

As noted in Chart 9, the gross secondary school attendance rate increased from 37.4% in 1970 to 52.9% in 1980 and 74.8% in 1988.

Table 9

Gross Rate of High School Education

Year	Rate
1980	52.9
1981	54.1
1982	55.4
1983	60.5
1984	63.3
1985	66.8
1986	68.4
1987	70.4
1988	74.8

Source : Central Bank of Chile, Indicadores Económicos y Sociales, 1960, 1988.

2. QUALITY OF EDUCATION

One of the primary objectives of the modernization of the Chilean education system, conducted through partial privatization and complete decentralization, was to improve the quality of education. In order to measure this progress, a Student Performance Examination (PER) was devised to establish a quantitative appraisal of the behavior of certain factors linked structurally to the quality of the educational services provided.¹⁵

The PER was implemented between 1982 and 1984 only to be temporarily suspended and subsequently revamped and reintroduced as of 1988. The evaluation consisted of a series of questions aimed at ascertaining the cognitive knowledge and affective area development of some 85% of students between 4th and 8th grade (elementary school). In 1982, the examinations covered Spanish and Mathematics, in the cognitive fields and habit formation and social attitude in the affective fields. As of 1983, additional examinations were added to evaluate the achievement of objectives in the areas of social and natural sciences as well as a writing sample. The test on habits and social

attitudewas transformed into a more specific exam on affective development. In general,the PER provided information to support decisions at a variety of levelssince it:

a) Informed parents of their pupil's results as well as those of theclass and educational establishment as compared to the national average.This information was of use in seeking to select the school with the bestacademic record.

b) Informed teachers of the overall results of each grade level as wellas course-specific results. This data was of particular importance in evaluatingand projecting teachers' performance at educational establishments.

c) Provided the Ministry of Education with centralized, regional andprovincial data.

Even though the PER was suspended in 1982 for a variety of reasons, asof 1988 a system with similar characteristics and identical objectives wasreintroduced. The results provided by new system, known as the System forMeasuring Educational Quality (SIMCE), for the period 1988-1990 are shownin Charts 10 and 11 below.

Table 10

SIMCE Results 1988-90

Mathmatics

Type	Soc.-Econ.	Results 88	Results 89	Results 90
	Level	% Correct. resp.	% Correct. resp.	% Correct. resp.
Municipal	A	-	71.4	67.7
	B	58.3	59.0	63.4
	C	49.1	49.9	55.2
	D	43.2	-	48.2
Private Sub.	A	69.0	73.4	73.9
	B	61.3	61.3	67.7
	C	52.4	51.4	60.0
	D	42.4	-	45.8
Private Paid	A	76.7	78.1	81.7

	B	69.9	69.2	78.1
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Source : Ministry of Education

Table 11

SIMCE Results 1988-90

Spanish

Type	Soc.- Econ.	Results 88	Results 89	Results 90
	Level	% Correct. resp.	% Correct. resp.	% Correct. resp.
Municipal	A	-	68.7	71.6
	B	62.4	62.3	64.5
	C	51.2	50.9	56.3
	D	42.8	-	48.4
Private Sub.	A	74.3	74.1	75.2
	B	66.7	64.5	69.4
	C	55.9	53.8	61.5
	D	41.4	-	46.1
Private Paid	A	81.6	78.3	81.5
	B	75.6	71.4	78.4

Source : Ministry of Education

There are three aspects of this data worth highlighting:

First, there is the so-called "SIMCE effect," meaning that the very presence of this standard of measurement suffices to spur decentralized educational actors to improve the quality of education.

Second, the suspicion that the quality of education declines as one moves down the socioeconomic scale is confirmed.

The third aspect is the one that most concerns us here, and that is that the quality of education is significantly higher in the private-subsidized educational establishments than in the municipal schools. This is true at all socioeconomic

levels, except for the lowest, where the quality of the private institutions is just under that of the municipal establishments.

Thus, the percentage of achievement obtained by private-subsidized schools at upper-middle class (B) and middle class (C) socioeconomic levels in 1988 was 5.15% and 6.72% higher in mathematics, respectively, than in municipal schools. A similar phenomenon occurred in Spanish, where the results were 6.89% and 9.18% higher in the private-subsidized schools than in their municipal counterparts. In 1989, the difference dropped to approximately 4%. In 1990, the performance of private-subsidized schools once again was dramatically better than that of municipal establishments. That year, the differences between these two types of institutions were even greater than in previous years, despite a general, overall increase in quality. Thus, in 1990, private-subsidized establishments bettered municipal schools (in socioeconomic groups B and C) by 6.8% and 8.7% in mathematics and 7.65% and 9.2% in Spanish.

However, for the lowest socioeconomic strata, the results of municipal schools were better than those of private-subsidized establishments in both fields. The difference in 1990 as compared to 1988 was close to 5% in favor of the municipal schools.

The results obtained by private institutions are worthy of note. However, we must not forget that although the level of subsidy is the same for all educational institutions, private schools do not have the option of dipping into municipal resources to supplement their needs. It is not peculiar, then, that the qualitative results of the private sector are lower than the municipal efforts in the lowest income group. Most assuredly, these schools require additional funds -- which the municipalities are in a position to provide -- in order to make up for the home-based contributions and training which are most likely lacking among these students.

In conclusion, we have seen how the private sector has been transformed into a vital element in education in Chile and how it has contributed actively to resolving the problem of coverage which, despite intensive efforts, afflicted Chile since the early 1970's. This participation has led to an increase in the average number of years of schooling among the Chilean population; to the incorporation of more people from lower income groups into the educational system; and to strong growth in secondary school education. In terms of quality, here again the private sector has been a key element in producing a gradual improvement in the education received by Chilean youth. The fact that private establishments provide qualitatively better education than public ones is worthy of special note.

3. EQUAL OPPORTUNITY

The average number of years of schooling, which is directly related to overall coverage, increased to 8.7 years in 1987 according to polls taken by the Ministry of Planning.¹⁶ It is interesting to note that those polls indicate that the number of years of education among the lowest income group (by fifths) increased from 6.4 years for urban heads of household to 8.9 years. In rural areas, the increase was from 4.3 years to 7.1 years for the children of families in that income group.

The Map of Extreme Poverty¹⁷ from 1970 indicated that 43% of children of school age living in extreme poverty did not attend class. By 1982, that figure had dropped to 9%.

Furthermore, the ODEPLAN studies mentioned earlier indicate that the illiteracy rate among the lowest income groups in urban areas in the mid 1980s was 1.9% for those aged 15-19. The figures for older generations were significantly higher, namely: 4.4% for those aged 20-39 and 11.4% for those between 40 and 59 years of age.

Although the figures are somewhat higher in rural areas, the drop in illiteracy among youth was still precipitous. Thus, for those aged 15-19, illiteracy totaled 4.1%; for those 20-39 the rate was 9.1% and for those in the oldest age group, 40-59, the illiteracy rate was fully 29.3%.

V. CONCLUSIONS

Clearly, the establishment of a framework of overall incentives and egalitarian rules of participation which favor competition have permitted notable levels of development in the participation of the private sector in providing educational services in Chile.

Thus, at the elementary school level, the private-subsidized sector grew from 14% of total registration in 1980 to 30.4% in 1988, doubling the number of students attending this type of educational establishment. In secondary school education, private-subsidized schools accounted for almost 41% of registration in 1988 as compared 15.9% in 1980 -- almost tripling the number of students registered in private institutions supported by the State.

Furthermore, these increases were accompanied by an expansion in the average number of years of schooling received by Chileans, a figure which leapt from 4.5 in 1970 to 8.7 in 1987. This, coupled with the growing participation of the most needy sectors of the population in the formal educational system, has made a significant contribution toward providing equal opportunity and equity throughout the educational system.

Moreover, the private system has shown that the same contributions made to decentralized state-run institutions can be used, on average, to provide better levels of education in private hands. This provides important data on ways of

continuing to improve the educational system without having to rely on increased governmental spending.

In terms of the perspectives for the private educational system, as of the time of this writing the private-subsidized system faced two threats which could significantly hamper its development in coming years. First, the real value of subsidies has dropped consistently since the implementation of the adjustments born out of the debt crisis in the early 1980s. In essence, if we take the initial value of the USE for elementary school education at the time of the transfer, its present value should be approximately 6,400 pesos per student today. However, the subsidy in effect as of March 1991 was just 4,359 pesos; in other words, the subsidy has lost 32% of its real value.

The second threat is passage of legislation known as the Teaching Statute which imposes a certain rigidity in the administration of personnel in the municipal sector as well as a series of obligatory additional payments to that personnel. The impact will undoubtedly soon be felt in the private sector as well even though the latter does not have access to the same sources of financing as the municipal schools.

There are, however, additional incentives to the development of private education in Chile. First, legislation known as the Law on Shared Financing took effect in 1989 which for the first time enables educational institutions which receive a State subsidy to charge fees for their services. This legislation calls for the State subsidy to drop proportionally to the revenue generated by private schools. This mechanism makes it possible for parents to make contributions, within their means, toward improved education for their children and frees up State resources which can be allocated to strengthening the education of those who lack such additional resources.

Another option, although clearly more daring, would be to transfer municipal educational institutions to the private sector through teachers' associations which could acquire the educational infrastructure outright or through loans, administering the schools in accordance with their own interests and as they best see fit.

Notas:

1 F. Encina, Historia de Chile

2 CIDE: La Educación Particular en Chile, Antecedentes y Dilemas, Santiago, 1971.

3 E. Schiefelbein: El sistema escolar y el problema del ingreso a la universidad. CPU 1975.

4 The Reform decrees were signed December 9, 1965.

5 Includes nursery, elementary, secondary and higher education

6 Map of Extreme Poverty, ODEPLAN, Catholic University of Chile, 1974.

7 In 1980 there were 8,846 primary and secondary educational establishments in Chile of which 6,370 were state-run, 1,674 were private-subsidized and 802 were wholly private.

8 La UTM (Unidad tributaria Mensual) es una unidad de cuenta que crece con la inflación y se reajusta de acuerdo a las variaciones de ésta. El monto a pagar fue el costo promedio de las escuelas en 1980.

9 Es decir, el gasto fiscal dividido por el número de alumnos.

10 Ese año el PGB cayó en un 14,5 %; fue necesario hacer una reducción del gasto fiscal y se incrementaron los impuestos.

11 Aquellos gastos distintos de las remuneraciones aumentaron en relación al IPC.

12 It is important to note that 841 educational establishments continued to depend directly on the Ministry of Education. Most of these establishments were located in the Santiago area.

13 The reduction in registration in primary schools can be attributed in part to a drop in the birth rate. However, an adjustment between the age of entry into school and the age of graduation was also taking place. Thus, the number of "over-age" student (those outside the 6-14 year old range) dwindled. Furthermore, it is important to note that international experience shows that once 90% of primary education has been covered, it is common for such variations to occur for the reasons given above. This data is drawn from total coverage.

14 ODEPLAN: Social Report 1984-1985

15 Quality of service includes the following aspects: a) resources and materials; b) teacher's training level; c) stability of programs implemented, etc.

16 National Socio-Economic Characterization (CASEN) poll, ODEPLAN, University of Chile, 1985 and 1987.

17 Map of Extreme Poverty, ODEPLAN, Catholic University of Chile, 1974-1986.

HIGHER EDUCATION

Gerardo Jofré M.

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1. CONCEPTUAL ASPECTS

1. WITHOUT STATE INTERVENTION, PRIVATE UNIVERSITIES WOULD EXIST AND STUDENTS WOULD PAY FOR THEIR EDUCATION

Obtaining professional or technical training entails important costs: the recipient has less opportunity to earn an income during the period of study; teaching requires the use of scarce resources, such as professors, installations, materials, etc. which have to be paid for; students must engage in intense intellectual activities which often require that they give up time for relaxation. Despite these costs, some of which inevitably befall the student, people often express an interest in receiving this type of education. The most common explanation for this interest is that people perceive that higher education will enable them to obtain a better standard of living. In truth, it is probable that a person with technical or professional training beyond the secondary school level will be more productive and, as a result, will obtain a better job at better pay.

However, people do not always believe that obtaining a higher education is worthwhile. Quite often, there are people who feel that the costs of such an effort will outweigh the benefits, either because: they already have the ability to generate high income; they can engage in stimulating work without obtaining an additional degree; the cost of registration is higher than the expected benefits of the education or than the attractiveness of future employment; the sacrifice in terms of free time is greater than the benefits a student could hope to receive upon graduation. Lastly, it may well be that a potential student finds that his/her probability of completing the course of study is limited and therefore, the opportunity to actually secure higher income or more enjoyable work is not within their reach.

The decision, then, to undertake higher education is evaluated by potential students, some of whom opt to continue their studies and some of whom do not.

When the decision is in favor of higher education -- motivated by a desire for personal benefit -- one can assume that the student is willing to accept the costs of his/her education if this is required in order to carry out the proposed plan of study.

Furthermore, since higher education will most often result in a significant increase in income following graduation, people will not only be willing to support

the expenses generated by their education, but will be in a position to do so by charging these costs to their future income.

From this perspective, without the need for State intervention of any kind, potential students can evaluate their decisions and -- should they opt for higher education -- absorb the costs involved. Under these circumstances, there are sufficient incentives for private entrepreneurs to offer higher education to those who are willing and able to pay.

2. NONETHELESS, THERE ARE REASONS FOR STATE INTERVENTION, ALTHOUGH AT A MUCH REDUCED LEVEL

The preceding section describes the medulla of the issue of higher education. However, there are additional aspects which justify State participation in this area, although at levels considerably below the norm.

First, institutions of higher learning -- particularly universities -- because of their activities, have certain inherent advantages in conducting research in scientific and technological fields. Moreover, such facilities need to be in a position to offer students the best training possible. Often, the research conducted at the universities is considered "purely academic", that is, it is not possible to take immediate economic advantage of the results obtained. Thus, the social benefits of research conducted by universities may be greater than the private benefits, and on these grounds, a subsidy can be justified.

Second, there may be some types of professions whose social benefit is greater than the private benefit obtained by students engaging in their study (even when a certain amount of private benefit is generated). In these cases, a State subsidy is also justified.

Third, there are many people interested in engaging in a professional or technical course of study, but who lack the resources to do so and have no access to credit. This lack of access does not necessarily mean that their proposed course of study is non-viable or unprofitable. In essence, what tends to happen in these cases is that, since "human capital" cannot be provided in escrow for loans, viable educational projects do not receive financing. Under these circumstances, it is desirable for the State to intervene so that these viable projects can be implemented and people have the opportunity to attain improved standards of living.

Unfortunately, however, the reasons given in support of a certain level of State involvement in higher education have historically meant that these institutions have been taken over by the State and the concept of an "inalienable justify to free education" has been introduced. This has led to an unfair portion of educational expenses being placed on the taxpayers.

3. PROBLEMS DERIVED FROM STATISM IN HIGHER EDUCATION

Statism, in addition to the negative effects of excessive taxation, distorts the personal evaluation process of potential students -- no longer must they include this aspect among the costs they are required to bear -- and thus resources are inefficiently distributed. Furthermore, when financing comes from the State, inefficiency in the use of available resources is bound to occur. Logically enough, the effects of this inefficiency are not a financial crisis within the University, but rather an increased burden on the taxpayers who lack agile ways of defending themselves against such impositions.

Moreover, statism and free education in an area as politically exploitable as higher education has in many countries led to strong, public disturbances which successfully press for increased funding for universities, to the detriment of elementary and secondary schooling, which in turn leads to widespread educational undevelopment.

An additional problem arising from statism in higher education has to do with who makes decisions as to the number and type of professionals to train. In effect, when these decisions are made by the market, the types and characteristics of professionals, as well as their numbers, are in accordance with the real needs of the marketplace. The statist option, on the other hand, entrusts such decisions to central planners. This almost inevitably leads to misalignments between the supply and training of professionals and the actual demand for their services.

4. STATE INTERVENTION SHOULD ONLY GO AS FAR AS CAN BE JUSTIFIED. GOING FURTHER IS HARMFUL

The conclusion we can draw from the arguments presented above is that the State should only intervene to the extent that its action will be beneficial. If it exceeds this limit, far from providing additional benefits, its participation will serve as distortion.

5. STATE INTERVENTION CAN TAKE DIFFERENT FORMS; THE MOST EFFICIENT SHOULD BE CHOSEN

The need for the State to intervene in higher education does not mean that universities or other institutions of higher learning should be in the hands of the State. In truth, State intervention can take on a variety of forms. The most important factor is that the allocation of resources by the market be interrupted solely when the market is less than fully functional in achieving the results desired.

Well-conceived State intervention will be more efficient in achieving its goals. Thus, it is likely that the effectiveness of the State in higher education will be maximized when -- instead of diluting its efforts in engaging in activities in which

it has no real advantage, such as maintaining its own institutions -- it concentrates on being efficient in areas where the State is irreplaceable, that is, in providing subsidies or creating mechanisms to encourage the market to make the most desirable decisions.

6. WAYS OF SUPPORTING SCHOLARLY RESEARCH

The first justification for State intervention noted earlier was that the social benefits of many "purely academic" research projects are greater than their private benefits.

Under these circumstances, society runs the risk that a project may not be implemented because costs are considered to outweigh eventual benefits, not because it is not profitable, but because an overall evaluation of its benefits renders it futile.

The decisions made in such cases are not always erroneous. In effect, at times the rejected projects really are not worthwhile and therefore their rejection is beneficial for society. Even when all of the potential benefits are not taken into consideration, a project may be evaluated as being worthwhile and be implemented. The problem, then, arises solely when there is a danger of rejecting projects mistakenly.

In these cases, it is a good idea for the State to modify the evaluation of potential research projects conducted by private agents. The most obvious, although not necessarily the best, way of doing this is to empower the State to make this type of decision. In taking this route, it is likely that the State will have considerable difficulty identifying selection criteria and will make mistakes. Just because the social benefits are considered greater than the private benefits does not mean that the project should be implemented without advance evaluation.

If the State takes direct responsibility for the decision-making process on research projects, there is no guarantee that its selections will be better than those of the free market. This is true because the social cost of implementing a non-viable project may be greater than the cost of not implementing a viable one. The frequency with which the State may commit this type of error may well be greater than the rate of similar errors committed by the private sector without the State's participation.

The idea, then, is that the State introduce incentives for the project to be evaluated taking into consideration all of the relevant costs and benefits. The best way to ensure this is for the State to subsidize the project in the exact amount of the benefit differential. The problem resides in how to calculate this amount, particularly since the factors being weighed in include social vs. private benefit, that is, the factors are very often more conceptual than economic.

A practical solution to this problem is to assign subsidies through a competitive process. This approach seeks to intervene on behalf of projects that are more socially than economically worthwhile in a fashion that retains certain rational criteria over decisions on investing in research.

Through this type of mechanism, private agencies apply for a limited number of subsidies, whose amount will depend on the State's perception of the magnitude of the discrepancy between social and private worthiness in the areas of research and investigation.

Under this scenario, the problem of how to assign subsidies among competing projects remains unresolved. To overcome this obstacle, two approaches can be taken: empowering a group of prestigious academicians with good judgement to make the decisions, or trust that applicants willing to provide a larger portion of the costs of the research have the most worthwhile ideas and, therefore, should receive preferential treatment. The first of these two options has the defect that a group of specialists, sooner or later, will move away from their mission of providing supplementary funds and seek to impose their own preferences on the decision-making process. The negative side of the second option is that it tends to favor projects for which the difference between social and private profitability is the lowest.

Nonetheless, whichever approach is taken (a mixture of the two may actually be best), the probable magnitude of social losses involved will probably be lower than if the State simply took responsibility for the decisions. In other words, when different institutions with distinct points of view compete, the depth of the pool for assigning State subsidies will be greater and, therefore, the probability of selecting worthwhile projects will be enhanced.

This mechanism is frequently accused of failing to foster long-term development projects. However, it is important to recall that an institution which does not engage in long-term planning or research projects will most likely have little chance of successfully participating in the competition for funding. Thus, the mechanism of controlling the funds available through competitive subsidies does not hamper the development of lines of research but rather forces institutions to compare these areas with those proposed by other groups, thereby leading to constant institutional enrichment.

A second criticism formulated against this type of mechanism is that academics require peace and quiet in their labors and that the obligation to submit their projects to competition would destroy that peace. Nonetheless, there is no scientific evidence to indicate that scientific productivity is incompatible with competition. There is, however, considerable evidence in other fields of human behavior to indicate just the opposite.

A third criticism is that the State will lose the option of developing scientific development plans by turning decisions over to the private sector. In truth, if the State wishes to control the scientific development of the country according to specific plans (although there is little empiric or theoretical evidence to suggest that this is beneficial to the country) it can easily do so through the competitive funding process by introducing incentives in areas of particular interest to the State.

7. STATE SUPPORT FOR SOCIALLY DESIRABLE COURSES OF STUDY

The second justification for State intervention given at the beginning of this chapter is to provide support for those who wish to follow courses of study which are socially worthwhile but economically unprofitable. Should these situations exist, there are several possible solutions.

The most frequently utilized solution, although clearly not the most efficient, is for the State to create and maintain institutions of higher education which offer these majors or courses of study free of charge or at a cost far below the State's real expense in providing these services.

The primary drawbacks to this option are that it does not provide any criteria on which decisions should be based so that excessive expenditures are not incurred in providing this type of education, nor does it provide incentives for the State agencies charged with training these professionals to use the resources provided with optimum efficiency. Despite these disadvantages, one could justify the presence of such State-run institutions if more efficient alternatives did not exist, but they do.

In truth, there are two alternatives the State may utilize which, although they suffer from the former of the two drawbacks given above, are affected to a lesser extent than traditional models.

The first and most efficient option is for the State to seek to generate a demand for this type of professional. That is, the State may seek to subsidize those fields of activity in which these professionals will work, thereby creating an additional demand for their services.

If professions exist whose private profitability is inferior to their social benefit -- that is, the benefits obtained by those who study these fields are lower than those obtained by society as a whole as a result of the services the professional is trained to provide -- actual demand for such services does not reflect social demand. Under these circumstances, the State should seek to correct the market with the appropriate subsidy so that the income generated by these professionals reflects the value of the services they provide.

The second alternative is for the State to make the course of study personally worthwhile for students by reducing their costs through subsidies to private institutions which provide these types of professional training.

The latter alternative has tremendous advantages over the maintenance of State-run institutions given that once the subsidies have been delivered, the private institutions responsible for handling them have private sector incentives to make good use of the monies provided. A second advantage is that although the system does not provide technical criteria to determine the amounts of such subsidies, at least the endemic trend toward increasing costs common to State-run establishments is halted. Furthermore, it is possible to reasonably manage the difficulties of determining the amount of the subsidies by utilizing competitive funding mechanisms to allocate State resources. The total amounts involved, even when they do not make up the full difference between what is privately profitably and the public good, will at least reflect a global estimate of the magnitude of the discrepancy between these two values.

The second option, we should note, has some advantages which the first and third options lack. By correcting distortions at the source, it is much easier to identify their overall magnitude and seek to resolve the obstacles causing them. This is of particular use given that, in debating the social profitability of different courses of study in abstract terms, we tend to believe that the fields of specialization with low incomes have higher social profitability. This judgment is usually made without giving sufficient consideration to the fact that the income generated by each profession, in most cases, is a reflection of the value assigned to it by society.

Another advantage to this option that it resolves the issue at the root, while the other two options simply postpone the problem or push it into other areas. In essence, although the State may make every effort to make a course of study worthwhile -- by reducing costs for students -- it cannot guarantee increased income upon graduation nor impede the sense of frustration on the professionals' part when they discover that despite their studies, the increase in the standard of living they have come to expect does not materialize.

In summary, the best way to eliminate discrepancies between social and private profitability for certain courses of study is for the State to seek to influence the markets rather than subsidize education. Thus, to be efficient, the State should not intervene in this type of higher education.

8. SUPPORT FOR STUDENTS WHO CANNOT FINANCE THEIR EDUCATION

Frequently, students who have the ability to successfully study a profession lack the resources to pay for their education at the prices established by the market, that is, their real cost.

This situation is undesirable for two reasons: first, because society is wasting its potential human capital; and second, because there are worthy people who are being denied the opportunity to develop and progress. Therefore, the State tends to maintain its own establishments to offer free education so that these people will have the opportunities to which they aspire.

The problems generated by this solution are multiple: first, there are the problems inherent in all state-run activities, that is, inefficiency in the use of resources as a result of a lack of proper incentives; second, by offering a service free of charge, all interested parties expect these conditions, regardless of their ability to pay. This means that sufficient State resources will not be available to meet demand. Moreover, we should note that under these conditions, the tax burden is such that it serves as a disincentive for investment and production. Third, not everyone who seeks access to this type of education will be able to receive it and there is no guarantee that those who are able to follow the course of study are not able to pay; and lastly, the evaluation of educational projects loses all validity since potential students no longer factor in the cost related to this type of expenditure. As a result, a large quantity of non-viable or undesirable projects will be attempted, and considerable resources will be wasted on them.

One can argue that good, fair selection systems help attenuate a portion of these last two problems. While this is partially true, no selection system is as infallible nor as honest as one would hope and therefore this mechanism provides only a limited solution to the problem.

But perhaps the strongest argument against free, State-financed higher education is that it not only faces important obstacles of a practical nature, but is also unfair and unnecessary. It is unfair because it means paying a subsidy which, like all subsidies, is paid for through the tax contributions of the entire population, including the most needy, to provide a benefit to someone who could perfectly well do without it. Clearly, if a person obtains a profession and takes advantage of the skills acquired, he or she will have access to a better standard of living. Thus, although students may appear to be poor in the short-term, while they are engaging in their studies, they really are not needy if one looks at their perspectives for future income. Thus, just as it is unfair to subsidize people with higher incomes, it is inequitable to subsidize those students who will be relatively well-off in the future. These students do not need subsidies but rather loans so that they can finance their studies given that as professionals, they will be in a position to pay back the cost of the education received. That is why such subsidies are not only unfair, but also unnecessary.

9. IS THERE A ROLE FOR PROFIT IN HIGHER EDUCATION?

Frequently, the idea that it is unacceptable for for-profit institutions to operate in higher education and other social sectors is put forward. Arguments such as "you

shouldn't make a profit off education" are utilized to oppose the participation of for-profit entities in these fields.

Nonetheless, economic theory discusses at length the issue of profit as a fundamental incentive to mankind who is guided toward providing the best possible service to others primarily by his own personal interest. At the same time, mankind seeks to take full advantage of the resources available to maximize this personal benefit.

Recently, there has been a growing awareness of the crucial, irreplaceable role positive incentives provide in encouraging men to act constructively in society. Thus, one of the most direct causes of the strident collapse of centrally planned economic systems was precisely the fact that they were based on negative incentives, such as fear of the repressive power of the State, rather than on positive incentives, such as the desire for profit, in order to encourage mankind to provide services to society and do so efficiently.

Therefore, to deny society the possibility of utilizing the desire for profit as a mechanism for inducing people to play a role in building education is to take away a powerful tool for its construction and does nothing more than limit -- on the basis of quasi superstitious fears -- the possibilities of a nation's success in a field which is absolutely key to its current and future development.

Profit, therefore, must be allowed in higher education not as a necessary evil, but rather as an instrument with tremendous potential in helping to achieve national educational objectives.

This does not mean, however, that the State should abandon its subsidiary role in the industry, but rather should focus on effectively performing its role by providing scholarly subsidies when required, subsidizing demand for those professions whose social benefit is greater than their private gain, and giving credit to those students who lack sufficient resources to finance their higher educations themselves.

This proposal, however, should not keep non-profit establishments from engaging in educational activities. In truth, not only profit motivates mankind to provide quality service to the society around him. Therefore, when establishments with other, legitimate motivations do exist, society should give them the warmest of welcomes.

10. FREEDOM OF EDUCATION

The freedom to create any type of institution is an indispensable requirement for real freedom of education. A society which includes freedom of education among its principles must permit any persons or group which, adhering to the rules of

healthy interaction, to form and maintain institutions of higher learning. Otherwise the declaration of principles is nothing more than ink on the page.

11. PRIMARY CRITICISM OF FREEDOM OF EDUCATION

a. A failure to monitor the quality of professionals trained in the country means that unqualified people can offer in higher education

Restrictions impeding the formation of private higher education establishments are frequently justified on the grounds that if the State permits just anyone to form this type of institution, the overall quality of graduates will drop. This argument overlooks the monopoly generated by this approach which is diametrically opposed to the formation of quality professionals. In fact, a system monopolized by the State does not guarantee that the quality of professionals will be optimum. Moreover, this argument fails to explain why new institutions should not be created so long as they are subject to systems of accreditation and controls over the educational quality provided. In addition, this position dismisses the fact that countries need to train a vast array of professionals, not just extraordinary ones. Clearly, there will always be differences in the quality of different institutions and among students. This is true even in countries where the entire responsibility for training such professionals lies in the hands of the State. It is good that the system work this way because, since perfection is not possible, it is better to have a large number of professionals of excellent to average quality than to have a only a few because the system is expected to produce only top-rate specialists. Lastly, there is no evidence that the private sector, even though it does not waste its resources, is less successful in training good professionals.

b. Scientific and technological research will be abandoned

A second frequently-heard argument against the private sector's participation in the field of higher education is that this will lead to a reduction in scientific and technological research. This is based on the fact that such activities are frequently not profitable from a private perspective and therefore private institutions will never be interested in engaging in these ventures. As noted earlier, the State can promote scholarly research much more efficiently through certain private mechanisms than taking direct responsibility for its implementation. This can be achieved without having to incur in the expense of limiting freedom of education nor failing to take advantage of the immense creative and energizing potential of private initiative.

c. The poor will be left without opportunities

The affirmation is also made that if the private sector is allowed to create institutions of higher learning freely, these institutions, in a desire to maximize profit, will not make room in its classrooms for students with limited resources. As a result, this argument goes, higher education will be converted into an elite good

and will tend to deepen social differences. This argument is partially accurate to the extent that private entities, in general, will demand that their students pay at least the real cost of their education as a basic premise for providing those services. However, as noted above, this obstacle can be overcome through mechanisms which are much more efficient and beneficial to the students and the country than a simple prohibition against private sector participation in education. Among these options, one of the best is loans to university students.

d. Keeps scientists from having an environment appropriate to the development of science

The argument is frequently made that scholars require a completely tension-less environment in order to engage in science. The supposition is that the private sector could not provide such an environment, given that the profit-seeking variable would force scientists to work under pressure. This argument is difficult to sustain when compared with the results of productive activities of private and state-run efforts in a wide variety of fields.

e. Courses of study that only State support encourages will be abandoned

Lastly, there is resistance to the idea of authorizing the private sector to participate in higher education on the ground that private entrepreneurs would only be willing to offer courses of study that are in demand by the student body. This, the argument holds, runs against the best interests of society. First, we should note that students tend to be interested in courses of study in which they believe they will be able to find ample opportunity to work once they graduate. This only means that they are showing an interest in the fields of specialization the country needs the most. Second, as noted earlier, in those cases where, for one reason or another, professions in the national interest are not as attractive in terms of opportunities for professional achievement, the State should seek to resolve that problem rather than restrict freedom of education.

II. PROGRESS IN PRIVATIZATION IN CHILE

1. SITUATION PRIOR TO THE REFORM

Until 1980, Chile's system of higher education was composed of a total of 8 universities, of which 2 were State-run and functioned through campuses located around the country. The remaining 6 had originally been private, although the ties with their founding fathers had weakened over time as a result of their almost complete dependence on State financing to remain in operation.

The system was closed -- there were no expedient and sufficiently open mechanisms for creating new universities -- nor were there other, non-university, alternatives to higher education. Outside the system, the private sector

maintained a quasi informal market of alternate, non-university programs of study which lacked the benefit of "State recognition".

Moreover, at that time Chile's system of higher education was essentially free of charge. As a result of these factors, it is easy to understand the tremendous pressure on existing universities and their interest in opening up new courses of study in a wide range of academic fields which could, furthermore, represent an increase in the funding they received from the State. The resources provided to Chilean universities consisted of a single, direct contribution which was based on historic contributions and the lobbying power of the different institutions among State officials. During the decade ending in 1974, the 8 existing universities underwent considerable growth in their activities and in the resources allocated to them by the State.

As can be seen in Chart 1, from 1964 through 1974 university registrations expanded from 36,500 to 144,500 people. That is, in 10 years, the number of students attending higher education almost quadrupled while the nation's total population rose by just 25%. This could be considered significant progress were it not that the education was provided free of charge and that supply was limited by political decisions.

Table 1

Evolution of University Registration

(Years 1964-1980)

Year	Total Registration	Index (Base 1965 = 100)
1965	41.800	100.0
1966	49.900	119.4
1967	55.600	133.0
1968	62.000	148.3
1969	70.600	168.9
1970	77.000	184.2
1971	99.600	238.4
1972	127.200	304.3
1973	140.000	334.9
1974	144.500	345.7
1975	147.000	351.7
1976	134.100	320.8
1977	130.700	312.7

1978	129.500	309.8
1979	127.400	304.8
1980	119.000	284.7

Source : Statiscal Yearbook, Consejo de Rectores

At the same time, the direct contribution from public coffers to the universities grew sharply from 1964-1974 as the State absorbed even greater responsibility for their financing.

From 1971-1973, higher education, which represented just 4.8% of school registrations in Chile (including elementary and secondary school attendance), consumed 39.7% of overall fiscal spending on education.

Such a process naturally led to problems, which were accentuated by in erratic fashion in which growth occurred.

The most significant problems were:

- Disorderly and erratic growth in courses of study and classes;
- Lack of orientation and stability in the quantity of resources allocated to research and artistic creation;
- Certain confusion in the hiring and payment of academic personnel;
- Inappropriate investment decisions;
- Substandard use of installations and equipment;
- High failure and drop out rates among students.
- Lackluster administration and poor resource allocation at the institutional level.

In 1975, the country confronted a particularly serious economic situation, which translated into a 13% drop in GNP. The crisis was met with a series of measures, including a strong reduction in public spending which did not exempt educational expenditures.

Higher education, moreover, was resigned to accepting a substantial reduction in fiscal contributions. Given this restrictive situation, Chilean universities adjusted by reducing their overall personnel, significantly diminishing investment, restricting operational costs and obtaining additional revenue through services and increased indebtedness.

Furthermore, registration, which had reached its highest level in 1975 with a total of 147,000 students, began to descend as of 1976 -- when 134,000 students registered -- and stabilizing at over 127,000 students in 1980. That is to say, registrations in higher education in these years suffered a drop of over 13%.

Once the crisis concluded, in 1977, fiscal contributions to the universities increased once again, although five years later, in 1978, such financing had dropped to below their 1974 levels. This situation was reflected in 11.6% reduction in university registration between 1973 and 1978.

In addition, whereas in 1974 the universities received just over 40% of fiscal contributions to education, for the period 1979-1980 that figure fell to approximately 29%.

This drop was the result of a decision by government officials aimed at concentrating funding on the priority areas of elementary and secondary school education. Thus, the State per-pupil subsidy which, in 1974, had been some 20 times higher in advanced education than in elementary schooling had been reduced 10 times by 1980.

It is important to note that the results of a study known as the Map of Extreme Poverty from 1970 indicated that 43% of underprivileged school-aged children did not attend classes.

Moreover, between 1974 and 1980, while the per-pupil subsidy increased at the elementary level by some 110%, the funds provided to university educational institutions increased by just 25%.

This process took place within a framework of strong criticism about the development and management of universities. At the same time, however, studies were released which showed that the explosive and frenzied growth of university establishments in earlier years were not only inefficient in terms of fulfilling their objectives, but also imposed a burden on the community and the public budget which was impossible to sustain.

The result of this stage can be summarized as a reduction of universities on the fiscal budget and the introduction of certain elements of rationality in the management of each institution.

2. REFORMS TO STATUTES GOVERNING HIGHER EDUCATION

The clear awareness of the problems caused by university expansion, led to the decision to modernize higher education through a set of legal texts which were promulgated as of 1980.

The principal shortcoming of the Chilean university system, its closed and virtually monopolistic nature, was the focal point of the efforts to reform the system. Thus, an effort was made to reinforce broad freedom of education, introducing elements of competition which fostered improvements in academic quality. Furthermore, the need to rationalize the current framework was discussed, given the disorganized and disproportionate growth some institutions of higher learning had attained, reaching gigantic proportions in some cases, which made effective and quality administration impossible.

Of the reform laws passed in the 1980s, the first piece of legislation provided a definition of the concept of a university, the titles and degrees such institutions could grant as well as mechanisms for their formation and dissolution. In addition, the reforms allowed for the creation of new private universities and the option to create private "professional institutes" was also provided for. These institutes were authorized to grant degrees in a variety of areas, including those which up to that time had been under the exclusive domain of the universities. Thus, the path to private participation in higher education was opened.

In addition, a set of regulations was issued aimed at forcing universities adopt policies of institutional restructuring and rationalization and at resolving the complex situation some institutions faced regarding the payment of personnel. Nonetheless, the legislation on university financing was the most innovative and influential of the reforms.

3. PRINCIPAL REGULATIONS

The decrees with the force of law (known by their Spanish acronym, DFL) issued by the government established a new institutionality for universities covering the following areas:

- Norms on the general principles of universities, their purposes, activities and autonomy;
- Regulation of the title and degree-granting system;
- Creation and operation of new universities;
- Rationalization and regulation of the university system;
- University financial structures.

Moreover, priority was placed on promoting scientific and technological development given its decisive role in the economic, social and cultural development of the nation. Toward this end, the National Fund for Science and Technology was created in 1981 to provide financing for specific research

projects. Resources allocated to Fund have been increased from year to year in accordance with the availability of monies in the State budget.

In terms of the contributions made by the State to the universities, the new regulations called for public financing in three areas: a direct contribution, set in proportion to the amount received by each institution in 1980; an indirect contribution based on the number of students acquiring high scores on the national university qualifying examinations registering at a given institution; and a so-called "university credit" to be utilized to off-set the cost of tuition for students at each establishment.

The direct contribution for 1981 was set at the 1980 and was slated to be reduced to 90%,75%,60% and finally 50% of that figure over the period 1982-1985. Indirect contributions were established for the 20,000 top scorers on the national entrance exams from among a universe of 30,000 first-year students qualifying for college entry (a total of 120,000 students took the entrance exams that year).

An initial figure of US\$ 690 (in 1976 local currency) per pupil was established for 1982, increasing to \$1,725 and \$2,760 in 1983 and 1984, respectively, to reach a base value of \$3,450 per qualifying student as of 1985.

In order to calculate the State's contribution, the 1985 base value was multiplied by an adjustment factor linked to the costs of different courses of study which varied from 2.5 for medicine to 1 for law.

Furthermore, "university credit" was established as of 1981 on the basis of the number of students registered who needed and requested such loans to cover a part or all of their tuition costs.

The maximum credit to be granted each year was set on the basis of the budgetary contribution from 1980. Thus, funds equivalent to 15% of that year's total were made available for university credit in 1982. This funding increased to 23%, 30% and 40% per annum during the period 1983-1985, with allocations after that date equivalent to 50% of the 1980 fiscal contribution to higher education.

This credit was to be refunded to the State by the student through up to 10 annual payments commencing two years after graduation at a real annual interest rate of 1%. This conditions denoted a strong additional State subsidy in this area.

It is important to note that the amounts mentioned above were initially established in an indexed fashion, that is, at an equivalent level of purchasing power.

4. OBJECTIVES

As noted earlier, the root cause of the deficiencies in the Chilean university system, prior to the reforms implemented as of 1981, stemmed from its closed and virtually monopolistic nature. Thus, the new institutional order was designed primarily to expand the blueprint from higher education to allow for the participation of private initiative and introduce important components of competition into the system. Toward this end, opportunities and incentives were granted to those seeking to establish new universities, as this was perceived as being key to the introduction of competitive mechanisms. Moreover, the university financing system was revamped. The new system called for a framework of general incentives aimed at steering the activities of institutions of higher learning on the basis of academic excellence, competitiveness and maximization of available resources.

The new system also allowed for the creation of non-university continuing-education institutions. These establishments included professional institutes offering 3-4 year courses of professional study which did not grant a university-equivalent degree and technical training centers which, as their name would indicate, were designed to provide technical training in an average of two-year courses of study.

a. Reduction in Direct Fiscal Contribution

The reduction in the relative weight of direct fiscal contributions sought to achieve several goals:

First, it sought to diminish the potential for financial inefficiency in state-run universities. An institution whose revenue is assured, no matter how well or how poorly it utilized the resources, can indulge in expenditures which are not fully justifiable. Not only are such institutions in a position to splurge, they will inevitable end up doing so; stemming the tide of inefficient expenditures is notoriously difficult. In effect, controlling such spending is so taxing that particularly strong incentives need to be provided to make it possible. The most efficient of these incentives to eliminate funding for such carelessness.

Second, the reduction was aimed at saving fiscal resources whose consumption could not be rationalized in accordance with a judicious definition of the common good. All of the arguments given for providing resources to institutions of higher learning could be dealt with through much more efficient mechanisms than direct support. Moreover, a variety of such mechanisms were instituted through the new legislation. The new procedures, moreover, would facilitate the transfer of funds to such establishments, allow resources to be channelled to other socially needy areas or reduce taxation; a set of objectives that would be beneficial to society as a whole. Among these alternatives, a decision was made to allocate the savings to finance the new mechanisms established in the legislation given

that in the end, as noted earlier, this represented an important increase in the financial efforts of the State in this area.

Third, the modifications sought to reduce the possibility of unfair competitive advantages at the State level (as compared to the newly formed institutions derived from the regulatory changes). If State institutions continued to have a guaranteed source of financing, they could engage in dumping practices to thwart efforts by new group to penetrate the educational "market."

b. Creation of Indirect Fiscal Contributions

The creation of indirect fiscal contributions sought to encourage institutions of higher learning to actively recruit the nation's top students. The idea behind this mechanism was that a student obtaining a high score on the entrance examinations has a greater number of options open to him/her as to where to study. Therefore, the schools chosen by the best students will enjoy enhanced prestige. Given admissions limitations, the students with lower scores will not be able to enroll in such institutions and will have to opt for less prestigious schools should they chose to continue their educations. In other words, the prestige of a given institution is reflected in the quality of student it attracts.

This mechanism, therefore, assumes that the prestige of each institution is in direct proportion to its performance and, in accordance with this supposition, provides financial rewards to those schools with "better reputations;" a concept which in turn is dependent on the number of high test-scorers the institution has enrolled.

c. University Credit

The creation of university credit sought to guarantee access to higher education for capable students who lacked sufficient resources to pay for their educations. Unnecessary subsidies, however, were to be avoided. As noted early, thanks to this mechanism, even students with meager resources could obtain loans, rather than State subsidies, to follow their chosen course of study. These loans were to be paid back to the government following graduation.

d. Funding for Science and Technology

This mechanism was established in an effort to ensure that the resources provided by the State to stimulate scientific and technological research were effectively utilized for these purposes and not for other less productive activities or to supplant institutional inefficiencies. Moreover, the program sought to ensure that the projects receiving financing were in fact those of greatest interest and benefit to the nation.

5. PROBLEMS IN THE LEGISLATION

In terms of one of the principal objectives of the modernization process -- opening the system up to private initiative -- there was an important void, until 1988, in the university area. Following the creation of three private universities between 1981 and 1983 on the basis of the regulations contained in DFL 1, the process was suspended. The administrative decision to postpone the formation of additional private universities was the result of political indecisiveness over whether such freedom to create institutions should really be granted as well as imperfections and irregularities in the process which had been exposed. There was, moreover, a conspicuous lack of adequate supervisory regulations.

In terms of the financial mechanisms, the indirect contribution and university credit were in theory available to any actor in the system, including students registered in the new private institutions of higher learning. In practice, however, for budgetary reasons these contributions were limited to students in the traditional system.

Nonetheless, after a number of years in operation, the revised framework for financing such institutions through a variety of transfer mechanisms demonstrated that although increased competition had been introduced into the system, other less desirable elements had also been introduced into operations. This generated important distortions, such as:

a) Unsystematic, explosive growth in some fields of university study which resulted in academic deficiencies. For example, Civil Engineer registrations rose from a total of 8,413 students in 1981 to 17,148 in 1985. The fundamental reason for this was that engineering, as a highly sought-after major -- although not one many of the new registrants were likely to complete -- could draw increased resources for the university through the fiscal contributions allocated in proportion to the number of registered students, indirect contributions and student loans.

b) Inefficient behavior at some institutions of higher learning which had failed to adopt measures aimed at coping with budgetary restrictions and improving the utilization of available resources.

These inefficiencies were associated with the level of direct fiscal support. Institutions receiving a high percentage of their revenue from the State enjoyed (in addition to stability) an environment which allowed them to prolong deficient operating formulas and lacked incentives to rationalize expenditures.

c) In general, the costs set for tuition responded to the availability of fiscal credit rather than following the spirit of the legislation passed in 1981 which called for there to be two basic factors taken into account in setting such rates: the cost of implementing a course of study and the subsidy to be provided to certain programs of particular social importance or need.

d) The presence of significant financial surpluses from 1981-1983 translated into investment in financial assets in the capital markets rather than strengthening the mechanisms which would have allowed the development of other more stable sources of independent income, such as the sale of services and consulting which, moreover, are more in line with the objectives of the universities as institutions. Similarly, some institutions allocated important sums to infrastructure and equipment which was not directly related to the quality of teaching or academic excellence.

Once implemented, new legislation produced interesting results. First, 3 universities, 21 professional institutes and 181 technical training centers -- primarily oriented toward business administration and elementary school education -- were instituted by the private sector.

Second, universities were restructured. The headquarter of the two State entities, the University of Chile and the State Technical University remained in Santiago, while outlying campuses were merged. Thus so-called "derived" regional universities were created in an effort to encourage decentralization and better satisfy local needs.

The universities were also restructured on the internal level, leading to increased, although still insufficient, rationalization in central coordinating bodies and administrative systems.

In financial terms, the first difficulty arose in early 1982. In March of that year, faced with the effects of the economic crisis that were beginning to be felt, Chile's economic authorities were forced to reduce fiscal contributions to higher education globally by 4%. Later, the indexation of contributions corresponding to the second quarter was eliminated, resulting in an additional 5% cut to overall State contributions to the system.

As a result, the contribution by the State during this, the first year that the new legislation on university financing was to become fully operational, dropped by some 9%.

Furthermore, the importance of the indirect per-pupil contribution led universities -- especially those born of the restructuring -- to begin to open up new fields of study and increase the admissions quota in areas which had been virtually frozen since 1979. This was particularly true for the majors garnering the highest weighted "factors." Subsequently such differentiations were eliminated (the factor for all majors was set at 1) and a system of quintiles was established whereby the scores on the aptitude examination were weighted (in descending order) by 12,9,6,3 and 1 to establish a student's overall placement.

Moreover, since the new legislation did not establish clear norms for the granting of university credit, institutions began to compete to provide such loans under the most open terms possible.

Overall, the universities' interpretation of the new financial legislation began to cause some undesirable side effects.

In addition, regulations were issued which restricted access to fiscal credit in accordance with the social objectives on which it had originally been based and academic performance requirements were introduced.

In the development of the academic aspects of the system financed by the State (teaching, research and outreach), problems remained in the disorderly growth of courses of study and professorships (such as pedagogy and civil engineering), the lack of orientation and instability in the resources allocated to research and the high drop out and failure rates. As a result, scarce resources were wasted as can be seen in the following chart (Chart 2):

Table 2

Drop-out rate for some majors

Major	Percentage
Law	26
Agronomy	71
Architecture	53
Civil Engineering	72
Forestry Engineering	77
Business	61
Medicine	29

Source : Cuadernos CRUCH N° 22, 1984.

In terms of administration, the problems of deficiencies in the administration of resources at the institutional level continued. This situation was characterized by investment decisions which were not always in accord with the needs and priorities of academic activity.

Nonetheless, the limitation on resources affecting Chilean universities as well as many of the criticisms formulated about the management of higher education in 1975 remained. On this matter, it is important to note that although the global resources allocated to the system underwent significant reduction, **there was no perceivable drop in academic quality**, providing staunch proof of the

inefficiencies of the previous system. Some of those inefficiencies, however, persisted and still needed to be corrected.

The structure of financing, for its part, resulted more in distortions generated by the interpretation of the framework of incentives put forth in the legislation of 1981 than in those produced by the economic crisis *per se*. These distortions were as follows:

- The most important imbalances were in the distribution of direct fiscal credit and the disorderly installation of State universities which did not meet minimum requirements for such institutions. This resulted in competition aimed not at improving academic excellence, but rather the acquisition of a larger volume State resources. In the private sector, these two elements should dovetail nicely. When the resources are provided by the State, it is another matter entirely.

- The majority of the "derived" (provincial) universities were forced to depend on fiscal credit as their primary source of funding because of their limited access to direct and indirect fiscal contributions.

- Furthermore, there was no linkage between resource distribution mechanisms and research as a fundamental element in university activities. This meant that private institutions were to a large extent deprived of the possibility of developing areas of research that would have helped consolidate their contribution to higher education and their status as universities. This occurred because the distribution of direct fiscal credit was based on historic considerations and current registration; indirect fiscal support, moreover, was related to teaching through a portion of the best scores on Chile's university entrance examinations; FONDECYT, the only mechanism linked to research was not of the same significance in terms of resources available for transfer as the other mechanisms.

- Competition to obtain increased fiscal resources was the primary cause of the proliferation of majors and admissions even when minimal conditions in equipment and human resources required by some courses of study, such as Civil Engineering, could not be met.

- Furthermore, courses of study with low teaching costs, such as pedagogy, also saw their ranks soar given that the increased number of students made it possible for the school to obtain additional resources.

- This led to extraordinarily complex situations for some universities which expanded their level of activity beyond their real possibilities by increasing institutional indebtedness to finance the expansion.

- Tuition failed to bear any relationship to the approximate cost of a given course of study but rather were adjusted in accordance with estimates on the availability of fiscal credit. As a result, in 1986, 54.7% of undergraduate tuition was obtained

from fiscal coffers. Naturally, requests for credit spiraled and their distribution within universities was not based on students' real needs and socioeconomic conditions.

Lastly, one of the conclusions we can draw from this analysis is that the distortions and inefficiencies to a large extent were the result of a lack of an owner who could effectively orient behavior; this was also true for initially private institutions linked to the Catholic Church and other foundations which received fiscal contributions. These institutions gradually became more and more dependent on fiscal funding and distanced themselves from their founding fathers.

6. CORRECTIVE MEASURES ADOPTED

The corrective measures adopted, following a profound analysis of the impact of the legislative reforms of 1980-81, dealt with modifications to the system's general framework of incentives as follows:

- In 1988, fiscal university credit was transferred to the institutions of higher learning to form the University Credit Funds which belonged to the universities and professional institutes themselves. These institutions then administered the monies in accordance with their own criteria and were authorized to invest surpluses obtained through a higher-than- expected repayment rate in development.

- As of 1989, 95% of direct fiscal contributions were distributed in accordance with the historic criteria utilized in the past. The remaining 5% was distributed among institutions of higher education in accordance with five new criteria, including the number of research papers in internationally renowned magazines published by university personnel, the proportion of professors with Masters degrees and Doctorates as compared to the rest of the teaching staff and the proportion of full time professors over the number of part-time instructors.

- As of 1989, indirect fiscal contributions were opened up to all of the institutions of higher learning recognized by the State rather than just the traditional institutions and their "derived" campuses has had been the rule in the past. Thus, universities, professional institutes and technical formation centers created as a result of the legislation passed in the 1980s were able to access a source of State financing in accordance with their ability to attract students placing in the top 30,000 on the system's entrance exams.

- The Fund for Science and Technology (FONDECYT) expanded from a total of 400 million pesos in 1986 to 3 billion in 1989. This increase came at the expense of direct fiscal contributions and permitted a significant increase in the financing of research projects.

- Lastly, and perhaps most importantly, the option to create new private universities was reopened, as per the legislation enacted in the early 1980s. As noted earlier, this option had been closed through administrative measures following the creation of a few such institutions early in the decade.

III. PRIVATIZATION ACHIEVEMENTS

1. CREATION OF PRIVATE INSTITUTIONS: NUMBER OF INSTITUTIONS AND NUMBER OF STUDENTS

By 1990, the results of the new thrust toward private higher education were clear: 60 universities, 80 professional institutes and 156 technical formation centers. These figures are all the more impressive if we compare them with the statistics from 1989 which show a total of 34 universities, 41 professional institutes and 133 technical training centers.

That is to say that as a result of the liberalization of the restriction on the entry of new universities, 26 such institutions, 39 professional institutes and 23 technical training centers were formed.

It is important to note that of these establishments, just 20 universities -- a third of the total in operation today -- and two professional institutes receive direct fiscal support. The remaining institutions -- some of which receive indirect fiscal support -- are essentially self-financing through tuition payments by students. Other institutions prefer to do without State contributions in an effort to maintain their efficiency and autonomy.

The number of institutions in the private system located throughout Chile's 12 regions in 1984 and 1990, including regional campuses of some institutions, is as follows (Chart 3):

Table 3

of Higher Education Establishments

(Private Sub-System)

Region Tech. Training inst. Prof. institutes Universities

	1984	1990	1984	1990	1984	1990
I ^a	8	13	-	3	-	1
II ^a	10	10	-	3	-	-
III ^a	2	3	-	2	-	-
IV ^a	8	10	-	6	-	-

V ^a	26	33	4	14	-	6
RM	90	79	18	45	3	27
VI ^a	6	12	-	2	-	2
VII ^a	9	7	-	3	-	-
VIII ^a	15	13	2	8	-	3
IX ^a	8	14	-	4	-	2
X ^a	8	12	1	5	-	-
XI ^a	2	-	-	-	-	-
XII ^a	4	3	-	-	-	-
Total	196	209	25	95	3	41

Source : 1984, La Educación Superior en Chile, riesgos y oportunidades en los '80, M^a José Lemaitre, Iván Lavados. 1990, Directorio de Instituciones Privadas de Educación Superior en Chile.

Moreover, registration in the higher educational system rose from a total of 116,962 students in 1980 to 248,354 in 1990; an increase of 112.3%. Of this total, 130,767 students were registered in institutions in the private system which did not receive fiscal support (52.7% of these students were following non-university courses of study).

2. DEVELOPMENT OF INTERMEDIATE EDUCATION

In terms of the development of intermediate education, it is important to keep in mind that the number registrations in alternative post-secondary school education -- technical training centers offering short, two-year, programs of study -- leapt from zero, in 1980, to 77,724 in 1990. This figure represents 31.3% of the total number of students registered in the higher education system, all of whom are enrolled at private educational establishments.

Table 4

Total Registration in Higher Education by Sub -System

	1980	1981	1984	1989	1990
Sub System					
w/Fiscal Support					
Universities	116,962	101,620	105,573	105,583	111,115
Prof. institutes	-	14,155	18,740	5,467	6,472

Tech. training centers	-	-	-	-	-
Sub total	116,962	115,775	124,313	111,050	117,587
Sub System					
w/o Fiscal Support					
Universities	-	-	3,686	13,773	19,509
Prof. institutes	-	441	11,033	28,290	33,534
Tech. training centers	-	12,368	45,402	76,695	77,724
Sub total	-	12,809	60,121	118,758	130,767
Total System					
Universities	116,062	101,620	109,259	119,356	130,624
Prof. institutes	-	14,596	29,773	33,757	40,006
Tech. training centers	-	12,368	45,402	76,695	77,724
Total	116,962	128,584	184,434	229,808	248,354

Source : 1980, 1981 y 1984, La Educación Superior en Chile, riesgos y oportunidades en los '80, M^a José Lemaitre, Iván Lavados. 1989, Memoria 1973-1990 Ministerio de Educación. 1990, listados División Educación Superior, Ministerio de Educación.

IV. CONCLUSIONS

The privatization of higher education is of tremendous importance, both in order to achieve an increased contribution by this industry to the development of the country and to guarantee the corporeality of mankind's most fundamental liberties.

In Chile, important progress has been made in this field, but important hurdles which pose limitations to the nation's system of higher education remain.

The first of these hurdles is that the State continues to provide substantial subsidies for education in a poorly structured fashion.

Thus, direct fiscal support continues to be provided to universities. Recently, moreover, this type financing has tended to increase as a portion of overall fiscal funding granted to such institutions. As we have noted in this chapter, this type of financing is the least desirable given that it not only provides an incentive for inefficiency in the use of resources allocated to higher education, but also conceals misuse.

Furthermore, the State continues to provide indirect fiscal support. This mechanism, although far superior to that of direct contribution, is not a desirable option over the long term either. It is true that this mechanism stimulates universities to excel by providing a subsidy to the institutions which are most capable of attracting top students and therefore garner the greatest prestige. However, one still needs to justify why these institutions should receive subsidies. In truth, the potential justifications for such financing are not all that different from those applicable to higher education as a whole, that is, encouraging academic investigation, guaranteeing access to students with limited resources and ensuring a supply of majors whose social consequence is greater than the personal gains of those who engage in that particular field of study. The most efficient mechanisms for achieving these objectives were discussed in this chapter and have nothing to do with indirect fiscal support.

Over the long term, then, the system should move toward the elimination of these types of contributions and focus on more appropriate mechanisms, such as: enhanced, better-funded research programs; increased resources for university credit and the extension of this option to professional institutes and technical training centers; and corrections to discrepancies between social and private profitability when they exist.

Lastly, another area where progress remains to be made is in the establishment of a system in which freedom of education is a reality. Toward this end, institutions should be allowed to be formed without the obligation of being subjected to systems of accreditation or examination by existing institutions. By functioning in this fashion, the current system grants existing establishments a monopoly and produces no specific benefit. Instead, the State should create a merely informative classification system on the quality of education being provided by academic entities so that students and their parents can orient their selection process and facilitate full freedom in the creation of institutions of higher learning.

MUNICIPAL REFORM

MANUEL CERECEDA V.

I. INTRODUCTION

The field of municipal services is undoubtedly one of the areas in which the structural transformation of the Chilean public sector over the last several decades can most clearly be seen.

The introduction of organizational innovations, transferal to the municipal level of services which in the majority of developing nations are administered by a centralized public apparatus coupled with the transfer to the private sector of a variety of services which in the past had been provided by local government directly are some of the elements which characterized the formulation of a new profile for Chile's municipalities.

The municipal reform process can be separated into three successive stages:

- The period prior to 1976 during which the legislation passed in 1955 remained in effect. As of 1973, however, Mayors were appointed by the Executive Branch.
- The second stage commenced in 1976 with passage of new legislation on Municipalities. The regulations contained in this Decree Law (number 1,289) constituted the beginning of the municipal transformation in terms of administration and internal organization.
- Lastly, the third stage witnessed the most profound changes in municipal institutions, beginning with passage in 1980 of Decree Law 3,063 on Municipal Revenues; a set of legal norms which, in addition to restructuring the organization of the nation's municipalities, empowered local governments to take responsibility for the administration of services in such areas as health care, education and youth centers, which until that time had been administered by the central government.

Today, the results of these changes are perceived as clearly favorable and although there is broad consensus on the need to reform the way local officials are selected -- they are currently elected through an indirect mechanism -- there is widespread agreement on the need to maintain the fundamental lines of municipal institutionalities.

II. THE OLD MUNICIPAL SYSTEM

1. BACKGROUND INFORMATION

Under the old municipal system, local government was conceived more as an opportunity for participation than a service-providing entity. Thus, a large portion of the development attained by local governments was limited to the participation of residents in the election of city council members. In addition to serving as representatives of the community at the municipal level, these elected officials also selected the Mayor from among their ranks and constituted the body responsible for running the municipality.

The nature of municipalities as an arena for participation -- a concept which existed prior to the reforms undertaken at the end of the 1960's -- has its roots in Chilean history.

In essence, the nation's municipalities were based on the "*cabildos*" or citizens' meetings formed by the Spanish. Such institutions were of particular importance in the early 19th century when the Chilean Republic was in formation. For example, the historical importance of this institution is demonstrated

by the fact that Chilean Independence was declared on September 18, 1810 in an open *cabildo*, or a meeting of neighbors.

If we examine the evolution of the powers and responsibilities of Chilean municipalities through the course of this century, it is clear that administration has alternated between decentralization, or local government autonomy, and the centralizing and statist goals that marked the decades prior to the reform.

In 1891, as the 19th century drew to a close, legislation known as the "Law on Community Autonomy" was put forward by conservative politicians based on Swiss experience with local participation. Under this framework, the independence of municipalities was enshrined and important responsibilities, including education, public health and police were handed over to local officials as additions to their classic task of providing sanitation services.

Nonetheless, Chile was not spared the centralist phenomenon which have affected developing countries -- and the nations of Latin America in particular -- hampering the incipient autonomy of the nation's municipalities. Thus, the intervention of centralized powers in local affairs first appeared in the articles of Municipal Law 2,950 of 1915 and was subsequently sustained in the nation's Constitution according to the reform of 1925.

During the following decades, municipal legislation was accrued which sought to strengthen the Executive Branch and central administration agencies.

The process of reducing municipal powers found its full legal expression in 1955 with the passage of Law 11,360 in which the conditions of municipalities at the time were accurately described: reduced resources, which in the majority of cases were insufficient to cover even the most basic of operating costs; limited powers;

excessive politization; and a concentration in municipal hands of activities which could have been conducted by the private sector.

A well-known Chilean author once described the nation as having "a crazy geography." Upon examining the country's geographic and natural conditions, the logic behind decentralization becomes perfectly clear. Nonetheless, these arguments were not sufficient to curb the move toward centralist ideas which were implemented without mercy through the 1970's in the area of municipal services as well as other realms of national activity.

An illustration of the absurdity of this situation is that the city of Santiago, where the Executive, Legislative and Judicial powers were concentrated, is located 2,074 kilometers from the country's northernmost municipality and 2,050 kilometers from its southernmost township.

Despite these distances, prosaic decisions of importance solely at the local level, such as the hiring or replacement of a teacher, or the installation of a drinking water or sewage system, had to be resolved in the nation's political and administrative capital.

The combination of factors noted earlier which led to the crisis in the Chilean municipal system (lack of resources, participation in activities which could have been conducted by the private sector, limited powers and excessive politization) was evident in the specific practices which sparked the system's demise and fueled the loss of confidence in municipalities as a mechanism for resolving local problems and needs.

City council members, who constituted the local decision-making body, increasingly placed higher priorities on the interests of the parties they represented than on those of the local community.

Moreover, the Mayor, who was in theory the highest ranking official at the municipal level, was not elected by direct vote, but was rather selected by the Council from amongst its members. This often meant that the power of the Mayor was restricted and reduced by the partisan coalition that had brought him/her to power.

Furthermore, the positions of Mayor and city council member were *ad-honorem*, without pay, and therefore such officials could rarely dedicate themselves to governance on a full-time basis and were forced to split their time between personal activities and those required by public office.

Of the attributes or powers the Chilean municipalities retained even through the 1970's, the following are the most relevant:

- In the area of public safety, the municipalities had certain powers to prescribe regulations and apply fines to regulate the consumption of alcoholic beverages in public places, decree obligatory norms in the areas of public transportation, exercise administrative control over the staffs of the *Juzgados de Policía Local*, (local courts which administer justice in matters of minimal importance).
- Granting of commercial, professional and industrial licenses and receiving any revenues such licenses might generate.
- Providing sanitation services in public areas.
- Authorizing the construction of homes or buildings, the design of a community regulatory plan, approving plans for new housing developments and determining the names and numeration of streets.
- Granting driver's licenses and motor vehicle registrations.
- Authorizing construction and maintenance of town squares, playing fields, parks and gardens with municipal resources.
- In the area of community services, municipalities were authorized to construct and maintain public electrical lighting; regulate the placing of commercial advertisements and public announcements; construct schools, libraries and school museums; pave streets or work with specially-created State organizations in doing so; build drinking water and sewage systems, cemeteries, slaughterhouses and municipal markets.

The powers granted to the municipalities had, however, two insurmountable limitations.

The first was the endemic lack of resources at the municipal level. Local governments were financed on the basis of the revenue they generated and contributions from the national government which were included in the nation's annual budget. Such allocations were neither regular nor periodic and depended, most of the time, on the amount of influence local authorities held with the Executive and Legislative branches of government;

The second was the creation, by the central powers, of Ministry-dependent agency which was charged with the same functions as the Municipality at the local level.

In practice, the overlapping of attributes and powers between municipalities and organizations dependent on centralized administration meant that, for example, in paving a street, the Direction of Roadways of the Ministry of Public Works, the Ministry of Housing and Urbanization or the local Municipality could all take part in the project.

As tends to occur wherever resources are scarce, disputes among potential executor agencies tended to focus less on determining who should implement the project and more on who should not participate.

As has been noted, municipalities engaged in activities or served functions which, by nature, could have been adequately channeled through the private sector. This is the case with meat processing plants and slaughterhouses, cinemas and theaters, markets, etc.

The lack of objective technical procedures in prioritizing the investment of the limited resources that were available meant that communities grew in an irregular fashion, without a long-term development plan.

An additional distinctive aspect of the municipal system prior to the reform was the dearth of professional and technical staff qualified to plan and implement local development projects that could be financed, and would be of long-lasting and real social benefit.

With this data in mind, a discussion of potential reforms to the municipal system commenced. These reforms sought to ensure an acceptable level of efficiency in the generation and administration of resources among municipalities and incorporate the same parameters utilized by private companies seeking success in their respective areas of work into the municipal system.

II. THE SEARCH FOR SOLUTIONS

As has been noted, the search for new structures, systems and procedures in the field of municipal services in Chile was neither automatic nor instantaneous, but was rather the result of a long, sustained process of changes in the legislation and regulations controlling the functioning of local government.

The following is a brief discussion of each of the areas which fall under municipal management, its problems or weaknesses at the time of the reform and the solutions that were implemented in an effort to overcome existing obstacles.

For these purposes, we shall divide the analysis into three areas:

1. Administration
2. Technical, Financial and Planning Area
3. Municipal Services

1. ADMINISTRATION

The primary weaknesses in this area prior to the reforms were related to the everyday administration of municipalities and were derived from a lack of professionalization among key personnel, the dearth of an appropriate organizational structure and the lack of modern procedures that would have made it possible for local government to function efficiently.

Initial improvement in local management came under the guise of nationwide policies aimed at decentralizing the administration of the State. The country was divided into 12 new, administratively autonomous regions and a Metropolitan Area. These subdivisions were granted specific resources and their highest-ranking official -- a Regional Governor or *Intendente*-- was authorized to coordinate and systematize the work of public services in his/her region.

In terms of the legal framework which regulated the administrative modernization process, legislation was oriented toward achieving two objectives: decentralizing the financial decision-making process (Law on Municipal Revenues) and re-organizing the internal functioning of municipalities (Organic Law).

Furthermore, the Constitution expressly noted the role of municipalities, defining them as "Corporations of Public Law, with their own legal status and patrimony, whose purpose is to satisfy the needs of the local community and ensure its participation in the economic, social and cultural progress of the township."

As a result of these modifications, profound changes in the administrative and organizational structures of the Chilean municipal system were introduced, establishing a new set of institutions aimed at instilling efficiency and rationality in municipal management. Among the most important innovations in this area were the following:

a. Common Municipal Fund

The Common Municipal Fund, a system of financing created in 1981, consists of a national fund composed of contributions from municipalities and the national government. These contributions are subsequently distributed to each township in accordance with pre-established parameters including the socioeconomic situation in each community, number of inhabitants, etc., in order to allocate the proper amount of resources to each community.

The concept behind the Common Municipal Fund was borne of the need to find a way to redistribute income between "rich" and "poor" communities. The Fund has been entirely successful in achieving this goal; today a small number of municipalities contribute an important portion of the resources which are distributed among the nation's 325 townships.

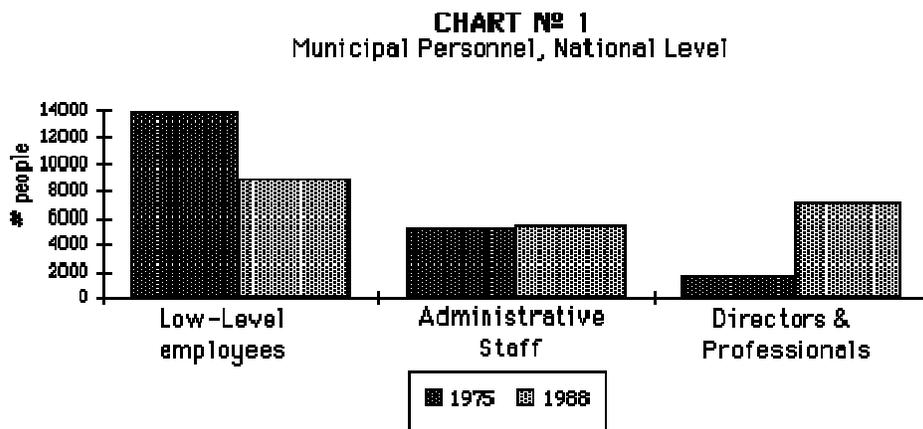
The Fund's operating mechanism is fairly simple: each town or community provides a percentage of its revenue -- those generating greater revenues

contribute a larger share to a central pool and withdraw a smaller proportion at the time of distribution. This benefits the municipalities which have higher indexes of poverty or a larger number of inhabitants.

b. Regulations on personnel

A second important aspect in improving the administration of Chilean municipalities was the modifications made to regulations on personnel. As noted earlier, existing legislation was so rigid that it prevented municipalities from hiring the best personnel needed to fulfill their obligations -- neither on a permanent nor temporary basis.

According to data collected in 1975, of a total of 20,722 municipal employees, only 8% were professionals (holding college degrees) while 67% were auxiliary and service personnel and concierges.



Under the reform plan, new full-time personnel were hired in municipalities throughout the country. The primary characteristic of this shift was the increasing professionalization of employees and the maintenance in absolute terms of the overall number of municipal workers.

Furthermore, since municipalities were authorized to subcontract services with the private sector which had traditionally been implemented directly by the municipality, the drastic reduction in auxiliary and service personnel was more than justified.

Municipalities were also authorized to contract part-time or

temporary personnel, through the payment of honoraria, for services that the full-time staff was not in a position to provide either because of a lack of specific knowledge or shortage of time. Under this system, municipalities were able to enlist the assistance of qualified professionals from the private sector in designing and evaluating projects in infrastructure, architecture, roadwork, equipment,

computers as well as areas related to the implementation of social and local development programs.

c. Introduction of the concept of the municipality as a service-provider

A third element which must be noted in the administrative modernization of local government lies in a new conception of the type of specific role a municipality should play.

The idea of the "Benefactor State" continues to persist in many developing nations. Under this system, potential users of the services provided by public entities are passive subjects far removed from social policy.

The reforms introduced in Chile, in both municipal and social areas, coincided in their efforts to enhance objective mechanisms of access to programs and social services. Thus, the role of public employees was reduced to that of intermediary, whose primary responsibility was providing information and processing the benefits the citizenry aspires to receive.

This reduction in the margins of discretion in the management of municipal services has a variety of advantages as it: reduces the prospects for administrative corruption; guarantees that resources will be focused on the most needy and those with the least lobbying power; permits decisions to be made on the basis of technical parameters; and, from the administrative standpoint, it reduces the number of bureaucratic procedures needed to solicit a service or benefit.

From the point of view of the ordinary citizen, the concept of the "municipality as a service-provider" has an additional advantage: upon requesting municipal assistance, he/she does so from a position similar to that of a "client" at a private firm who is requesting a service with widely known characteristics and for which the requirements for receiving such a service are absolutely clear.

This new style of municipal management is today particularly useful in administering housing programs, assistance pensions and subsidies as well as such programs as the "Presidential Scholarships" available to students. In all of these cases, the municipality acts as an intermediary between the petitioner and the Ministry or other centralized agency. Upon registering for a benefit in these and other areas, people have clear information as to the likelihood of obtaining the service or credit requested and, more importantly, what they can do to improve their chances (such as increasing savings upon applying for participation in housing programs or, for students, improving grades).

In order to efficiently fulfill these new functions of mediation and the furnishing of social services, municipalities had to adjust both administratively and technically. An important factor in this modernization process was the installation of computer

systems which today make it possible to access accurate information on the population benefitting from programs and services. Furthermore, this information can be continually updated, thereby avoiding duplicity in the granting of benefits and improving the focalization of resources aimed at assisting lower income groups.

Given the enormous distances between urban centers and many municipalities, particularly in the farthest flung reaches of Chile, the availability of computer systems has been a crucial factor in the implementation of the so-called "Social Network," a set of programs, plans, subsidies and services designed to combat extreme poverty and facilitate social development in Chile.

The operational efficiency obtained by the municipalities in administering large-scale selection social benefit programs has resulted in an additional phenomenon which is worthy of note: a consistent transfer of responsibility from centralized powers to local officials.

In truth, this shift resulted not only from the modifications of a legal nature that were implemented, but also from voluntary agreements reached between central agencies and municipalities to conduct joint activities or for the local institution to take responsibility for tasks which could be conducted more efficiently at the local level.

Thus, municipalities today participate in a plethora of tasks which were at one time the exclusive responsibility of centralized, nation-wide agencies, including:

- Application processes for housing programs (Ministry of Housing);
- Operation of community-based offices of employment and work-related training (National Training and Employment Service);
- Operation and administration of day-time care for minors, pre-schools and open day-care centers (National Minor's Service, National Kindergarten Service);
- Administration of sporting areas (General Directorate of Sports and Recreation);
- Application and selection process for assistance pensions and family-oriented subsidies (Social Security Service);
- Implementation and co-financing of legal assistance centers (Corporation for Judicial Assistance of the Ministry of Justice);
- Administration of unemployment subsidies and transitory work programs for heads of household (Ministry of Labor and Social Security);
- Process of revising and appraising real estate (Internal Revenue Service);

- Administration of elementary, secondary and technical-professional educational establishments (Ministry of Education);

- Administration of primary health care centers (Ministry of Health).

These examples are just a sample of a wide variety of responsibilities and areas of power which were gradually transferred to municipalities thanks to the administrative capacity demonstrated by local institutions in efficiently conducting activities which, as we have seen, in developing nations are frequently lodged in the upper echelons of centralized administration.

In conclusion, we can state that the decentralization process was made possible thanks to the efficiency of the municipalities which were able to accept responsibility for additional tasks by improving notably the professional and technical qualifications of their employees and incorporating modern administration techniques which were common precepts in the administration of the private sector rather than by significantly increasing personnel.

2. TECHNICAL, FINANCIAL AND PLANNING AREA

An additional relevant aspect of the process of improving and modernizing municipal services were the modifications introduced in the technical and financial area, in addition to the incorporation of planning as a key element in municipal management.

The new concepts incorporated into municipal action in these areas translated into measures that were unheard of in public management at the time.

Of these innovations, the following are of particular significance:

a. The Creation of Community Secretariats for Planning and Coordination in each municipality

Hindsight bears testimony to the appropriateness of the legal requirements Chile imposed on its municipalities obligating them to create technical units within their administrative structure. The fundamental goal of these units is to provide consulting services and guidance to municipal authorities in adopting a community development strategy.

As noted in the brief description of the condition of Chilean municipalities prior to the reform, one of the primary deficiencies in municipal management was, precisely, a lack of highly qualified technical teams which could provide useful information to the authorities seeking to make decisions regarding the allocation and investment of resources which the municipality received from a variety of sources.

The Community Secretariats for Planning and Coordination (SECPLACs) filled this void. Composed of a multi-disciplinary team of professionals, SECPLACs evaluate the feasibility of each project proposal put forth by the community or by groups within the municipality itself. SECPLACs are also responsible for coordinating efforts by similar entities on the regional and national levels (Regional Secretariat for Planning and Coordination and the Ministry of Planning, respectively) and are, in practice, the institutions charged with seeing to the processing of projects financed by supplemental public funds, such as those provided by the Fund for Regional Development and programs derived from foreign loans.

The procedures for the preparation, evaluation, presentation and prioritization of social projects have been standardized nationwide through generally accepted practices which have been enhanced over time. This has allowed a common "language" to develop among entities requiring resources, such as the municipalities, and the agencies charged with distributing such funding (regional Governor's offices and the central government).

Many of the improvements in the technical-professional capacity of Chilean municipalities can be attributed to the creation of these instances of local administration.

b. Delegating an important number of works and services that were traditionally implemented by public employees to the private sector

Although under the old municipal system it was possible to hire private companies to implement certain initiatives, this option was effectively limited to the construction of physical projects which, in many cases, were performed directly by municipal employees.

One of the areas which best illustrates this point is that of waste management. In effect, as recently as 20 years ago the deficiencies in the system for removing domestic and industrial waste were the cause of frequent protests and complaints by residents in a majority of Chile's townships.

The vehicles utilized by municipalities to provide this service were both insufficient in number and technologically obsolete. Furthermore, the municipalities lacked the power to rationalize the use of the personnel engaged in these activities, given the legal rigidity of their schedules and the presence of severe economic restrictions. These conditions were further exacerbated by continuing population growth and rural-urban migration which at times led to the most dire of situations.

In order to confront this critical situation, the new municipal legislation authorized local governments to hire private companies to engage in trash collection. This procedure was set in operation in the early 1980's and today is common throughout almost the entire country.

In order to fully understand the impact of this measure, it is important to note that there were no private waste management companies in Chile at the time this plan was adopted. Thus, the private sector was challenged to organize firms specifically for this purpose.

One interesting aspect of the implementation of this procedure was the situation among employees who had worked in municipal Sanitation Departments. Once the justifies to domestic and industrial trash collection had been sold off, many of the municipal employees resigned to join the newly formed private companies. The reason for this was that the municipalities contracted and paid for waste management on the basis of the volume of trash removed. The subcontractors passed this system on to their workers in the form of a salary incentive. Under the public system, salaries were static; under private system, pay was tied to productivity.

Other areas of municipal action were eventually incorporated into the system of contracting private companies to provide traditionally municipal-run services including:

- Roadwork and infrastructure;
- Preparation of design and architectural projects;
- Construction of civil works;
- Computer services;
- Maintenance of plazas and gardens;
- Maintenance of traffic lights and other traffic markings;
- Maintenance and repairs of municipal vehicles and equipment;
- Implementation of environmental hygiene projects.

In the technical field, this new method of operating with the private sector constituted significant progress.

c. Promoting efficiency as a stimulus for healthy competition among municipalities in applying for certain lines of financing for development projects

In order to enhance the efficiency of municipalities, a competitive system was designed to determine the allocation of some types of resources at the regional and national levels. The resources utilized in this program were granted as supplements to ordinary municipal budgetary expenditures (the latter were

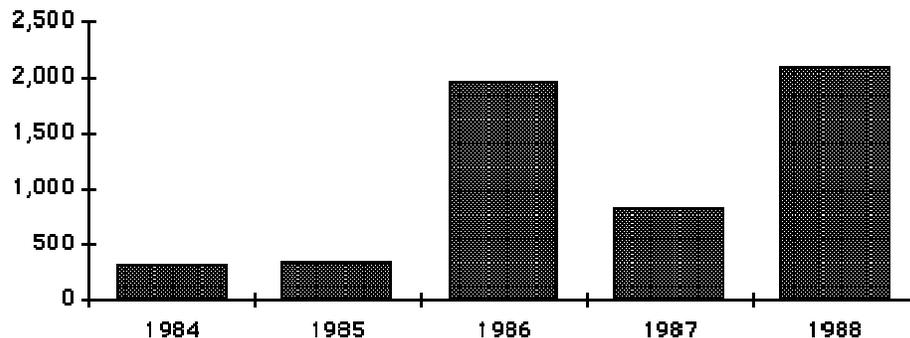
primarily comprised of funds derived from the Common Municipal Funds and fiscal contributions).

In order to obtain access to the supplemental funds (derived from the National Fund for Regional Development or foreign credits), municipalities put forth proposals that could be easily justified in terms of technical, economic and social impact.

This meant that local authorities were required to present the needs of their respective communities within the framework of a careful evaluation and accompany their proposals with background information and other elements needed to justify the program. In many communities "Proposal Banks" began to operate in an effort to respond appropriately and opportunely to the potential availability of resources, both in the "public market" and the private sector.

These procedures for allocating resources have had several noteworthy advantages and have resulted in high rates of social return on the supplemental funds provided by the State in an effort to promote local development.

CHART Nº 2
Fiscal Contrib. to Reg. Development Fund
(millions of 1988 pesos)



d. The simplification, rationalization and mechanization of techniques for collecting fees, licenses and other municipal revenue

In order to effectively improve the situation of the municipalities, it was critically important to provide them with the resources needed to satisfy the community's requirements. To achieve this, a restructuring of the mechanisms through which municipalities raised their own funds was added to the reforms mentioned above.

Municipalities are empowered to charge fees for concessions of goods or land, construction permits, commercial licenses and fees for the transitory occupation of publicly-used national goods. Furthermore, municipalities may collect fees for those services which are regulated by law, such as motor vehicle circulation permits and driver's licenses.

One of the most important changes in this sense was the establishment of a policy of charging users the real cost of the service being provided. The first area in which this was applied was that of fees for domestic waste management. Thus, those users who required frequent trash removal or exceeded certain maximum waste limits were charged higher fees. Furthermore, such users were authorized to forego the municipal trash collection service and establish contracts with private companies to provide this service.

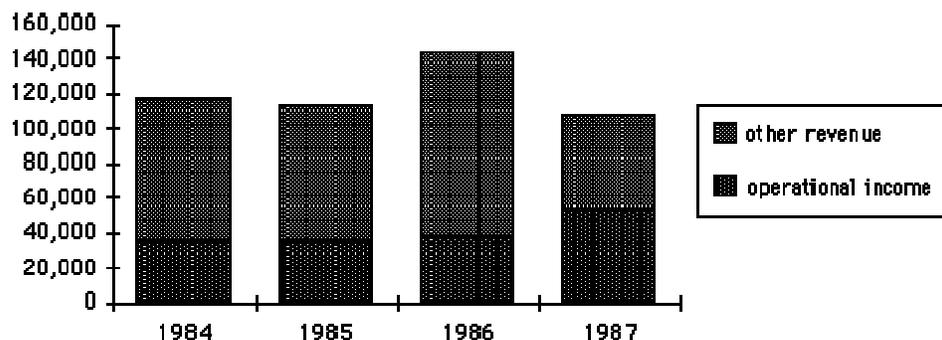
In other areas, municipalities simplified their tax and fee collection systems by signing agreements with commercial banks to receive payment and forward revenue to the municipalities or, where municipalities had banking accounts, deposit the funds collected directly into those accounts. In the past, there had been a requirement that all public entities keep their resources in accounts with the *Banco del Estado* (State Bank).

Another example of the simplification of operations relating to the collection of taxes or fees was the modifications introduced into the system of motor vehicle licenses. Until the 1970's an annual fee was charged and the physical replacement of a vehicle's metal "license plate" -- which varied in color and number each year -- was required. Naturally, the production of these license plates on an annual basis for all of the country's vehicles was costly.

In order to amend this situation, a National Registry of Motor Vehicles was created to assign each vehicle with a single license plate which would be valid throughout the vehicle's usable "life." Municipalities then collected an annual fee for authorization to utilize the roadways ("circulation permits") instead of charging for the physical license plates. The incorporation of computer systems in this area was also a boon to its improved functioning.

Lastly, municipalities were empowered to dictate ordinances to set fees for those services, concessions or permits not covered in existing legislation.

CHART Nº 3
Framework for Municipal Revenue
 (millions of 1988 pesos)



e. Creation of nationwide, standardized, modern financial mechanisms

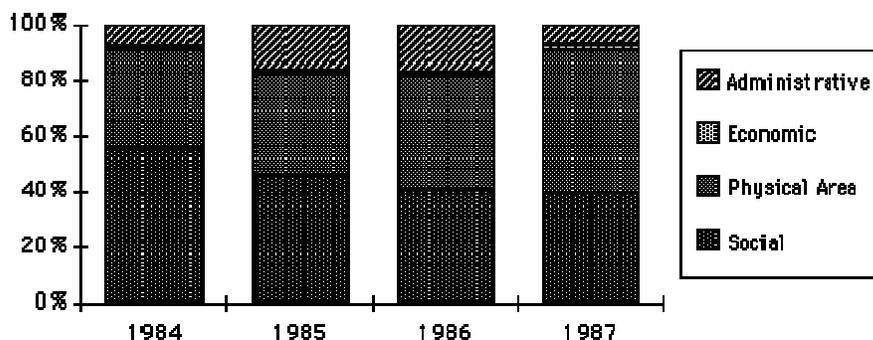
Just as it is possible to determine how successful a private business is by examining its annual report and budgetary performance, it was believed that the performance of municipalities could be measured through similar mechanisms.

First, municipalities were required to prepare an annual budget which clearly stated their expected sources of revenue. In addition, in an effort to make local governance more transparent, municipalities were required to make their annual financial statement public.

The existence of mechanisms of redistributions such as the Common Municipal Fund meant increased revenue for townships with the greatest needs and the transfer of revenue generated by certain taxes from national coffers to the municipalities. The resources obtained through the Fund were required to be spent on community services or local development projects.

Furthermore, in an effort to foster the participation of the private sector in municipal activities, legislation was passed indicating that donations or contributions made by private citizens or corporations to development or social projects implemented by the municipality were considered legitimate expenses for all legal purposes and could be considered tax deductions.

CHART Nº 4
Distribution of Municipal Investment



3. SOCIAL SERVICES AREA

As noted earlier in this chapter, Chilean municipalities underwent a set of significant, innovative changes which extended into the broadest reaches of their activities.

Nonetheless, the area in which these changes are most evident is that of social services, since it is here that the community can best perceive the specific improvements or setbacks that these reforms implied.

As with all initiatives dealing with public affairs, the analysis of these changes must be based on fundamental concepts rather than partial or specific aspects of the programs implemented.

It appears that there is consensus that modern social policy should be based on social profitability, focussing expenditures on the most needy, progressiveness, objectivity and efficiency.

The reformulation of the social development strategy implemented in Chile had as its key objective the modernization of social services at the local level. Municipalities, as the governmental agency closest to the people, played an important role in achieving this goal.

Thus, the initial objective of the modernization strategy sought to decentralize the operation of social programs and services and provide local authorities with increasing levels of influence.

We have already seen how municipalities adjusted to their new role and the means they used to confront their new responsibilities. It is time, therefore, to turn to the ways in which decentralization of municipal services in a variety of areas actually took place.

a. Education

In the early 1980's, the administrative transfer of educational establishments from the central government to local municipalities commenced. This process was timidly begun in a limited number of townships and was subsequently expanded, over a period of approximately five years, to include all of the nation's communities.

The primary objective of this transfer was to bring the decision-making process closer to the students, parents and teachers.

In its initial stages, the educational reform process transferred public elementary schools to municipal hands. In successive stages, secondary and technical-professional establishments followed the same route.

Municipalities were given the option of administering the educational establishments through one of two mechanisms: creating private corporations directed by a board presided over by the Mayor and composed of representatives of the community. The board was then responsible for appointing a manager charged with administering the corporation and its personnel; the second option was to administer the schools through Municipal Departments of Education. This alternative granted administrators less autonomy than the first option.

In any case, both alternatives meant that employees would have to adhere to private sector norms (except for teachers for whom a different set of regulations was in effect).

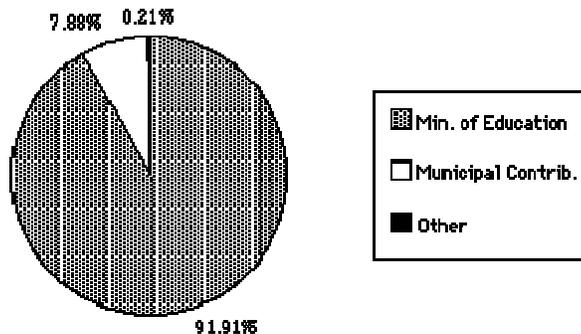
The transition from the old system, in which educational establishments depended on centralized public administration, and the new one, whereby schools depended on municipalities, was not easy. Difficulties arose primarily as a result of a profound administrative rationalization, which meant the dismissal of excess personnel employed under the old system.

At present, Chilean municipalities administer almost all public educational facilities aimed at the first two levels of schooling. An important aspect of the new system is that it applies exactly the same financing mechanisms for the public sector as are in operation in the private educational field. In fact, the State provides a per pupil subsidy to all such establishments.

During the first years the system of municipal administration of educational establishments was in operation, the majority of municipalities accumulated large budgetary deficits. These deficits can be explained by the presence of excess personnel when the municipalities took control as well as other causes produced by poor management. Furthermore, modifications in the system used for calculating the re-adjustability of the educational subsidy provided by the State also helped to generate these deficits.

Despite these and other difficulties peculiar to large-scale transition processes, the transfer of the administration of educational facilities to the local level has been highly successful. Achievements include increased participation by parents, concern among local authorities over the services provided, improvements in physical infrastructure in elementary and secondary schools and community participation in determining the future of local education.

CHART Nº 5
Financing of Municipalized Areas



b. Health Care

Important progress was also made in the area of health care. The reasons for transferring the administration of doctors' offices and small hospitals to municipal were threefold:

- To reinforce the administrative decentralization process;
- To expand coverage of primary care; and
- To adjust primary health care services to the needs of each community.

The Ministry of Health was also restructured in order to create a technical superintendency charged with overseeing the municipalized establishments. Thus, 27 Health Services were created around the nation. Each Service was granted relative autonomy to implement the technical evaluation responsibilities retained by the Ministry of Health.

At the national level, the process for such transfers commenced during the second half of 1981 through the following mechanisms:

- An agreement was signed between each municipality and the respective Health Service. These agreements were formalized by Supreme Decree. The agreements were to last for five years and could be automatically renewed for subsequent periods.
- The Ministry of Health, in the majority of cases, remained the proprietor of health-related properties and loaned them to the municipalities.
- Municipalities were obligated to identify the legal or conventional services beneficiaries would receive and provide ambulatory and non-ambulatory care. As a result municipalities were also obligated to engage in activities aimed at fostering and protecting health and well-being among the populace as well as providing simple recovery services. More complex cases were referred to the corresponding Health Service.
- In terms of programs, the agreements indicated that the following services were to be provided free of charge:
 - Infant and adolescent care
 - Adult and senescent services
 - Obstetric, gynecological and pre-natal care
 - Orthodonture program. This was the only exception to the complimentary benefit rule as municipalities were authorized to charge fees for this service.

- Healthy home program.

In addition to these programs, individual agreements identified supplementary programs that health care establishments were required to continue to provide such as house calls, group education, vaccinations, nutritional programs, etc.

- The labor laws covering personnel employed at municipalized health care centers (as with education), were modified so that they were subject to the same norms as private workers.

- Municipal resources available for the administration of these facilities could originate from three sources. Payments by the respective Health Service, which were made available within the first 10 days of the month following the date the service was provided. A second source of financing was the resources the municipality itself chose to invest in health care. Lastly, resources were also available through the National Fund for Regional Development which focused on improvements to physical infrastructure and equipment.

- Other social programs. In addition to the modifications introduced in the fields described above, changes were also implemented in a variety of areas related to social development. In each case, an effort was made to show that the application of efficient rules and good administration could and must be accepted and practiced by the public sector.

For example, in the area of care for minors, centers administered by the private sector were established and a system of pre-school care was implemented which consisted of having mothers who fulfilled certain prerequisites take over the part-time care of children from less stable homes in exchange for a salary.

This was also true in the area of subsidies, where private poll-takers provided services aimed at identifying beneficiaries through questionnaires.

Furthermore, a considerable number of private entities work with the State and Municipalities in implementing social development actions.

Even the poorest communities have instituted a system of shared or proportional contributions in order to engage private firms in local development projects.

Thus, the large-scale structural transformation of Chile's social sectors was followed by additional, simpler initiatives. These efforts bear testimony that the concept of maximizing available resources through simple, creative solutions has been assimilated as a key element in Chilean social policy.

ELECTRICAL INDUSTRY

SEBASTIAN BERNSTEIN L.

I. BACKGROUND INFORMATION

1. THE FIRST 50 YEARS: 1880-1930

The origins of the electrical industry in Chile can be traced to the mid 1880s with the inauguration of public lighting in Santiago's main square (the *Plaza de Armas*). The following half century produced important developments in this field; developments launched by the private sector.

During this time period, a large number of public service electrical companies were formed, some of which later merged to form larger firms. By the 1930's four key companies had emerged: the Chilean Electrical Company (CHILECTRA), the General Industrial Electrical Company (CGEI), the Southern Electrical Society (SAESA) and the National Electrical Force Company (CONAFE). Moreover, self-generation of electrical power grew tremendously, in part as a response to the deficiencies of the public services in providing a timely supply of energy to important industries and mining installations.

As of the 1930s, electrical development diminished significantly. The reasons behind this reduction include the world economic crisis as well as the setting of electrical rates on the basis of political criteria and growing governmental regulations which tended to check electrical companies' freedom of action.

2. THE PERIOD BETWEEN 1940 AND 1973

As a result of the lack of investment by private firms in the electric industry, the State elected to intervene actively through the Corporation for Fostering Production (CORFO). Thus, physical development between 1940 and the end of the 1970s was controlled through the implementation of the National Electrification Plan. This program, initially formulated by the Chilean Institute of Engineers, was studied by CORFO and implemented essentially through ENDESA, a CORFO subsidiary, formed in 1944. ENDESA subsequently took control of planning for development in the electrical industry and reported its progress to CORFO and the Ministry of Finance. The following chart shows the general structure of the industry in 1940, the starting point for the aforementioned Plan (Chart 1):

Table 1

Electrical Sector in 1940

Installed Capacity	Public Service	179 MW
	Self generators	308 MW
Location of the installed capacity		
	Northern Zone	43%
	Central Zone (Aconcagua-Linares)	44%
	Southern Zone	13%
Type of generation		
	Hydro	32%
	Thermal	68%
Gross annual generation	Public Service	588 GWh
	Self generators	1365 GWh
Gross per capita consumption	Public Service	121 kWh/Hab
	Self generators	281 kWh/Hab
	Total	402 kWh/Hab

(1) Estimated at 330 kWh/Inhab net. In comparison, in 1933 the net kwh/inhab consumption ratio in the USA was 1020, in Germany it totalled 540 and in France the figure was 380.

The Plan's foremost protagonist was ENDESA although the private CHILECTRA was also able to participate, primarily during the 1960s, in the development of thermoelectric power stations and electrical distribution in the metropolitan areas of Santiago and Valparaíso. The Electrification Plan called primarily for the development of hydroelectric plants in the central-southern portion of the country and the construction of transmission lines which would connect a series of electrical systems which until that point had operated in isolation.

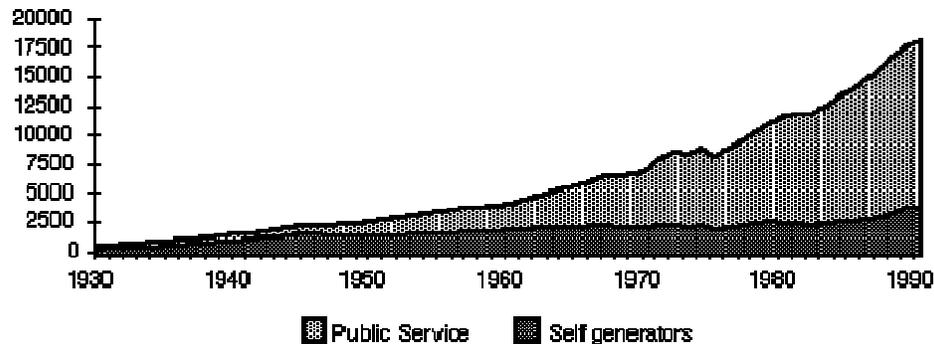
In 1970, CHILECTRA -- the company responsible for generating, transmitting and distributing electrical power in the areas of Santiago, Valparaíso and Aconcagua -- was nationalized. Therefore, by the early 1970s the generation of practically all public service electrical power and a large portion of the distribution networks were in the hands of the State.

The following graph reflects the development of electrical generation in Chile for the period 1930-1990 (Graph 1):

Chart 1

Total Electrical Generation

(GWh)



The physical and institutional development of Chile's electrical industry was the result of the evolution of the regulatory framework. Thus, there was growing confusion over the notion of public service, in terms of electrical supply, with the active participation of the State in the business and the objectives assigned to the industry (particularly in the period 1970-1973) which tended not to coincide with the criteria which should guide an economic undertaking of this nature. The following section is a brief summary of the history of regulations in Chile's electrical industry.

3. HISTORY OF THE REGULATORY FRAMEWORK

Initially, the development of the electrical industry was conducted quite freely, without any special regulation. In 1904, legislation entitled "Prescriptions for the Concession of Permits for the Installation of Electrical Companies in the Republic" was approved. This 5-article piece of legislation was short and simple: essentially, it granted concessions to utilize public or fiscal possessions for the installation of electrical networks and established security conditions to avert danger to humans from these constructions.

In 1925, the State began to take an increasingly active regulatory role. The first "General Law on Electrical Services" passed that year regulated concessions for the use of water to be utilized to generate electricity, as well as the use of public property and compensation to private parties for the installation of transmission lines. Furthermore, an oversight organism was created to ensure compliance with the law and establish a formal linkage between businessmen and the State.

This legislation referred explicitly to the procedures for setting rates: essentially, companies were authorized to obtain 15% return on net fixed assets which could be set in gold pesos, thereby providing an automatic indexation clause.

The second version of this legislation was passed in 1931. Here, the State increased its control through the Direction of Electrical Services. In terms of rate control, the fixed assets of the companies were to be assessed every five years but new rates could only be requested if profitability failed to reach 10% over 3 consecutive years. This clause-- a significant set-back as compared to the 1925 regulations -- was accompanied by the elimination of the gold standard, thereby revoking the automatic rate adjustability which had been inherent in the previous legislation.

The disincentives contained in these regulations, combined with the international crisis of the early 1930s and the repercussions for the financing for new works, increasingly led private companies to abandon their participation in the development of the industry.

As a result, the State took charge of the generation and transmission of electrical power, while the private sector limited its activities to participating in distribution and maintaining wholly-owned power stations. Planning for the system was conducted centrally by ENDESA, with a high degree of technification. Electrical rates, particularly as of the 1950s, were sufficient to provide adequate levels of revenue.

A statutory decree passed in 1959 (DFL No. 4), established criteria for the granting and cessation of concessions, as well as on procedures for rate calculation. Tariffs were to allow a profitability of 10% over net fixed assets with annual re-adjustability clauses for capital and the option of temporary rate adjustment when fluctuations over 10% in the cost of primary components occurred. The legislation called for the establishment of a rate commission to be comprised of delegates named by the President of Chile, electrical companies, consumers and the Superintendency of Electrical Services.

DFL No. 4 established a clear framework for the electrical industry and made it possible for private firms, such as CHILECTRA, to develop important thermoelectric projects in the Santiago-Valparaíso area for a total of 338 MW.

In 1966, the regulations on electrical rates were modified. Henceforth, the Ministry of Economy was required to approve any rate hikes proposed by the Tariff Commission. As a result, political factors were brought into play in the rate-setting process which served as an additional disincentive to private industry. As noted earlier, CHILECTRA was nationalized in 1970.

In 1971, prices were frozen. The skyrocketing inflation registered as of 1972 resulted in huge operational deficits for both public and private electrical firms. These difficulties led multilateral banks to discontinue loans to the Chilean electrical industry, effectively bringing development programs to a standstill.

II. GENERAL ASPECTS OF THE NEW ELECTRICAL POLICY

1. SHORT-TERM MEASURES

In the first few years following 1974, a process of financial recovery was instituted among state-owned and private electrical firms. This process led primarily to the progressive recovery of prices for electrical energy. Management of state-owned enterprises was rationalized and responsibilities which could be better handled by the private sector were transferred to private firms. Thus, the construction activities conducted by ENDESA were actually implemented by private contractors, as was the case with other services such as transportation and repairs.

2. REMAINING STRUCTURAL PROBLEMS

The changes introduced in the period between 1974 and 1979 contributed to the rationalization and normalization of a large portion of the industry, but failed to attack the roots of a series of structural problems which made it difficult to increase efficiency and make management of the electrical industry compatible with the policies applicable to other fields of economic activity. The following are among the most important problems in this area:

- Preponderant State participation in the industry: almost 90% of generation, 100% of transmission and 80% of distribution was in State hands. This meant controlling resources of some US\$ 200 million per year which competed directly with the State's priorities in social areas.
- The practically monopolistic role of ENDESA in the development of the industry. The possibility of the participation of the private sector or other State entities in the formulation of new projects -- particularly in the area of electrical generation -- was limited.
- Control was difficult: although the electrical companies were overwhelmingly state-owned, there was no effective control over the industry; moreover, in terms of overall energy-producing entities, there were no appropriate mechanisms for coordination among the various sub-sectors. In practice, the power of the large State firms was greater than that of the governmental organizations charged with their oversight.
- Political impositions on state-owned companies of un-profitable activities, such as the development of inappropriate projects or the hiring of excessive personnel.
- Generation of technological monopolies and occupational monopolies at the technical level, particularly in the fields of generation and transmission.

- Definition of the role of state-owned companies: until the creation of the National Energy Commission (NED) and the definition of policies on the macro and sectoral levels by the Office of National Planning (ODEPLAN) -- as well as the redefinition of CORFO's responsibility in the management of its subsidiaries -- there was a certain degree of confusion in the electrical industry as to the State's regulatory and business roles. In effect, the largest state-owned firms fulfilled both roles, creating frequent conflicts of interests between their objectives and those of the community as a whole.

- Inefficient rates from the economic perspective: in essence, the rates based on ensuring profitability over a portion of assets failed to recognize the costs associated with production, transmission and distribution of electrical power. Thus, a system of premiums for the most efficient companies was not generated, nor did the most inefficient firms pay the price for their extravagance as would occur in a competitive market.

Furthermore, the legislation failed to specify criteria for the establishment of rates within and among companies. This led to a vast array of rates schedules among power companies. Lastly, the enormously high inflation registered in Chile during the early 1970s further served to complicate the adjustment of rates in accordance with accounting principles.

3. OVERALL STRATEGY

The strategy designed to deal with energy production -- and electrical power in particular -- was consistent with the general economic and social development policies adopted during the mid 1970s. In essence, these measures sought to maximize social well-being by introducing increased efficiency into the industries in question within the conceptual framework of a subsidiary role for the State.

Economic efficiency is understood here as achieving an optimum distribution of resources in the economy, in direct reference to Pareto's optimum.

The subsidiary role of the State means that the government does not act so long as there are intermediary individuals or organizations in society which are capable of acting on their own initiative. Moreover, the State should provide sufficient mechanisms to ensure the basic needs of those individuals who are unable to do so for themselves, so long as this support does not curb the activities of other social actors who are capable of satisfying those needs efficiently.

In terms of energy, the subsidiary role of the State translates into the non-participation of the State in business activities relating to the industry to the extent that said activities are or can be implemented by private entities. The State's participation, therefore, should focus on ensuring adequate service and coverage for the lowest income groups.

Among the variety of mechanisms utilized in Chile to achieve these goals in terms of energy production, the following are of particular importance:

a. The clear separation of the regulatory and business-related activities of the State.

The regulatory function was handed over to the National Energy Commission (formed in 1978) and the National Planning Office (ODEPLAN).

The NEC is a decentralized advisory body which reports directly to the President. It is composed of a 7-member Council and presided over by an Executive Secretary. The Secretariat is responsible for the Commission's technical activities as well as its administration.

ODEPLAN prepared, in conjunction with other governmental entities, its so-called annual "Ministerial Programs," which established specific goals in the field of defining the "rules of the game" for public administration and for state-owned firms in particular. In terms of energy, there was close collaboration between ODEPLAN and the NEC.

The management of the energy-producing state-owned companies, whose structures most often mimicked private enterprises, was submitted to the Corporation for Fostering Development (CORFO), a government-controlled entity which served, in essence, as a holding company. As such, CORFO was not responsible for issuing regulations controlling the industry, but rather played a crucial role in re-organizing companies, controlling their management, division and privatization.

b. In an effort to maximize community benefits, the NEC was charged with coordinating the large-scale investment decisions made by state-owned electrical utilities. Once a large portion of the industry had been privatized, this central planning was replaced with individual efforts undertaken by private companies.

c. Implementation of institutional and legal adjustments in an effort to:

- Achieve efficient management within state-owned companies and subject them to the same regulations as private firms.

- Open new areas to the participation of the private sector in electrical industry, either through the creation of new companies or by privatizing those held by the State.

d. Subjecting State participation in the evaluation of energy resources to strict socioeconomic criteria and restraining State participation where other organizations could effectively complete specific projects.

e. Lastly, one of the most decisive elements of the new policies was the formulation of a realistic and efficient price system which accurately reflected the value of electrical energy.

III. SPECIFIC ASPECTS OF ELECTRICAL POLICY

1. CENTRALIZATION VS. DECENTRALIZATION

Before delving into the specifics of Chile's electrical policy, it is important to pause for a moment to discuss a factor that was crucially important in determining the best strategy for continued development in this area: the level of decentralization acceptable in the production and distribution of electricity which, over the previous 4 decades, had been characterized in Chile by a high degree of centralization.

The questions Chilean regulators asked themselves were: to what extent is possible and appropriate to decentralize the generation and distribution of electrical energy? To what extent can the industry be made competitive and be privatized? What were the real reasons behind centralizing and maintaining State control over these activities? In the early stages of the debate, serious consideration was given to the formulation of a single, state-run company, following the French model. However, this proposal was discarded as it was quickly agreed that such a company would, for the reasons noted earlier, go against the grain of the long-term economic activity policies being designed for Chile.

Thus, the following elements were considered in the discussion over the need to retain the levels of centralization on which the Chilean electrical industry had been constructed.

a. Economies of Scale in Generation and Distribution

As demonstrated through the comparison of hydroelectric projects in Chile, the concept of an economy of scale does not appear to be applicable to the generation of electricity.

Furthermore, economies of scale are not important elements in the growth of distribution companies. In effect, a comparison of the average distribution costs of different sized companies (defined as the ratio between the yearly renewal costs plus annual development expenses and the power delivered by the network) indicates that size plays almost no role in cost. Thus, the presence or lack of economies of scale in the generation and distribution of electrical energy is not significant.

Chart 2

Average Cost of Generation at Several

Hydroelectric Plants in Chile

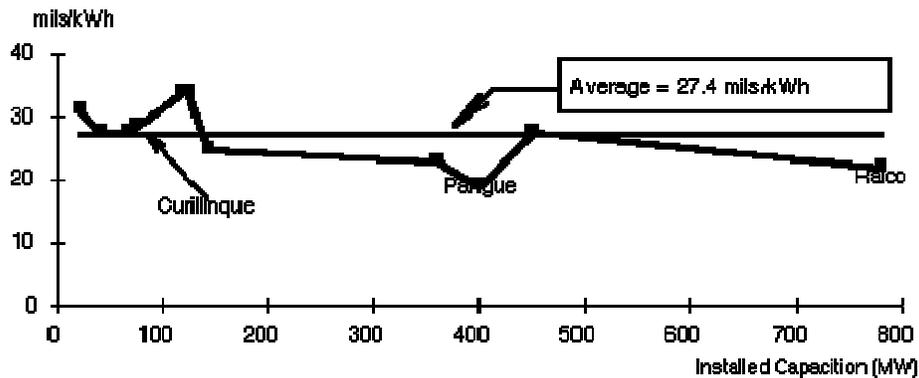
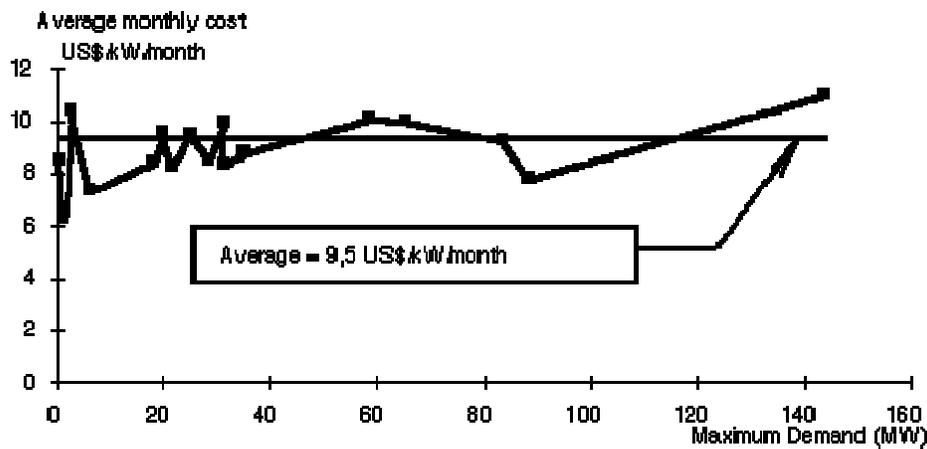


Chart 3

Average Distribution Costs



Once the need for economies of scale had been discarded, the advantages of having a variety of competing electrical generation and distribution companies became apparent. However, three problems remained to be resolved:

- Investment planning decisions, that is, the degree of central coordination required to bring generating plants on line. This problem is only relevant to the extent that the projects comprising an optimum expansion plan are all of a structural nature, thereby requiring coordination among them.
- Cooperation in operations and in devising an efficient system of pricing for transfers among utility companies. In Chile, the presence of large reservoirs whose management conditioned the operation of the entire system made coordination of such operations particularly important.

- Establishing fees for the use of transmission lines.

The measures taken to address these problems will be discussed in a moment.

b. Private Participation in a Decentralized Industry

Clearly, private participation in the generation and distribution of electrical energy is possible if: there is a demand for electrical power, profitable projects exist, processes for planning works and setting rates on the basis of solid technical-economic criteria are utilized, and if these so-called rules of the game are stable and rational. Furthermore, an environment of decentralization favors the participation of the private sector.

c. Competition in the Electrical Industry

Competition in operation can be achieved through the identification and development of a variety of power plant projects. These projects may be implemented on the basis of the different styles and criteria utilized by companies to study, finance, implement and operate power stations. In large state-owned companies, on the other hand, there is a tendency for priorities to be placed on large projects which are most often based on engineering criteria than on economic or financial viability. Moreover, alternatives for such companies are frequently unavailable and the State is obligated to support such large-scale projects.

In distribution, concessionaires can compete in efforts to expand services with other private, unregulated distribution services, such as rural electrification cooperatives. Moreover, public service concessions can be allowed to overlap in cases where the quality of service by a given concessionaire fails to meet expectations. Lastly, when the framework for establishing distribution prices is based on the aggregate referential value of a standard, model company (rather than on expenses of individual distribution firms), concessionaires end up competing with the model company.

d. Decentralization, Privatization and Efficiency

The decentralization and privatization of electric companies also present advantages in terms of the stability of the rules of the game.

- Government officials are no longer faced with a single interlocutor but rather have several sources of information. Thus, an environment of greater competition is encouraged.
- The diversity of companies and private participation constitute good protection against lobbying efforts by certain groups to obtain arbitrary reductions in rates.

- An incentive is provided to improve technology, diversify types of employment and allow for greater work-related mobility.

Furthermore, privatization provides an important source of revenue for the Government without having to tax the private sector. Privatization also requires diversification in the ownership of installations, the development of capital markets and the participation of strong institutional investors such as pension funds, insurance companies and the employees of electrical companies themselves.

De-concentration, decentralization and privatization in complex fields, such as the electrical industry, require that policies be designed and implemented with great care. The relationships between different companies in a decentralized, privatized framework mean that obligations and reciprocal justifications -- particularly in the area of pricing for energy transfers -- be clearly stipulated (whether they are regulated or not) and that coordination mechanisms be explicitly established.

2. INSTRUMENTS FOR IMPLEMENTING ELECTRICAL POLICIES

In 1978, Chile initiated a process aimed at an institutional restructuring of its electrical industry in an effort to decentralize, enhance efficiency, establish competition and attract private participation. In general terms, electrical service was recognized as just another type of economic activity -- responding to the same stimuli as other fields -- and therefore the regulations implemented could not work against natural forces.

The instruments designed to achieve these objectives were:

- Rates set at marginal cost for small consumers and freedom of pricing for large end users.
- Division of large state-run companies and the separation of generation and distribution activities. Rates set at marginal cost for supply by generators to distributors.
- Creation of a Economic Load Dispatch Center, a key element in competition among generators.
- Design of a fee system applicable to common carrier transmission systems.
- Establishment of a new framework for generation planning.
- Changes in the types of financing available for investments and the drawing down of profits from state-owned firms.

- Clear definition of regulations, obligations and justify of Public Service Distribution concessionaires.
- Authorization of the operation of non-regulated private distribution services.
- Privatization of the majority of the electrical industry.

The following is a brief description of each of the basic components of these instruments.

2.1 RATES

Rates should reflect the efficient costs of supplying electricity. Special emphasis was placed on establishing efficient prices for transfers between and among the different actors participating in the system, namely, generators, distributors and end users.

The tariff system was based on a clear distinction between electrical supply with natural monopolistic characteristics (such as electrical distribution to a large number of clients utilizing streets and roadways), for which regulated prices were established, and areas in which it was possible to create competitive conditions (supply to large clients) for which freedom of pricing was established. The pricing system for electrical energy was devised and implemented by the NEC in 1980 and was described in detail in the new legislation on Electricity approved in 1982.

These legal bodies established four basic prices linked to the marginal costs of supply:

- Prices for transfers among generators;
- Prices for sales between generators and distributors;
- Prices for clients of distribution companies;
- Freedom of pricing for large end users (over 2MW).

Prices for transfers among generators correspond to the short-term marginal costs of the electrical system and were calculated on the basis of the Economic Load Dispatch Center (ELDC). This matter will be discussed in greater detail in a moment.

a. Rates between Generators and Distributors

These rates, known as "node" prices, are calculated by the NEC as the marginal cost needed to satisfy peak power (kW) and energy (kWh) at the sub-stations located throughout the system. These marginal costs are calculated for the

generation-transmission system on the basis of optimum development and operations.

The marginal cost of peak power is based on the unit cost of gas turbine installations (considered the most economic fashion of supplying power during peak hours.)

The price of energy is calculated as the short-term marginal cost of the expanded electrical system operating under optimum conditions. In order to avoid fluctuations which might affect the stability of the tariff to end users, a flexible average of short-term marginal costs for the following 48 months is utilized. Projected short-term marginal costs are computed through an optimization model based on dynamic programming, appropriate for the multi-year management of Chile's Central Interconnected System of reservoirs.

The "node" prices are calculated every 6 months and are expressed through indexation formulas based on a variety of the principal cost components of electrical generation and distribution (fuel costs, reservoirs levels, demand and others). These formulas make it possible for rates to be indexed automatically within any given semester.

b. Rates for Clients of Distribution Companies

These prices are calculated on the basis of two components: node prices and distribution costs (known as the "aggregate cost of distribution").

The aggregate cost of distribution is roughly equivalent to the ratio between annual capital costs plus the operating cost of a "model" distribution network and the peak power it delivers. Over time, it has become clear that these aggregate costs are representative of the long-term marginal cost of distribution given that practically no variation occurs as a result of company size.

The aggregate cost is calculated for a "model company," that is, one of an optimum size and efficient management operating in an area defined on the basis of the density of distribution areas. These areas are, in turn, divided into high, medium and low density areas and the nation's 23 concessionaires are classified in accordance with this system.

The aggregate cost is expressed in terms of three basic components: fixed costs associated with clients which are unrelated to consumption; investment, operation and maintenance costs, as well as reduced use of distribution installations (associated with the demand for power during peak hours); the cost of supplying power during non-peak hours; and, lastly, losses associated with the distribution of energy.

This regulatory framework does not recognize the expenses generated by each distribution company, but rather those of a hypothetical model company which serves as an incentive for real firms to reduce their costs. The aggregate costs are established every four years and are expressed through formulas indexed in such a fashion as to allow companies to adjust their rates accordingly.

c. Prices for Large End Users

Sales to end users of power over 2,000 kW are contracted freely between electrical companies and users. At present, approximately 35% of Chile's public service energy is provided in this fashion. The application of free pricing is based on the presence of a number of generation-transmission companies and the possibility of competition among them (even when they may use transmission systems belonging to third parties).

Furthermore, such large clients have both the power to negotiate and the ability to develop, either on their own or in conjunction with other users, projects aimed at satisfying their electrical needs which would compete with the services supplied by the public utility companies.

It is important to note that to a certain extent, the free pricing system serves as a guideline for "node" prices. In effect, current legislation indicates that node prices may not be more than 10% higher or lower than the free market rates for the system at large.

2.2 DECENTRALIZING STATE-OWNED COMPANIES

Chile's large, vertically integrated, state-owned electric companies were separated into generation and distribution firms (the latter were also sub-divided into regional companies).

Thus, subsidiaries of ENDESA and CHILECTRA were formed, as were new companies which depended on CORFO. Chilectra was divided into three subdivisions, CHILGENER, was charged with generating and transmitting energy in the Santiago-Valparaíso area; Chilectra Metropolitana, distributed electricity in Santiago; and Chilectra V Región took charge of distributing electrical energy in Valparaíso and the Aconcagua river valley.

ENDESA was transformed into a company dedicated exclusively to the generation of electricity while its old Distribution Administrators, EMELAT (Atacama), EMEC (Coquimbo), EMELIG (Ligua Valley), EMEL (Melipilla) and EMECO (Colchagua) became distribution subsidiaries. Subsequently, many of these companies located in rural areas merged.

ENDESA also created generating subsidiaries, namely PULLINQUE and PILMAIQUEN S.A. (each with a capacity of approximately 40 MW), COLBUN S.A. (490 MW). PEHUENCHE S.A. (500 MW) was formed as a subsidiary of CORFO.

In addition, some ENDESA affiliates broke away to form independent companies, as was the case in the farthest-flung reaches of the country: ENDELNOR (Northern Chile), EDELAYSEN (Aysen) and EDEMAG (Magellan).

2.3 ECONOMIC LOAD DISPATCH CENTERS (ELDC)

Undoubtedly, the coordination of the operations of a large, inter-connected system is a technical, economic and political necessity if efficiency is to be achieved through the decentralization and de-concentration of the generation and distribution of electricity. With this purpose in mind, the NEC designed the so-called Economic Load Dispatch Center (ELDC) which primarily sought to:

- Ensure the viability of the electrical system;
- Ensure operations at a minimal cost for the system as a whole;
- Charge fees for transfers among companies generators in accordance with the system's short-term marginal costs;
- Establish equal conditions for marketing the energy.

The ELDC was conceived to:

- Plan the operations of the existing system, considering the schedule for the incorporation of power stations. The ELDC plans operations over the long-term (5 years), medium-term (1 year) and short-term (1 week to 1 month), including operations for the following day. In addition, the Center calculates the short-term marginal costs associated with optimum operations and ascertains and assigns the cost of transfers of electricity among companies and ensures their payment to the owners of the transmission system.
- Conduct the operations of the system, considering exclusively the generation activities of each company, independent of the conditions under which they sell their energy. Thus, the Center did not take prices contracted with end users into consideration.
- Plan operations. However, the Center does not operate the system on a real-time basis.

Small inter-connected generators were not required to belong to the Center and were authorized to sign contracts freely with larger generators.

This meant that for planning purposes the ELDC was independent of the particular preferences of each generator and made its decisions on the basis of broadly accepted criteria: reservoir level, price of coal and oil, demand, etc.

Prices for transfers of energy among generators are established in accordance with short-term kWh marginal costs as measured at the sub-station where the transfer takes place.

Transfers of peak power are established on the basis of kWh marginal costs, utilizing the investment cost of gas turbines (as a reference) located at the most convenient point on the system. Prices for these transfers are established in advance, in January of each year.

In order to keep generators from selling more power or energy than their company has available, contracts are inspected so as to ensure that commitments do not exceed production and/or supply contracted with other generating companies. Prices for power supplied through such contracts with outside companies are free to fluctuate. This tends to limit over selling by generators.

It is important to note that the ELDC does not purchase energy nor establish prices for end users but rather serves as an intermediary between generators in order to enhance the organization of their services.

2.4 FEES FOR UTILIZING THE TRANSMISSION SYSTEM

Sharing of the transmission system is a critical tool for a successful policy of competition among generators of electrical energy. Given the importance of the transmission system, the regulations establishing a fee structure for its use is contained in the general Electrical Law.

Obviously, the use of transmission lines owned by third parties for the transmission of electrical energy requires that fees be paid for this service. If economies of scale did not exist, there would be no problem in charging a general fee for production and transmission (such fees would simply be the difference in rates between the two ends of the line in use). However, the presence of economies of scale in this segment of the electrical industry means that the so-called "tariff revenue" (difference in rates at each end of the line) must be supplemented. This need is even more evident when power stations generating electrical energy are brought on line which do not have contracts with end users but make use of the transmission system.

Thus, the annual income received by the owner of the transmission system must be supplemented when third-party power stations make use of those installations. As a result, a connection fee or "basic toll" is established. This toll is calculated on the basis of the total supplement corresponding to the "area of influence" where

the latter is defined as that portion of the system where the presence of a power station results in alterations in the flow over those lines. The proportion is calculated as the ratio between the maximum power emitted by the owner of the power station and the maximum power emitted by all of the users in the area of influence, including the owner of the transmission system.

Payment of this toll enables the owner of the power station to sell energy to end users located at any point within the area of influence without the need to charge an additional fee. When a power station does not have end user clients, the station is authorized to sell its energy through the ECDC at the price corresponding to the short-term marginal cost at the sub-station generating the energy.

2.5 PLANNING

Because of their characteristics, distribution-oriented investment programs lend themselves to full decentralization. That is, such decisions can be adopted independently by each company. Nonetheless, a clear framework of justifies and requirements is needed in order to ensure that activities in this area, which tend to form a natural monopoly, actually serve the community's interests.

In generation and transmission, however, large-scale projects tend to be of a structural nature and therefore have a significant impact on the operation of existing and future power stations. Thus, coordination is extremely important in order to minimize the total cost of supply, marginal expenses and, eventually, the rates end users pay for electricity. The exceptions to this rule, however, are the small-scale projects whose feasibility can be independently evaluated through existing pricing mechanisms.

The role of the State in coordinating large-scale investment projects in these areas is important in terms of both the impact these efforts may have on rates and the position the State adopts when confronted with a potential disequilibrium between supply and demand.

When Chile's electrical companies were owned by the State, proposals resulting from such planning activities were obligatory. Within the framework of active private participation in the industry, however, such planning is considered a recommendation.

Responsibility for planning Chile's large-scale electrical generation projects has resided with the NEC since its formation in 1978. The agency worked with companies generating electrical power which were required to submit their expansion projects to the Commission for consideration. These requirements remained in place until 1989, when the privatization process was finalized. As of that date, the NEC's findings have been considered "recommendations."

Because the electrical industry is a competitive one in which there is no direct relationship between producer and consumer (transmission lines owned by third parties can be utilized), the new legislation did not require that electrical generation services be provided. Moreover, the pricing systems -- both free and regulated -- were sufficiently attractive so as to ensure that such development activities in fact took place without government intervention.

2.6 FINANCING POWER PLANTS

Small and mid-sized projects were initially conducted directly by state-run companies and work continued on them following privatization. In order to finance these projects, a variety of mechanisms were utilized, including depreciation, and credits from suppliers and multi-lateral lending institutions (primarily the IDB) as well as the so-called "reimbursable contributions" electrical companies received from new users.

Chile's largest power stations (those generating over 200 MW), were developed through the creation of new CORFO subsidiaries. These companies undertook the activities relating to the development of the stations, utilizing, for the most part, a portion of the engineering know-how accumulated through ENDESA, as was the case with COLBUN S.A. and PEHUENCHE S.A. (500 MW each). Financing of these projects was structured through minority capital contributions made by existing companies and CORFO, as well as credits from suppliers, the IDB and IRDB.

A policy of distributing the largest possible percentage of profits among shareholders was established. While the State continued to own the companies, such dividends naturally went to the State. Obviously, this policy was designed to sustain a healthy financial situation within the new companies. The exception to the rule in this case was ENDESA itself. The company's enthusiastic use of favorable international market conditions just prior to the economic crisis of 1981-1982 contributed heavily to the negative results on the firm's balance sheet.

In fact, ENDESA's indebtedness was sustained at acceptable levels through 1981. With the devaluation of the Chilean currency in 1982, however, the situation became critical and special measures were needed to resolve the company's financial woes. These measures will be discussed in a moment.

The State's policy of drawing down profits must be understood within a context of maximum flexibility in the use of revenue, taking into account its fungibility and without establishing re-investment requirements: an effort was made to keep the electrical industry from becoming a "closed circuit" where the revenue generated was automatically re-invested in the industry itself. The concept was -- and continues to be -- that the viability of each electrical project should be sustainable on its own merits and that financing for such ventures should be a separate matter.

2.7 ORGANIZATION OF DISTRIBUTOR justifyS AND RESPONSIBILITIES

Although the concept of competition is not foreign to electrical distribution, it is clear that, in practical terms, the field for such activities is limited. Thus, a system of pricing and quality regulation needed to be established to ensure adequate supply of electrical energy at a reasonable cost. Toward this end, geographic areas were outlined for distribution concessions and the responsibilities and justifies of each of the distributors were established.

Legislation was approved calling for "Concessions of Public Service Distribution" for electrical energy in the establishment, operation and use of public service distribution networks.

The concession defines a framework for the justifies and responsibilities of distribution companies. The former include the justify to utilize public goods and private property, the justify to a fair rate (but which does not subsidize inefficiencies), and the justify to request that users contribute to the financing of the expansion of distribution installations as well as increasing the capacity of existing installations for electrical generation, transmission and distribution. These contributions must be reimbursable and are therefore unrelated to the rates established for services.

Among the latter, companies are required to provide service to any person or institution requesting service within the concession area and to comply with the regulations governing service quality.

Users located outside the concession area are authorized, by law, to link up with the concessionaires installations through private or third party lines. The price of energy at the contact point is the same as throughout the rest of the concession area.

The time-frame granted for each concession is unlimited. However, concessions can be canceled if the quality of service falls below acceptable levels. Prior to cancellation, reminders and fines must be issued.

2.8 THE PRIVATE SECTOR

The legislation allows for the private sector to engage in non-regulated distribution activities. A good example of this participation has been the activities of rural electrification cooperatives and small-scale distribution companies. These services are not regulated in either quality or price.

When non-regulated services require the use of public land to string lines, governmental authorization must be obtained.

IV. PRIVATIZATION OF THE ELECTRICAL INDUSTRY

The privatization of the electrical industry -- fostered by the need for coherence in the framework of socioeconomic development implemented in Chile as of late 1973 -- was conducted with considerable care and pragmatism, particularly in terms of the speed with which changes occurred. In fact, the earliest privatizations did not occur until 1980 and the process was not completed until early 1990. The measures taken in this field were adopted over time, and care was taken to respect institutional, political and financial situations which arose along the way. Frequently, these situations meant that strategies which had initially appeared viable had to be altered and, in fact, not all of Chile's electrical companies were privatized.

It is important to note that in the early years, there was no consensus within the government as to the advantages of privatizing an industry considered of strategic importance. These initial doubts meant that the process was conducted slowly. Solutions were found to the industry's financial problems and many people within the government who felt that the industry functioned efficiently opposed its privatization. The primary problem, however, continued to be one of definitions. In terms of efficiency, one must not, obviously, confuse the efficiency of a company's personnel -- who may be capable and the most appropriate individuals for the job -- with the efficiency in executing specific tasks on the macro level of a state-owned company subjected to pressures, obligations and distortions which, in effect, impact negatively on its management.

It was also clear that the incorporation of private capital into the electrical industry would not be trouble-free; it was no longer a matter of normalizing the situation of companies which had been nationalized during the previous administration, but rather a shift in the overall focus of development policy. As a result, opposition to the privatization process emerged in a variety of quarters:

- From elements within the government itself, who feared losing the ability to manage the industry politically.
- From company employees who feared for their jobs and the so-called "social achievements" (benefit packages) which were frequently much more attractive than those of the rest of the nation's workers.
- From company professionals and executives who, to a certain extent, controlled the day-to-day operations of the companies as a result of the weak, rotating, directors appointed by the State.
- From extensive sectors within the Armed Forces which perceived the electrical industry as being of particular strategic importance.
- From the political opposition, imbued primarily with a statist culture and even from within the ranks of the government's supporters from those who feared taking a step of this magnitude.

- From some business groups who perceived state-owned electrical companies as a vehicle for obtaining subsidies through prices.

In any case, it was clear that privatization required, in addition to a clear definition of the rules of the game, the presence of strong, important capital markets. The emergence of such markets in Chile was closely linked to the participation of institutional investors arising from the reforms implemented in the nation's social security system. In essence, the Pension Administration Funds (AFPs) which managed the individual capitalization funds of the nation's work force became the largest single investors in the privatized electrical system. Thus, AFPs and other institutional investors, such as insurance companies, the employees of the electrical industry themselves, and foreign investors (operating through debt conversion mechanisms) became key actors in the privatization process.

As a result, two paths for privatization were identified: sale of entire companies to individual investors and "share packages" to institutional investors; and the widespread, broad sale of smaller packets to individuals through so-called "popular capitalism."

As noted earlier, a prerequisite for privatization was the establishment of clear rules of the game -- regulations, obligations and justifies, rates, guarantees on the justify to property, etc. -- that were both transparent and grounded in sound technical and economic analyses.

Another prerequisite was transparency in the process of selling shares; except in those cases where the price of the shares was negotiated directly with employees (most often at a rate set in accordance with prices on the stock market). The sale of shares in the electrical companies was done through public bidding or through the auctioning off of "share packets" on the local stock market.

During the early stages of the privatization process, the argument most often given to oppose these sales (in addition to those of a purely ideological nature) had to do with the prices at which the shares were sold. Thus, arguments such as the following were heard:

a. The State is selling property at prices below their book value. Thus, the argument goes, the government is "giving away" national property to a few select individuals. The error in this logic is clear: assets are worth the cash flow they can generate (this may bear no relationship to the book value).

b. The price charged for the installations is lower than similar facilities being built by the State; thus, national patrimony is being given away to the private sector. Again, there is a conceptual error in this argument which is similar to the preceding one: if rates are set below costs, the flow of future income -- and therefore the economic worth of the installations -- may be much lower than the

cost of similar facilities under construction. This example serves to reinforce the importance of establishing a rational price system prior to privatization.

c. An argument was made that if the private sector wished to participate in the electrical industry, it should be willing to make its investments under the same conditions as the State, that is, with low rates of return (given that electricity is a public utility). The conceptual error continues to be the same: discount rates -- linked to the cost of money -- are set by the economy, just like any other price; the State cannot impose a discount rate below what the market stipulates for the service.

Nonetheless, it is clear that the State, upon privatizing, cannot accept just any discount rate; setting this component -- which tends to diminish as public trust in the system increases -- is clearly one of the most delicate aspects of the privatization process. The indications of confidence exuded by the State itself, as well as the stability and rationality of the regulations affecting the industry, are therefore the keys to a successful privatization process.

The first privatizations in Chile consisted of the public sale of two ENDESA distribution subsidiaries, SAESA and FRONTEL in 1980. Both companies were acquired by the COPEC conglomerate.

From 1980 through 1983, almost no progress was made in this area as a result of opposition within CORFO to the privatization of its largest subsidiaries, ENDESA and CHILECTRA. Progress was made, however, in the formation of regional distribution companies stemming off from ENDESA and in the break up of CHILECTRA into local subsidiary companies.

In order to continue progressing toward privatization, the NEC issued regulations requiring that the reimbursable financial contributions companies were authorized to request of new clients be paid back in company stock. Through this procedure, the public became more aware of the presence and behavior of electric company paper on the stock market. Between 8 and 10% of two Chilectra distributors were privatized in this fashion.

Between 1983 and 1987, 3 small-scale hydroelectric plants belonging to Chilectra-Generating (CHILGENER, for a total of some 20 MW) were sold through public bids. In addition, PILMAIQUEN (35 MW) and Pullinque (49 MW), both ENDESA-owned stations which had been transformed into subsidiary companies, were also privatized through this mechanism.

Although a large number of interested parties participated in the bidding process, the properties were eventually sold to Banker's Trust (whose offer of some US\$21 million for PILMAIQUEN bettered those of five other contenders) and the Fernández business group, associated with the Rural Electrification Cooperatives (who paid some US\$31 million for Pullinque). It is important to note that the sale

of these power stations included a temporary option for the companies themselves to purchase the energy produced. This arrangement was based on the system's marginal costs, with discounts of approximately 10% for the use of transmission lines and charges for frequency regulation.

Following those sales, privatizations in Chile picked up speed with the full sale of Chilectra Metropolitana, Chilectra V Región and Chilectra-Generating. Employees were particularly active in acquiring shares through the early withdrawal of retirement funds. In addition, AFPs and banks invested heavily, the latter through such mechanisms as debt conversion and swaps.

In order to privatize ENDESA, the company's financial problems -- arising from its indebtedness -- needed to be solved. It is important to note that with the devaluation of Chilean currency, a so-called "preferential" exchange rate for the dollar had been established to avoid excessive losses for domestic companies holding loans in U.S. currency. The "preferential" rate was set at a mid-point between pre and post-devaluation levels and was adjusted over time so as to match, eventually, the real value of foreign currency in the Chilean market.

In 1985, the preferential rate for the dollar was eliminated, and ENDESA was left with losses totaling some 360 million dollars. The debt was absorbed through a reduction in the firm's capital holdings. This procedure made it possible for ENDESA to continue to make profit payments on its shares.

With the patrimonial absorption of this loss, the company's financial position -- although not its operational conditions -- progressively weakened. By the end of 1985, in fact, its debt/capital ratio had risen to 2.3.

As a result, the Chilean government decided to adopt two concurrent measures: first, the Colbún-Machicura power station, which belonged to ENDESA, was transferred to CORFO as COLBUN S.A. The debt/capital ratio of the new company was 1.5; second, 500 million dollars worth of ENDESA debt were capitalized, leaving the company with a healthy debt/capital ratio of under 1.0.

It is important to note that, from the State's perspective (that is, in CORFO's rather than ENDESA's view), this capitalization did not produce tangible any changes, given that ENDESA's debt belonged, in consolidated terms, to CORFO. Nonetheless, it was clear that the improvement in ENDESA's indebtedness would improve the company's position vis-à-vis privatization. Moreover, in terms of obtaining a better selling price for ENDESA, the capitalization proved to be important given that investors perceived the risk of investing in a financially healthy company as significantly lower than that of investing in a financially troubled firm.

The privatization of ENDESA was conducted through the sale of "share packets" to AFPs, employees and, most importantly, through so-called "popular

capitalism." The latter format consisted of sales of discounted shares (calculated on the basis of stock market rates) to the public at large. The number of shares an individual could acquire was limited, and the credit extended for such purchases was favorable. As a result, the privatization process was completed even faster than originally projected.

V. RESULTS OF THE NEW POLICIES

1. GENERAL ASPECTS

The policy modifications and privatization processes introduced in the electrical industry are entirely too recent to provide conclusive quantitative results.

Moreover, such an analysis is further complicated by the fact that the privatization was preceded by a complete restructuring of the industry. Thus, the question is, what portion of the results can be attributed directly to restructuring, even within the state-dominated framework, and what portion resulted exclusively from privatization?

These questions are not easily answered. Nonetheless, it is possible, from a qualitative perspective, to formulate some conclusions on the results of the overall process conducted in Chile. We will briefly review the behavior of the industry in terms of its financial position, level of operational efficiency and the level of stability of the current rules of the game. Lastly, we will look into the challenges facing the industry in years to come.

2. FINANCIAL STANDING OF ELECTRIC COMPANIES

First, let us compare the standing of Chilean electric companies with those of other Latin American nations (many of which are facing crisis situations) and those of developed nations. From this comparison, the Chilean industry appears to be on solid ground, both financially and in terms of operations, despite some persistent problems which will be discussed in greater detail in a moment. (Charts 4 and 5).

Chart 4

ENDESA

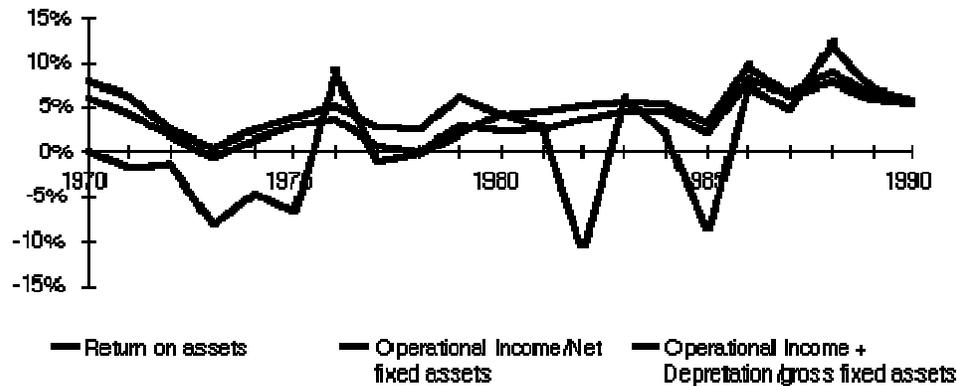
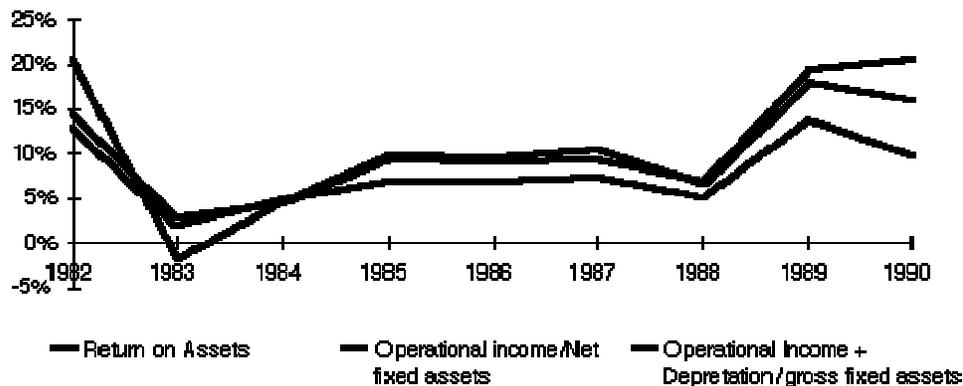


Chart 5

CHILMETRO



The data indicates an important evolution in the key variables for Chile's primary electric companies, including:

- Profits: operational and non-operational, balance and accounting patrimony.
- Profitability: defined as operating profits over fixed net assets (gross depreciated fixed assets).
- Profitability: defined as operational results plus depreciation divided by gross fixed assets. This variable is similar to an internal rate of return on the investments conducted to the extent that the gross fixed assets are not overly distorted by the worth of new installations.

Important fluctuations can be seen in the accounting profitability, which result primarily from external factors such as currency devaluations. The devaluations led to significant non-operational losses in 1982 and 1985 and their impact was

particularly strong among the firms generating electrical power (which tend to hold most of their debt in foreign currency.)

The current rates of profitability for Chile's primary suppliers of electrical power are given in greater detail in the charts on the following pages.

In addition, these charts show clearly that ENERSIS is not only a holding corporation for distributors, but also owns shares in ENDESA (some 12%) and has subsidiaries dealing in real estate and services. Thus, the overall results for the company are, in truth, not limited to distribution activities, even the latter do compose the bulk of the firm's business dealings.

Moreover, the data makes it clear that the operating profitability of distribution companies tend to be higher than those of generators in terms of fixed net assets. This is due to the fact that the accounting depreciations accumulated by distributors, in terms of gross assets, are much greater than those of generation companies. Thus, the result is more of an accounting effect than an economic one.

It is also important to note that, in 1991, the profitability of the two largest generators was even greater than in 1989 and 1990 (in those years, Chile was affected by a severe drought which limited results.) Moreover, in 1990 ENDESA brought a new hydroelectric power station (Canutillar, 145 MW) on line. The energy produced at that plant will not affect the data until 1991 even though the investments were completed in 1990. A similar situation arises with other stations being brought into service, such as Pehuenche, a 500 MW station developed by an ENDESA subsidiary, and Alfalfa, a 160 MW station under construction by CHILGENER. Both plants were expected to be operational by late 1991.

In any case, it is clear that the distributors present a higher rate of return (measured as net operational income plus depreciation over gross fixed assets). However, it is interesting to note that for recent projects and those under construction, that rate is similar to those achieved by distribution companies (8-18%). (See Tables 2 and 3 below).

Table 2

FINANCIAL INDICATORS

(US\$ per year) 2 GENERATING FIRMS

COMPANY	OPERATION	1988	1989	1990
ENDESA	Operational Income	155.75	114.63	121.14
	Profit	178.52	105.94	103.99

	Depreciation	56.38	56.14	65.12
Installed	Net Assets	1,706.55	1,771.85	2,110.39
capacity 1990	Gross Assets	2,629.22	2,753.05	3,290.60
2050 MW	Patrimony	1,445.77	1,458.17	1,697.89
	Debt	686.94	724.94	824.35
	Liab./patrim.	47.5%	49.7%	48.6%
	Profit/patrim.	12.3%	7.3%	6.1%
	Op.inc./net fix. assets	9.1%	6.5%	5.7%
	Op.inc,depr/gross assets	8.1%	6.2%	5.7%
CHILGENER	Operational Income	23.07	23.66	39.66
	Profit	22.13	24.73	32.55
	Depreciation	10.32	10.60	12.57
Installed	Net Assets	305.41	402.83	556.33
capacity 1990	Gross Assets	543.07	652.55	853.59
570 MW	Patrimony	296.44	309.53	364.73
	Debt	58.86	145.74	222.19
	Liab../patrim.	19.9%	47.1%	60.9%
	Profit/patrim.	7.5%	8.0%	8.9%
	Op.inc/net fix. assets	7.6%	5.9%	7.1%
	Op.inc.+depr./gross assets	6.1%	5.2%	6.1%

Table 3

FINANCIAL INDICATORS

(US\$ per year) 2 DISTRIBUTION FIRMS

EMPRESA	RUBRO	1989	1990
CHILQUINTA	Resultado operacional	8.89	9.88

	Utilidad	9.58	11.11
280.000	Depreciación	2.49	2.65
clientes	Activo neto	43.78	51.85
	Activo bruto	108.42	127.82
	Patrimonio	52.11	60.32
	Deuda LP	1.74	2.03
	Pasiv. LP/patrim.	3.3%	3.4%
	Util/patrim.	18.4%	18.4%
	Res.oper./act.fijo neto	20.3%	19.1%
	Res.oper.+depr./act bruto	10.5%	9.8%
ENERSIS	Resultado operacional	46.26	52.89
	Utilidad	53.30	93.81
	Depreciación	11.27	15.84
1.100.000	Activo neto	230.70	272.83
clientes	Activo bruto	458.78	549.00
	Patrimonio	245.25	316.22
	Deuda LP	28.69	70.47
	Pasiv. LP/patrim.	11.7%	22.3%
	Util/patrim.	21.7%	29.7%
	Res.oper./act.fijo neto	20.1%	9.4%
	Res.oper.+depr./act bruto	12.5%	12.5%

3. EFFICIENCY

A second aspect of the evolution of Chile's electrical industry in recent years is the overall improvement in efficiency, as demonstrated by the following:

- Low rates as compared to nations where the industry operates normally. Even at the Latin American level, where there has been a tradition of subsidizing

consumer consumption in a variety of fashions, Chile's rates meet the average. The following tables show typical rates for residential and industrial power in foreign countries and in three areas of Chile: north (thermoelectric generation based on oil and coal); central (hydroelectric) and south (thermal generation based on natural gas). (See Tables 5 and 6).

Table 4

AVERAGE RESIDENTIAL RATES

(US\$/kWh)

Country	Residential
	100 KWh
West Germany	20.63
Belgium	19.60
Japan	19.17
Spain	15.66
Austria	14.63
Northern Chile (Emelari)	14.39
France	14.38
U.K.	14.04
Argentina	13.99
Switzerland	12.82
Netherlands	12.46
Portugal	12.40
Canada	11.93
Central Chile (Chilmetro)	10.89
Italy	10.25
Greece	9.37
Southern Chile (Edelmag)	9.16
Sweden	8.72
Brazil	8.60
Morocco	6.71
Uruguay	6.53
Bolivia	4.97
Paraguay	4.34

Costa Rica	4.24
Mexico	4.08
Colombia	2.62
Ecuador	1.95
Venezuela	1.62
Peru	0.51

Note: - Includes taxes. As of 6/90

Source: - Unión Internacional de Productores y Distribuidores de Energía Eléctrica. (UNIDEPE)

Chilectra Metropolitana (Poll dated 1/89)

- Sistema de Información Económico Energético de la Organización

Latinoamericana de Energía (SIEE-OLADE) (Poll dated 6/90)

AVERAGE INDUSTRIAL RATES

(US\$/kWh)

Country	Industrial rate
(excluding Latin Amer.)	Pot: 500 kW
	FC: 45,7%
Japan	9.70
W. Germany	9.19
Morocco	8.85
Italy	7.97
Spain	7.89
Austria	7.19
Portugal	6.62
U.K.	6.51
Belgium	6.43
Northern (Emelari) Chile	6.27
Greece	5.95

France		5.49
Switzerland		5.35
Netherlands		5.02
Sweden		4.30
Central (Chilmetro)	Chile	4.09
Canada		3.84
Southern (Edelmag)	Chile	2.99

AVERAGE INDUSTRIAL RATES

(US\$KWH)

Country	Industrial rate
(Latin America)	FC: OLADE
Argentina	14.47
Mexico	7.30
Costa Rica	6.56
Chile	6.56
Peru	6.37
Uruguay	6.07
Brazil	5.61
Colombia	5.52
Bolivia	5.19
Ecuador	3.59
Paraguay	3.42
Venezuela	2.87

These figures indicate that the healthy financial condition of Chile's electric companies is not the result of high rates, but rather of sound management.

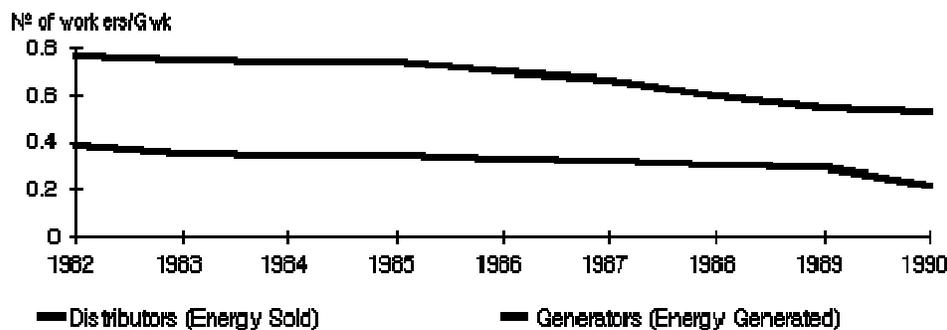
- The efficient and rational use of energy: the pricing system, not only in terms of electricity, but for other types of energy as well (particularly liquid fuels), has provided an incentive for the proper allocation of energy products. Thus, although the utilization of electricity in Chile is relatively high (1374 kWh/resident in 1989), use is concentrated in areas where it is economically viable. As a result, the

inefficient use of electricity in such areas as heating, water heaters and, above all, kitchen stoves, is not a problem in Chile given that there are more cost-efficient types of energy available for these purposes and the appropriateness of the pricing policies for such products. In some Latin American countries, the use of electricity in heating water and kitchen stoves -- as a result of price distortions -- constitutes a serious problem.

- Some indicators, such as the evolution of the ratio between the number of company employees and energy sold, bear further testimony to the productivity of Chilean firms. Chart 6 demonstrates this evolution.

Chart 6

Number of Workers per Amount of Energy Sold or Generated



- Competition has become the catalyst for further developments in the electrical generation industry in Chile. This competition has been reflected in recent years in the growing number of occasions on which large industrial and mining complexes call for public bids to supply them with electricity.

- In terms of service, quality and sensitivity toward public image, important progress has been made. In fact, current legislation calls for periodic polls to be taken among clients in order to enable both companies and government officials to evaluate the performance of concessionaires in terms of service quality. Thus, important firms, such as Chilectra Metropolitana, have completely revamped their customer service and billing systems and implemented policies aimed at providing electrical installations quickly (24 hours after a request is filed for small consumers whose installations do not require that the network be expanded, and a maximum of 1 week in all other cases).

Coverage in Chile is high by Latin American standards. In 1987, for example a poll among low income sectors (CASEN) showed the following electrical coverage rates for the nation as a whole:

Urban Area	97.9%
------------	-------

Rural Area	62.0%
Total	91.4%

Source: El Sector Energía en Chile. CNE, 1989

Estimates indicate that improvements have continued to be made since the time of the poll noted above. Thus, in 1991, for example, coverage in the greater Santiago metropolitan area reached 100% of homes.

It is important to note, moreover, that several companies have offered new products such as price differentiation according to the time of day and level of usage. Prices continue to be within the range established by the government while the equipment needed for such measurements is provided by the interested parties themselves.

- Control over the payment of bills and invoices and the illegal use of electricity -- a serious problem in many Latin American countries -- has encountered creative solutions which have generated important results for Chilean companies, including Chilectra Metropolitana, one of the firms most affected by these problems. Similar improvements have been registered by Chilectra V Región and EDELNOR. Chilectra Metropolitana has reduced total losses -- including those of transmission -- from 21% to 13% (the latter can be considered much closer to the norm which tends to be some 11-12%). Chilectra V Región, moreover, reduced losses from 12% in 1988 to 8% in 1991.

Control over these losses was the result of joint efforts undertaken by the companies and the State. Thus, the companies designed and installed protected distribution lines (braided conductors, high voltage power lines and those outfitted with concentric conductors) and standardized hook-up points and meters. The State, moreover, cooperated by financing the pardoning of interest accumulated on consumers un-paid electric bills and facilitating more convenient payment schedules for such debt. The efforts aimed at reducing losses commenced while the companies were still owned by the State, and therefore the results obtained through these measures cannot justifiably be attributed to privatization. It is clear, however, that the solution to the problem of losses and uncollectables has been much more efficient within the framework of private companies than under the State's administration.

4. STABILITY OF THE RULES OF THE GAME

A third element worth mentioning in Chilean electrical policy is the stability of the rules of the game. The concepts governing the electrical industry in Chile today are stable not only because the incoming government has agreed to support existing policies, but also because of the important presence of institutional

investors in the ownership of the companies' shares. The following Charts reflect the shareholder composition of some of Chile's largest electric companies. (See Charts 7 and 8).

Chart 7

Distribution of ENERSIS Shares

(December 1990)

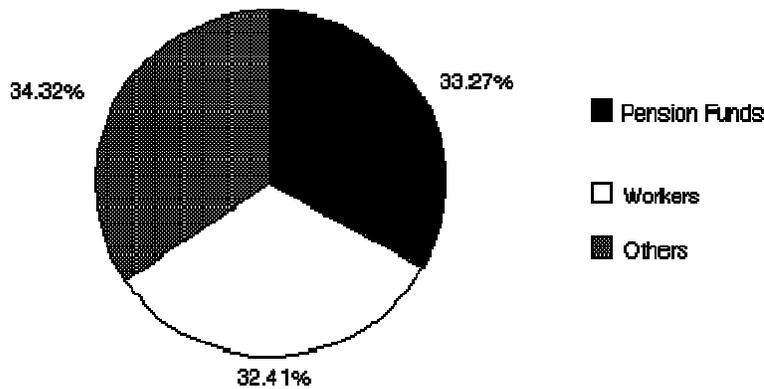
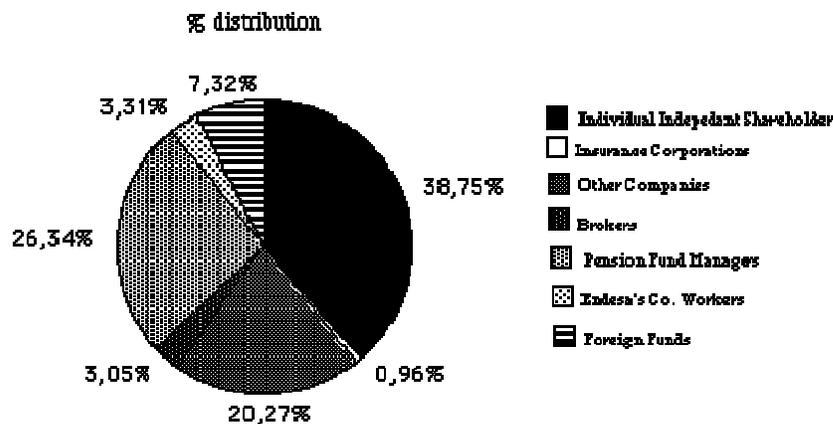


Chart 8

Distribution of ENDESA Shares

(December 1990)



Nonetheless, it is obvious that the stability of the rules of the game will depend upon behavior within the electric industry itself and the way the companies, primarily the private ones, confront their responsibilities.

VI. CHALLENGES FACING THE INDUSTRY TODAY

1. GENERAL ASPECTS

Despite the fact that the electric policies implemented in Chile have been quite successful, challenges do remain to be surmounted by both the State and the private sector. Thus, some of the questions which remain are: will private development of generation facilities be fast enough to meet demand? Will the existing pricing policies for generation be sufficient to foster development in this area? Will the country's political authorities maintain the rules of the game over the long-term in such a fashion that the private sector will be able to continue to be active in this area? Will the electric companies be willing to accept and correctly interpret existing regulations in such a fashion that will avoid internal conflicts that might lead to a global reassessment of policies in an effort to solve the problem?

2. DEVELOPMENT OF INVESTMENTS BY PRIVATE COMPANIES

Some of the questions mentioned above have been resolved over time. In its first year of construction, the Alfafal hydroelectric project (160 MW) suffered a natural disaster (a mudslide) and was reevaluated by CHILGENER (mostly privatized by that point). The decision was to proceed with its construction and at the time of this writing, the station was just coming on line. It is important to note that a large portion of the IDB loan extended for the construction of this project was replaced by bonds issued in the domestic market in an effort to reduce the risk of fluctuating exchange rates.

In 1989, ENDESA and CHILGENER (both privatized), installed 100 MW in gas turbines to mitigate the effects of a severe drought. More recently, an ENDESA subsidiary initiated construction of an 85 MW hydroelectric power station at Curillinque. The private Guardia Vieja Hydroelectric has just started work on a 46 MW station. Furthermore, a consortium of four companies is in the process of studying a 125 MW thermal, coal-based, station which would be operational as of 1995 or 1996, while ENDESA is putting together the financial package needed to build a 450 MW hydroelectric station called Pangué. Completion of the latter project is slated for 1996 or 1997.

The decisions surrounding the construction of the thermal and Pangué stations, given their size and the number of years required for their construction, will be key signals as to the willingness of the private sector to take on added responsibility in terms of the nation's electrical development. Both projects can be expected to provide reasonable profitability and the perspectives for their construction are optimistic. In any case, the State, which must ensure the common good, will have to play a role if the worst should occur and the postponement of the construction of these or similar projects threatens to make the overall supply of electrical power in Chile insufficient. Such involvement could come in the form of the sale of the rights to the water so that the project could be conducted by other entities or by participating directly in the construction of such stations.

It is worth highlighting the fact that Chilean legislation does not oblige generators to expand their capacity. On the other hand, prices for such services are practically unregulated. Thus, additional power stations will be brought on line to the extent that the prices determined on the basis of competition provide an acceptable level of profitability. The attractiveness of that rate for the private sector is clearly dependent on the options for investment and the risks inherent in the electrical industry. The perception of the industry as a "risky business" has no doubt diminished in recent years (reflected in the sharp rise in the prices of shares in electric companies on the stock market) as is shown in the following tables (see Tables 5 and 6).

Table 5

Stock Value/Book Value Ratio

for Individual Electric Companies

Worth through December of each year

	1987	1988	1989	1990	Jul 1991
1- Generators					
ENDESA	0.40	0.30	0.37	0.45	1.16
CHILGENER	0.21	0.20	0.32	0.37	0.80
2- Distributors					
CHILQUINTA	0.50	0.55	0.78	2.05	3.47
ENERSIS	0.53	0.51	0.85	1.50	3.60

This trend has been on the rise in Chile not only in the electrical industry, but throughout the stock market as a result of increased confidence in the economic system and the internationalization of Chile's economy which has attracted foreign investors. Thus, the stock price-profit ratio of Chile's electric companies, which came to 3 just two years ago, has now reached levels of between 12 and 15 as can be seen in Table 6 below.

Table 6

Stock Price/Profit Ratio

	1988	1989	1990	Jun1991
ENDESA	2.5	5.3	7.1	15.8
CHILGENER	2.7	4.0	4.2	8.9
CHILQUINTA	4.5	4.2	11.1	15.5
ENERSIS	3.7	4.2	5.6	11.3

The alternative investment or "risk-free" rate in Chile is approximately 5%. For the AFPs, which hold accumulated investments totalling some 8 billion U.S. dollars, the long-term rates bordering on 10% are sufficiently attractive and new generation projects are expected to have even higher rates of return. Nonetheless, the decisions made by AFPs are sovereign, so long as they comply with diversification requirements, and they cannot be pressured toward investing in any given area. In any case, it would probably be a good idea to modify existing legislation to allow AFPs to participate in the acquisition of shares issued for generation projects in their initial stages. At present, such acquisitions can only be made after the power station has been on line for at least 3 years. Electric companies, moreover, must seek to make greater use of non-traditional funding mechanisms, such as issuing shares or bonds which can be converted into shares.

3. INTER-COMPANY CONFLICTS

The creation of competitive conditions among companies generating electrical energy coupled with their management in support of shareholders' interests has led to a series of conflicts over the interpretation of current legislation. Overcoming these conflicts and establishing a common interpretation of the norms is therefore one of the challenges still facing Chile's private electric companies.

In some cases, the regulations have been sufficiently clear, both in terms of the overall framework and specific policies, but interpretation that breaks with their "spirit" has led to serious conflicts which, unless resolved by the companies themselves, could lead to over-regulation and revisions to the legislation. Naturally, such modifications would have a negative impact on the rules of the game.

Therefore, the role played by the companies is key to avoiding an escalation of these difficulties and to exploring solutions within the framework of the spirit of existing legislation. The lesson to be learned from these conflicts is that it is of crucial importance that an industry as complex as the electrical field **not** be privatized until the rules of the game have been clearly established and in operation for some time. The strategy followed in Chile respected this principle and undoubtedly the maturity of the actors engaged in negotiations over pending

issues will be sufficient to allow the conflicts that emerge over legal imperfections, which are inevitable, to be resolved successfully.

Bibliography: The author has made use of portions of the following publications in which he participated actively:

-El Sector Energía en Chile, 1990. Co-author.

-La Desconcentración del Sector Eléctrico en Chile, el Punto de Vista del Gobierno que lo Llevó a Cabo. Report to the World Bank, 1990. Author.

-La Política Eléctrica Chilena a Partir de Medios de la Década del 70. Report to the World Bank, 1991. Author.

TELECOMMUNICATIONS INDUSTRY

RENATO AGURTO C.

1. INTRODUCTION

This chapter is primarily oriented toward describing the actions taken in the 1980s aimed at achieving a successful privatization in the telecommunications industry and at the influence that this process had on the structuring of an appropriate regulatory framework for the industry.

Emphasis will be placed on public service telecommunications, namely local fixed calling and long distance and international telecommunications, as they constitute the backbone of Chile's telecommunications network.

The first portion of the chapter provides a brief historical overview of the physical, institutional and legislative development of Chile's telecommunications industry. It is important to note that, as with all services exhibiting the general characteristics of a natural monopoly, the industry's development has been influenced by the type of regulations implemented. This section concludes with a summary of the primary problems the industry faced in the mid 1980s.

The second section describes the measures taken to adjust the regulatory framework, with an emphasis on those which the reformers believed would bolster economic efficiency in the industry's development.

Thirdly, a description is provided of the most important measures taken toward the end of the 1980s to pave the way for the full privatization of telecommunications in Chile.

Lastly, the current status of telecommunications in Chile and perspectives for future are presented along with a discussion of some of the problems and salient issues facing the industry.

II. HISTORICAL OVERVIEW

1. SUMMARY OF PHYSICAL AND INSTITUTIONAL DEVELOPMENT

a. Evolution of companies in the industry

The evolution of telephone service in Chile was similar to that of the rest of the world; it emerged as of 1880 through a number of local companies which were subsequently consolidated, as of 1930, into a single large company known as the Chilean Telephone Company or CTC. The CTC was actually owned by the U.S.-based firm International Telephone and Telegraph (ITT). Thus, leading companies around the world included American Telephone and Telegraph (ATT)

in the United States, Siemens in Germany, Ericsson in Sweden, Argentina, Mexico, etc. and ITT in Spain, Brazil, Argentina, Peru, Cuba, Mexico and other nations in addition to Chile.

As we shall see upon examining the existing legislation, as of 1930 Chile conceded development of this capital-intensive field -- which was, moreover, susceptible to important technological changes -- to a foreign company with experience and resources. Through the purchase and merging of local firms, the Chilean Telephone Company came to cover some 95% of Chilean phone service. It is important to note that the expansion of the CTC in order to fulfill objectives established in the legislation which created the firm were made in an environment of increasing State intervention in the nation's economy. This served as a progressive disincentive for the industry's development and caused a serious deficit in the availability of phone services. This process culminated with the intervention of the company by the State in 1971.

The CTC's coverage is nationwide, except for the 10th Region (located in Southern Chile) where the local National Telephone Company of Valdivia -- established in 1894 -- has remained in private hands except for a brief period of State intervention between 1971 and 1982 and the Aysén Region, which is serviced by the Coyhaique Telephone Company, a former municipal firm that was privatized in 1982.

The growing participation of the State in the development of telecommunications in Chile reached its zenith in the early 1960s with the creation of the National Telecommunications Company (ENTEL) which was charged with the exclusive development of long distance and international telecommunications services.

Even after the State had achieved full control over the nation's telecommunications, the statist view of the industry persisted for many years, based on a multiplicity of justifications: governmental and administrative needs; emergency reasons; security; national defense; etc.

In 1981, two new local phone companies emerged, CMET and the Manquehue Telephone Company which helped to alleviate the phone line deficit in areas of Santiago and the 5th Region where demand was greatest.

The national telegraph and telex services, moreover, were transformed into a legal monopoly under State control in 1960 through formation of the State Mail and Telegraph Service.

b. Regulatory Entities

From the perspective of regulator entities, the industry's institutions were characterized by the initial creation (in 1925) of a general organism, known as the

General Directorate for Electrical Services. This service was subsequently transformed into the Superintendency for Electrical Services, Natural Gas and Telecommunications (SEGTEL). Nonetheless, for the first 40 years, the CTC was controlled directly by the government through 3 representatives on its Board of Directors, including the General Director of Services, Natural Gas and Telecommunications. It was not until 1971 that regulation of the CTC was completely transferred to SEGTEL.

As of 1978, responsibility for regulating the telecommunications industry was shifted to the Undersecretariat for Telecommunications (SUBTEL), an institution subordinated to the Ministry of Transportation and Telecommunications.

c. Evolution of physical and economic indicators

In an effort to better understand the physical evolution of the telecommunications industry in Chile, a set of charts is presented below which reflect the physical and economic indicators relating to local telephone service and the development of long distance and international calling. These charts make the effects of the telecommunications policies implemented in the 1980s clear and illustrate the impact of the privatizations conducted toward the end of that decade which will be commented upon in greater detail in a moment.

In terms of growth in the number of available telephone lines, Chart 1 shows moderate growth with annual rates of 6.4% for the period 1960-1967; 9.1% for the period 1967-1972; 3.2% between 1972 and 1980; 7% from 1980 through 1985; and 5.4% between 1985 and 1988. In 1989 and 1990, the growth rate jumped to 9.2% and 25.7%, respectively. From a broader perspective, the average growth rate for the period 1960-1980 totaled 5.8% and 6.4% between 1980 and 1988. This chart also shows the increase in demand as expressed through the number of pending requests for phone lines. However, it is important to note that these figures do not always represent the totality of unsatisfied demand.

CHART 1

DEVELOPMENT OF LINES IN CTC AREAS

(Through Dec. of each Yr.)

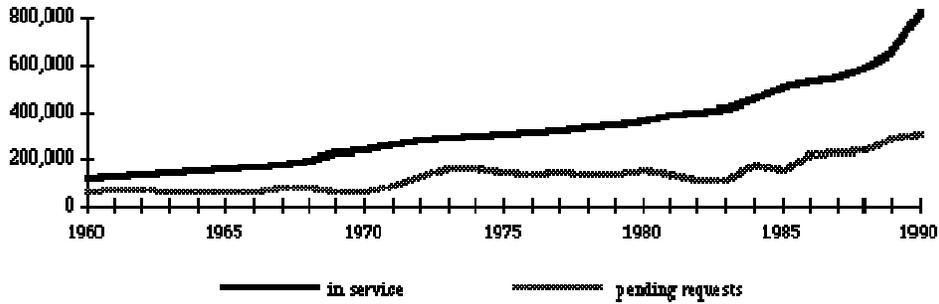
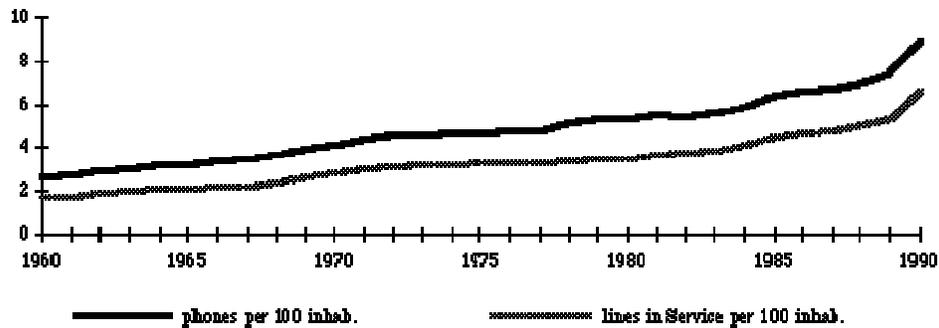


CHART 2

PHONE DENSITY IN CTC AREA



As a result of the course of phone line development, the country slowly achieved the densities shown in Chart 2, expressed in the number of lines installed per 100 inhabitants and in phones per 100 inhabitants.

CHART 3

INT'L PHONE DENSITY

(lines in service per 100 inhab.)

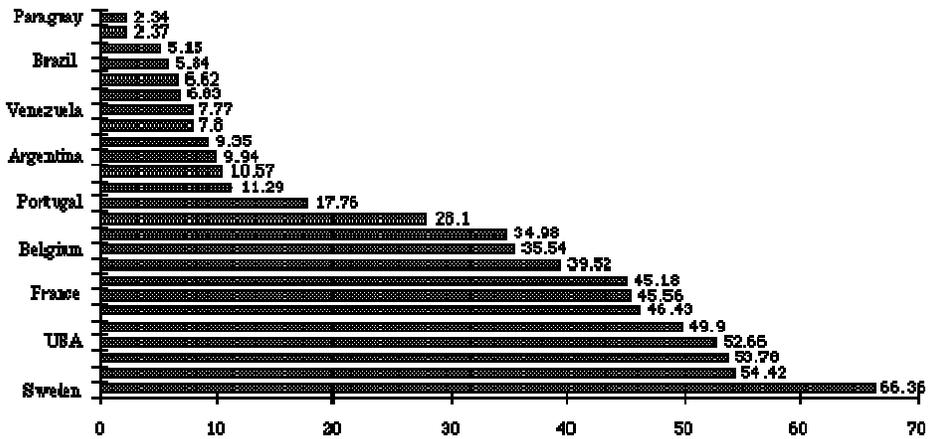


Chart 3 seeks to compare Chile with prevailing international conditions in terms of telephone density in lines per 100 inhabitants for a variety of developed and developing countries as well as the world average. This chart shows that despite the tremendous expansion in telephone availability in Chile in recent years, by the end of 1990 Chile was still below the world average in per capita telephone density.

Chart 4 reflects the degree of automation and digitalization of the CTC's switchboards. As can be clearly seen, at present close to 100% of lines are handled through automatic switchboards; for 65% of those lines automation is digital (this figure has been achieved over the last 8 years).

CHART 4

LEVEL OF AUTOMAZATION & DIGITALIZATION IN CTC AREA (%)

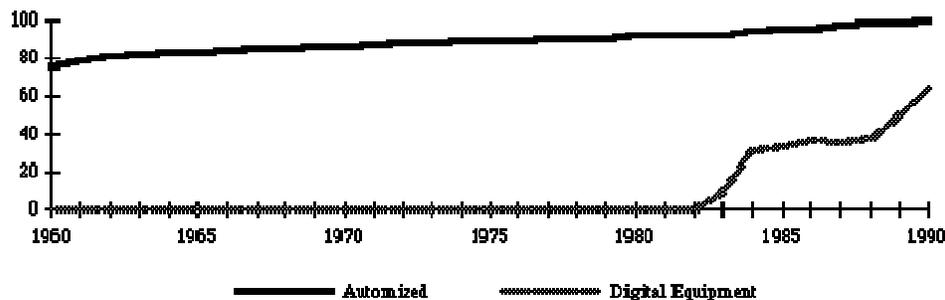


Chart 5 shows the annual number of domestic long distance calls. Growth in this field over the last decade has been noteworthy, reaching an annual average rate of 15.1%. Furthermore, growth during the period 1984-1990 was particularly strong, with an average annual rate of 18.5%. For the period 1960-1980, the average annual growth rate in long distance calling was 7.1%. In terms of the equipment utilized in the long distance network, Chart 6 provides information on the number of circuits used by the CTC's long distance services including both wholly-owned and rented equipment (the latter belongs primarily to ENTEL). Considerable growth in the number of circuits utilized took place in the 1980s, with an annual average rate of 11.2% as compared to rates for the two previous decades in which growth averaged just 6.1% per year.

CHART 5

LONG DISTANCE CALLING IN CTC AREA

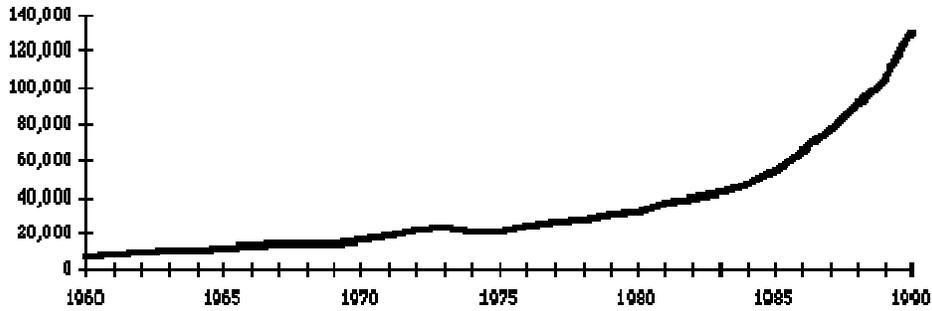


CHART 6

DOMESTIC LONG DIST. CIRCUITS

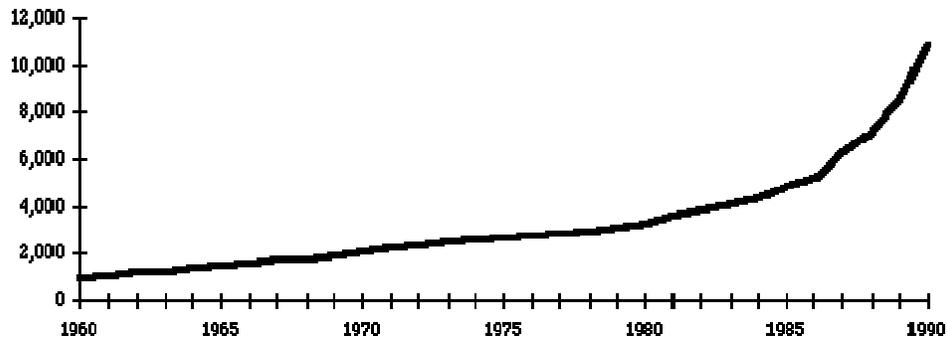


Chart 7 provides data on international phone calling for the period 1977-1990. Growth in international traffic was particularly strong in the period 1985-1990. Furthermore, the number of available international circuits, belonging to ENTEL, is reflected in Chart 8.

CHART 7

INT'L PHONE TRAFFIC

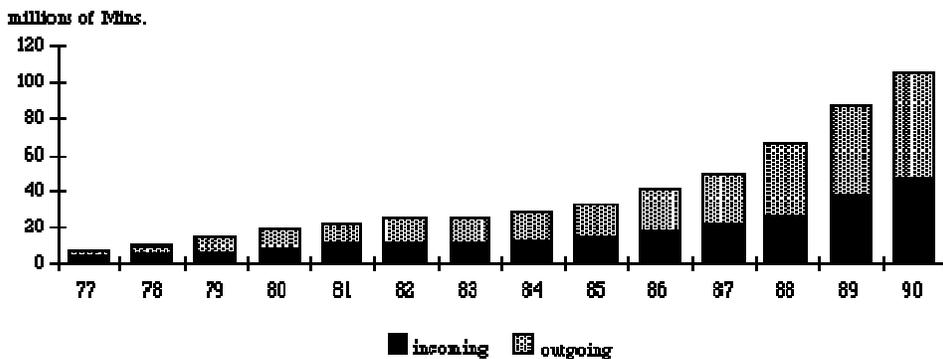
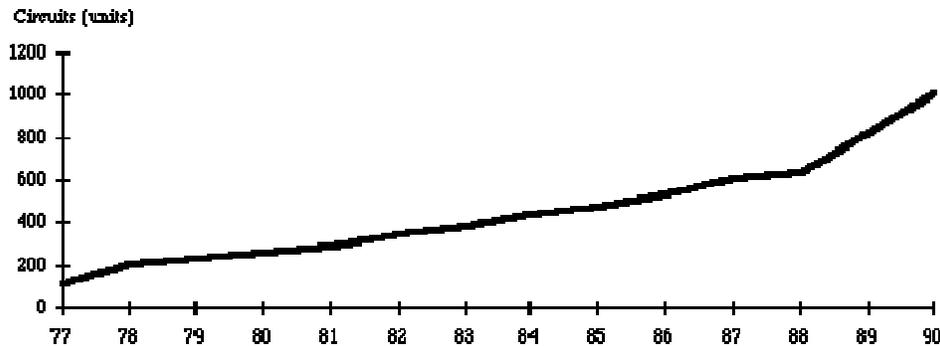


CHART 8

INT'L CIRCUITS

(Satellite & Microwave)



In terms of the evolution of economic indicators in this industry, Charts 9 and 10 show financial data for the CTC and ENTEL based on information contained in the annual reports filed by the two companies. From this information, the deterioration in economic conditions of the early 1970s and the recovery following 1975 become clear. Moreover, it is apparent that ENTEL's performance consistently bettered that of the CTC. This is probably due to distortions in the tariff regulations -- a subject which will be discussed in a moment -- affecting these companies.

CHART 9

CTC FINANCIAL INDICATORS

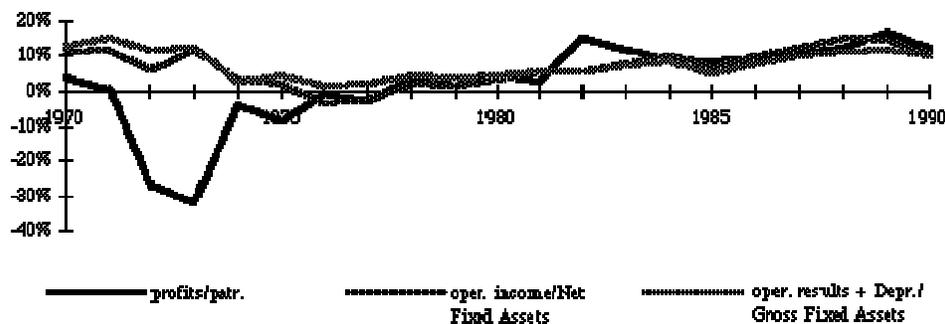


CHART 10

ENTEL FINANCIAL INDICATORS

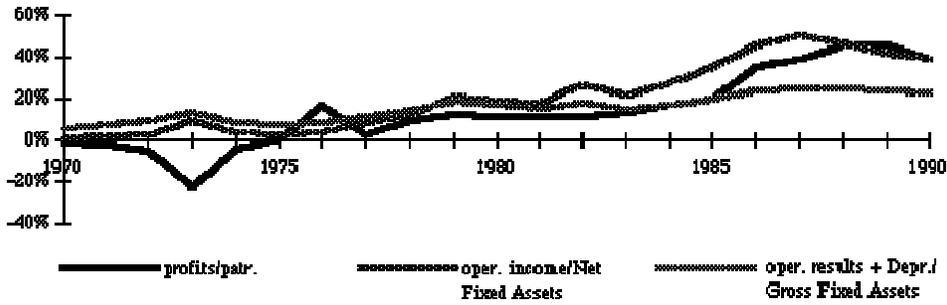
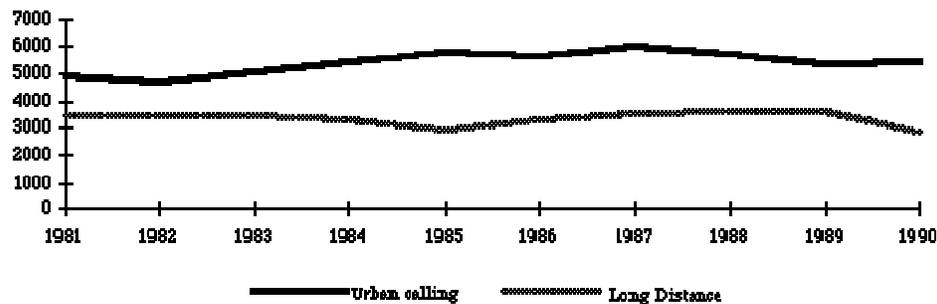


Chart 11 reflects two indicators which have been developed in order to better understand the average tariffs charged by the CTC in the 1980s. These fees include the average monthly per line revenue generated by urban service (fixed and variable rate local service and equipment rental) as well as long distance services. This data shows a slight trend for revenue from long distance services to drop as income from local calling rises and vice versa. This is most likely an effect of corrections and accentuation in the subsidy between long distance and local calling rates.

CHART 11

MONTHLY REVENUE PER AVERAGE LINE IN SERVICE

(Dec. 1990 pesos)



2. SUMMARY OF REGULATORY DEVELOPMENT IN THE CHILEAN TELECOMMUNICATIONS INDUSTRY AND THE CORRELATION WITH PHYSICAL DEVELOPMENT

As occurred with electrical services, the first regulations on telecommunications in Chile were contained in the general legislation applying to electrical services passed in 1925. From that date forward, the development of pertinent regulations was as follows:

a. Era of regulated monopoly with guaranteed profitability

From a general perspective, during this period telecommunications services were regulated on the precept that rates should cover operational expenses and a pre-determined level of profitability on the companies' fixed assets. This criteria was maintained in the legislation of 1925, 1931 and 1959 covering telecommunications.

However, the largest developments in telephone services came as a result of special legislation and contracts. For example, the Contract Law of 1930 resulted in the formation of the CTC and the *ad referendum* agreements of 1958 and 1967 were signed between the government of Chile and the CTC. Some of the noteworthy aspects of the Contract Law of 1930 include:

- Broad, although not exclusive, concession to develop telephone service throughout the entire country; concessionaires were required to provide telephone services and construct a basic telecommunications network to integrate the nation.
- Tremendous freedom to introduce new technology and, in general, to allocate resources.
- Extensive freedom to establish purchasing or installation usage agreements with other companies and establish contracts with international operators.
- Minimal governmental authorization was required to develop service (general installation plans required governmental approval in an effort to accelerate the achievement of goals established in the contract). Access to public goods, governmental properties and other areas were facilitated. The State, moreover, was granted power to expand that access.
- Stipulations that foreign companies transfer know-how to Chileans through employee and worker training in telephones and phone service.
- Specifications that required companies, upon increasing their capital, to disseminate its property among the largest possible number of domestic investors.

The Contract Law also applied regulations based on accounting criteria to tariffs; covering costs and ensuring a profitability of up to 10% over net investment. Nonetheless, cost allocation criteria between the different services were not spelled out (e.g. between local and long distance calling). This, combined with the fact that tariffs had to be approved in advance by governmental officials -- despite the adjustability of rates in gold pesos -- and the overall statist, politicized environment, meant that inherent subsidies were produced which resulted in the transfer of funds between long distance and local calling. The presence of this

subsidy naturally served as a disincentive to the development of improved local telephone service. The result was a chronic deficit in local service -- which has only recently begun to be overcome -- and a strong incentive to invest in long distance service.

In summary, despite the stipulations contained in the Contract Law of 1930 aimed at ensuring the quick development of the telecommunications industry in private hands, the lack of resolution within the government, the increasingly statist system and the influence of politics on the setting of phone rates-- combined with murky regulatory conditions -- made the implementation of the legislation difficult, served as a disincentive to the CTC and contributed to the continued transfer of these services to the State.

The agreements of 1958 and 1967 sought to stimulate the development of telephone services which had been interrupted as a result of prevailing conditions. Of particular importance for the purposes of this chapter is the agreement of 1967 through which the State intervened widely in the properties held by the CTC and in the configuration of the State long distance monopoly through the recently created ENTEL. In essence, this agreement reduced the participation of ITT in Chile to 51% of the CTC through a forced capitalization by CORFO of the revenue necessary to implement the firm's expansion plans. In terms of the primary long distance network, the agreements limited CTC expansion in this field with the exception of the microwave circuitry the company had installed between Santiago and Valparaíso. Furthermore, restrictions were imposed on the CTC's access to existing primary networks and the firm was required to make use of secondary lines. This restriction came as a result of the National Telecommunications Policy which was included in the 1967 agreement and stated:

"The government of Chile believes that it is necessary for basic means of domestic and international communications to be present in the country. These means should be constructed in accordance with modern techniques which grant residents all types of access to these advances.

The domain and regulation of these basic means shall be in the hands of the State as a result of, among other reasons, the needs of government and administration, and on the grounds of emergencies, security and national defense as well as the urgency of promoting development in the most backward areas of the country and ensuring efficient telecommunications services at the national and international levels."

In early 1973, following the intervention of the CTC, the Contract Law of 1930 was repealed and control of telecommunications defaulted back to the general norm, DFL 4 of 1959. The tariff regulations contained in that legislation were similar to those of the Contract Law.

b. Era of the liberalization of services

In 1978 a new National Policy on Telecommunications was issued which, in its most relevant aspects, called for the development of telecommunications services to be conducted by private institutions through concessions, authorizations, permits and licenses granted by the State. Nonetheless, the policy endorsed a series of regulations aimed at establishing increased technical control over such investments and conferring certain discretionary powers on the government.

This policy was formalized through the General Law on Telecommunications approved in 1982, in which free, non-discriminatory access was granted to private firms in the development of the nation's telecommunications services. Moreover, this legislation called for technical control over the development of these activities to be exercised through authorizations granted by SUBTEL.

In terms of the rates for telecommunications services, the legislation established general freedom while reserving the justify for the authorities to set tariffs should monopolies surface. Nonetheless, the law failed to establish criteria, procedures and explicit time limits for this type of regulation.

3. FIRST STEPS TOWARD PRIVATIZATION

a. Reorganizing the industry's largest firms

As of 1974, a "normalization" process was implemented aimed at reorganizing the two largest State-owned companies, CTC and ENTEL. This process concluded in 1985 with the privatization of these firms. Measures taken to achieve this goal included:

- Adaptation to general norms regulating private firms: private organization, criteria and control mechanisms were implemented in the management of the State-owned.
- Average rates were brought into greater alignment, although the largest distortions remained unresolved.
- Elimination of privileges.
- Elimination of discounts and special rates for the State and dependent organizations.
- Financial normalization and the elimination of State contributions.
- Elimination of State guarantees for domestic and foreign credits.

- Profitability requirement and distribution of dividends by the firms.

b. Efforts to decentralize the industry

In the early 1980s, efforts were made to decentralize the telecommunications industry through the establishment of various subsidiaries throughout the country. The concept behind this policy was that it would be easier to attract capital to smaller-scale private phone companies. However, from the perspective of the large foreign investors, this was entirely undesirable. To them, the CTC was already small enough; it was comparable to local phone networks in some developed countries. Moreover, the CTC opposed the formation of subsidiaries, arguing that this would make it impossible to achieve economies of scale. For both of these reasons, the efforts to privatize the CTC through decentralization were unsuccessful.

c. Privatization of telex services

In 1982, the State monopoly over domestic telegraph and telex services was repealed and a private firm, Telex Chile S.A., was created as a subsidiary of the State Development Corporation (CORFO) to handle the services taken away from the state-owned Mail and Telegraph Service. Subsequently, in 1985, 100% of Telex Chile S.A.'s shares were sold off.

d. Liberalization of phone justifies

Until 1980, local telephone services were provided through non-transferable contracts. That year, transfers between private owners were authorized and property justifies were recognized through what came to be known as "phone justifies." This represented a market solution aimed at distributing the limited number of lines existing at that time among those most able to pay.

e. New telephone companies

Toward the end of the 1970s, the expansion plans put forth by the CTC simply could not meet demand for additional phone lines. This, combined with the property justifies to phone lines described above, made it possible for two additional companies, CMET and Manquehue, to commence operations. These companies covered new areas as well as those in which their services overlapped with the CTC.

III. PRIMARY MARKET REFORMS OF THE MID 1980s

1. THE PHONE LINE DEFICIT

The key problem affecting the telecommunications industry in the 1980s was the tremendous deficit in the number of available phone lines (unmet demand totaled some 300,000 lines.)² This deficit had accumulated over many years and was primarily caused by the State's inability to resolve the situation through the CTC. Part of the problem came from the fact that the State, logically enough, had allocated its limited resources to more pressing social areas and to basic infrastructure, such as electricity. Thus, despite a willingness among the public to pay for phone services -- which would imply that such an enterprise would be highly profitable -- the State-run company was unable to respond.

The options for resolving this problem lay in bringing private capital into the development of the telecommunications industry or allowing the most important companies, CTC and ENTEL, to continue expanding indefinitely as state-run operations. The latter not only went against the overall economic policies being implemented at the time (aimed at developing productive sectors and services in accordance with the precepts of free private initiative) but was also highly impractical. The CTC and ENTEL would continue to be hampered by the State's financial limitations and by the complexities of the budget approval process inherent in all public spending projects.

It is worth taking a moment to note in greater detail the approach adopted in Chile through which the role of the State was conceived as subsidiary in both general economic terms and in the telecommunications industry in particular. The subsidiary role of the State should not be understood as the development by the State of areas in which the private sector is not active -- without asking why this is -- but rather as the effort to remove all obstacles which may be impeding private investment. In the case of the telecommunications industry, there were no institutional obstacles and there was no doubt that the property itself could be in the hands of the private sector. In the mean time, the state-run companies were authorized solely to implement those expansion plans which could be financed with the limited levels of indebtedness that the macroeconomic situation permitted the State. Moreover, as noted earlier, the presence of more pressing needs in social development and infrastructure meant that the telecommunications industry was relegated to, at best, second place. Furthermore, any profits generated by the state-run telecommunications companies formed part of the State's general budget and therefore were utilized to subsidize other areas of development rather than being reinvested in the industry itself.

In addition, as of 1985, it was clear that the strategic nature of telecommunications -- which in the past had been used as an argument for nationalizing the industry and which to a certain extent had been hampering its privatization -- need not be an obstacle to the participation of private capital in the industry. Thus, mechanisms were devised whereby in cases of catastrophe, severe domestic convulsion or foreign war, the State may intervene in telecommunications services. In fact, this had occurred at an earlier date when the industry had been in private hands. Moreover, from a strategic perspective, it

was preferable that the telecommunications industry be well developed and this could only be achieved through the participation of private capital.

Nonetheless, the privatization of the CTC and ENTEL required, in addition to the political will to do so, that certain regulatory problems which were hindering the industry's development be resolved. Overcoming these problems was of particular importance given that their existence could be perceived by potential investors as future sources of instability.

2. OVERLAPPING CONCESSIONS AND CONNECTIVITY

By 1985, the effort to establish a variety of smaller phone companies which would have competed with the CTC, as per the legislation signed in 1982, had collapsed. The negative experience resulting from the installation of the CMET and Manquehue firms was partially to blame for this setback (the companies initiated operations during the recession of 1982-83 which further complicated their economic situation). More important, however, was the lack of clear regulations on connectivity between these companies and the CTC. This legal void led to a multiplicity of lawsuits among these parties. A 1985 effort to clarify this situation was not sufficient to move the country forward toward the development of decentralized, competitive phone services.

Nonetheless, the key reason for the breakdown in the budding new system was the monopolistic nature of local calling which made it impractical and inefficient for a variety of concessionaires to operate in the same geographic area.

3. COMPETITION BETWEEN THE CTC AND ENTEL

An additional problem in 1985 was the competition between the CTC and ENTEL for long distance services. This problem originated with the creation of ENTEL in 1964 and continues to exist today. Nonetheless, the most important point of tension between the two companies arose over the issue of tariff distortion (which, as noted earlier, meant that profits from long distance calling were used to subsidize local service). These differences were partially resolved through the tariff regulations enacted in 1985 but persists as an on-going source of conflict between the CTC and ENTEL for reasons which will be reviewed in a moment.

While the CTC and ENTEL were still state-run companies during the 1980s, an effort was made to overcome this competition by having CORFO issue clear instructions separating the activities of the two firms. However, despite the wishes of the majority shareholder (the State), the problem continued as a result of the position taken by minority stockholders and the natural impulse of executives at both companies to expand into the lucrative area of long distance calling.

4. REGULATORY INEFFICIENCY

As noted earlier, an important portion of the problems in the telecommunications industry in the 1980s resulted from regulatory inefficiency. Specifically, two areas -- market accessibility and pricing -- can be highlighted as being of particular importance. Both areas originated from an erroneous analysis of the degree of acceptable liberalization in basic telephone service and long distance transmissions. Since the legislation enacted in 1982 sought to maximize freedom to develop these services -- and therefore encourage competition -- it failed to establish efficient mechanisms to regulate prices.

a. Market accessibility

Although the legislation passed in 1982 retained the concept of "concessions" granted by the authorities in order to install and develop public telecommunications services, it failed to establish any significant requirements for obtaining such a concession. Furthermore, no obligations were imposed on the concessionary who, by default, was authorized to discriminate or limit the type of services provided. This situation was wholly incompatible with the concept of fostering strong competition in the telecommunications market.

Moreover, the legislation was interpreted in such a fashion that -- unlike standard concessions for public services -- government officials were not authorized to make justifiable decisions on the approval or rejection of concession requests. This could lead to a proliferation of concessionaires, particularly in commercially attractive areas. Furthermore, technological developments at that time in fixed local calling were (and continue to be) sufficient to create a natural monopoly. The presence of such a monopoly made it unwise, from an economic standpoint, for there to be such a proliferation of services while technological advances meant that all of the services needed to be interconnected, adding yet another source of conflict to the disarray. In fact, controversy over connectivity rose in quantity and tenor with the increase in the number of concessionaires. This situation led officials to deny concessions to new groups; the new groups responded by suing the government for what they perceived as their justify to enter the market.

b. Pricing

In principal, the legislation enacted in 1982 established free pricing. However, the authorities reserved the justify to regulate tariffs if market conditions failed to be sufficient to ensure free competition. Moreover, the legislation did not establish criteria nor procedures for fixing prices, indicating that these were to be set in accordance with the "direct, necessary costs of providing services" and at a rate of return to be established by the Ministries of Economics and Transportation and Telecommunications.

In the absence of a legal framework for setting prices, government authorities opted not to make formal use of these powers. Nonetheless, the

government did continue to do so informally through the authorization of tariff schedules presented by the state-run telecommunications firms. This made it difficult to resolve existing tariff distortions (namely crossed subsidies from long distance to local calling and fees for telephone justifications) in an organized fashion.

5. ROLE OF GOVERNMENT OFFICIALS

An additional problem confronting the telecommunications industry in the 1980s was the level of indecisiveness regarding the specific role that the corresponding regulatory agency, SUBTEL, should play. The situation was further complicated by a lack of resources at that agency which obstructed its effort to fulfill all but its minimal duties.

An indication of the extent of this problem was the degree of regulation SUBTEL sought to impose on the telecommunications companies. One of the options discussed was to have the regulatory agency organize a central strategy for domestic telecommunications; however, the scope of such a plan was not defined. The need for basic domestic telecommunications to develop harmoniously in accordance with some type of planned growth was clear. Nonetheless, the individual company-owned networks conforming to the national system expected planning to be decentralized. Clearly, these positions could not be easily reconciled. Moreover, if the concept of a planned strategy meant the establishment of a global referential framework for the industry, then such a strategy could only serve as a guideline for the State's action in such areas as tariffs, price transfers among services and the granting of concessions. In any case, the lack of resources made it impossible to conduct research on these issues and influenced future legislation on procedures for engaging in tariff studies.

In summary, all of the problems mentioned above tended to transform telecommunications, in general, into an excessively risky business for investors and reduced, despite the best intentions of the legislation passed in 1982, interest in opening new companies or acquiring shares in existing ones.

IV. REASSERTING A TELECOMMUNICATIONS POLICY AND ADJUSTMENTS TO THE REGULATORY FRAMEWORK

1. POLICY REESTABLISHMENT

By 1985, the investment needs of the telecommunications industry in Chile reached 1.1 billion dollars for a 10 year plan for public telephone service alone. Clearly, the only way to stave off continued deterioration was to open the industry up to domestic and international private capital. The government therefore decided to reintroduce development by the private

sector, implementing the changes necessary in the regulatory framework to make this possible.

In order to achieve this goal, the general guidelines of telecommunications policy were reinforced to enhance productivity, assign the State a subsidiary role and recognize the market as an efficient allocator of resources.

Furthermore, specific policies aimed at resolving the problems arising from the general guidelines were re-defined to identify those segments of the industry with the largest degree of monopolization and create efficient regulatory mechanisms to control those segments.

Measures were also taken to define the subsidiary role of the State. For example, in areas where developing telecommunications could be justified on social grounds even when private investment did not prove profitable, policies were adopted which made it possible for the State to encourage investment without having to play a direct role in the implementation of development projects or imposing social obligations on private firms. In order to do this, the State granted direct subsidies which made it worthwhile for private companies to invest in these areas. One such program was introduced in rural areas whereby the National Fund for Regional Development provided the resources needed to finance a portion of specific investment projects which had been carefully evaluated and selected on the community and regional levels.

2. ADJUSTMENTS TO THE REGULATORY FRAMEWORK, 1985-1987

Adjustments made to the regulatory framework as of 1985 were primarily oriented toward:

- Making the rules of the game more explicit and transparent in terms of access to the marketplace by different telecommunications services, identifying obligations and responsibilities of participants and, in particular, establishing pricing mechanisms.
- Providing financial mechanisms for telephone companies which would enable them to meet their obligations.
- Specifying appropriate technical and regulatory controls by the authorities in an effort to stimulate greater growth among different telecommunications services.

It is well worth looking closely at the General Law on Telecommunications passed in 1982 and subsequent modifications to understand the general spirit behind the law. This background information is of particular use in analyzing current proposals for additional changes to existing legislation.

3. THE MOST PRESSING REFORMS

a. Authorizing concessions and permits

At the end of 1985 the clause regulating the granting of concessions and permits (article 12) was modified to read: "Concessions and permits may be granted without limitation as to their number, type of service or geographic location; more than one concession or permit of equal nature may exist in the same geographic area." This modification sought to clarify that government officials had the authority to grant concessions and permits. Previously, this clause had indicated that "The granting of concessions and permits shall not be submitted to restrictions or limitations in terms of their number, type of service or geographic location; more than one concession or permit for equal types of service may exist in the same geographic area." The language contained in the original article was interpreted as meaning that government officials were not authorized to approve or deny concessions or permits.

It is important to note that by retaining the possibility of granting more than one concession or permit in a single geographic area -- instead of regulating such authorizations -- special care was taken not to establish legal monopolies. Such structures are rarely advantageous, even when the service in question bears the markings of a natural monopoly. The purpose of retaining this clause was to make those holding quasi monopolies understand that if they failed to develop their services quickly and satisfactorily in certain areas, the authorities could make use of their option to grant other concessions or permits in the same region.

b. Connectivity regulations

In addition to improving regulations on concessions, two key reforms were introduced into the norms controlling connectivity among public telecommunications services. First, clarification was made that the indemnization paid between concessionaires was derived from the differences between the benefits and the cost of the connection. Prior to the reform, the rule was that the dominant service (the new concessionary) was to make payment to the existing concessionary, yet the legislation established no formula on which the amount of this payment was to be determined. The second key area of reform dealt with removing on-going conflicts over such payments from the Court system and handing them over to arbitration.

c. SUBTEL oversight powers

At long last, the reforms implemented in 1985 specified the oversight attributes and powers held by SUBTEL in order to ensure fulfillment of legal requirements, regulations and technical standards by concessionaires, permit holders and users. Furthermore, sanctions on transgressions of those legal bodies were made more flexible in an effort to ensure that they could be effectively employed by SUBTEL.

4. SUBSTANTIVE REFORMS

In early 1987, the Ministry of Transportation and Telecommunications issued a decree which introduced substantive modifications into the General Law on Telecommunications passed in 1982. Key changes included:

a. Compulsory public phone service

Companies receiving concessions for public phone service were required to provide service in their area within a maximum of 2 years following approval of the request.

Since it was impossible for some companies to fulfill this requirement in such a short period of time, timetables were established to gradually bring areas on-line over a period of 10 years. Under no circumstances could these areas be smaller than the urban areas which had local service at the time the new legislation was approved.

Similarly, concessionaires were authorized to increase their area of compulsory service within the overall area assigned to them. A request for a new concession needed to be filed only where such expansion overlapped a portion or the entirety of the compulsory zone of another concessionary.

The key purpose behind these legal changes was to provide an impetus for the development of phone service so that users could acquire lines as quickly as possible. From this perspective, other legal clauses -- which require additional procedures for telephone companies to expand -- must be implemented without losing sight of the objective of serving the client. That is to say, these additional regulations should not serve as an obstacle to telephone development so long as the companies receiving concessions adhere to technical stipulations. One way of adjusting the regulations to better suit the expansion of phone services would be for the authorities to conduct inspections once installations are completed to ensure that technical criteria are met and impose sanctions on those companies which fail to meet established standards.

b. Reimbursable bonds

One of the fundamental aspects which made it possible for telephone companies to acquire the resources necessary to comply with the compulsory service areas was the establishment of a system of financing through company shares or bonds. This system, which had already been successfully implemented in the electrical industry, was easy to set in motion in the field of telecommunications and gradually came to replace the so-called "phone justify." The old fee system, in addition to serving as a tariff distortion, did not effectively provide companies with new resources for investment given that the

revenue generated in this fashion formed part of the companies' profits which, in the case of the CTC, were distributed as dividends among shareholders.

The new mechanism was utilized in privatizing the CTC and resulted in a diffusion of property.

c. New rate schedule

Undoubtedly, the most important legislative modification was the introduction of a new rate schedule for local fixed public telephone service and long distance calling, for communication and/or data transmission either as intermediary services or on private circuits. In this sense, the principle of freedom of rates for all services was retained. However, in those cases mentioned earlier where competitive conditions did not exist, as determined by the anti-monopoly commission, the government was authorized to regulate rate schedules. The biggest innovation was the incorporation of statutes which explained the basic aspects of the tariff structure: criteria and methodology, procedures, oversight agencies, review frequency and price adjustment criteria for each study.

- Criteria and methodology:

The general criteria established tariffication at a marginal cost of each affected area, with the verification that the resulting rate results in sufficient revenue so as to cover the total cost of providing a similar service in the area by an efficient, model company. Regulations were adopted to limit crossed subsidies among services in those cases where more than one service is provided in a common tariff area.

The methodology for applying this criteria was described in considerable detail in the legislation and descriptions of each item to be taken into consideration, as well as the procedures for establishing item costs, were provided.

- Procedures, oversight agencies, review frequency and adjustment criteria.

Rates are calculated to cover a 5-year period, expressed in terms which allow for indexation and formalized through a decree issued by the Ministry of Transportation and Telecommunications. During the period rates are in effect, companies may automatically readjust their fees in accordance with variations in the cost of the primary supplies required to provide services as stipulated in the indexation formulas.

One of the principal advantages of establishing a period of five years for rate studies is that it provides sufficient time for concessionaires to implement improvements and internalize the corresponding revenue. The chief drawback is that a dislocation in rates is possible as a result of structural modifications in the cost of items not included in the indexation variables. Upward dislocations

resulting from diminishing costs can be resolved, when there is competition, through rate reductions by concessionaires. When the dislocation is in the other direction, however, the concessionary must absorb the additional expense of obtaining supplies. Nonetheless, the benefits of the stability generated by a five-year rate scheme and the absence of constant debate over pricing outweigh the drawbacks.

The procedures for conducting studies and implementing tariff schedules are described in detail in the legislation. In essence, three stages are called for: definition of the bases for the study; realization of the study; review and implementation of the resulting rate formulas. The first and final stages are conducted by the government, while the second is conducted by the concessionaires, either directly or through specialized consultants. Should differences arise in terms of the definition of the bases for the study or the results of the review process, the opinion of a specialized committee can be requested. In any case, the final decision lies in the hands of the governmental authorities.

The definition of the bases for the study is of crucial importance in achieving a cost-effective rate. In order to make this process as transparent as possible, the legislation requires that all of the criteria utilized in the formulation of the calculations be specified: perspectives for the study, network optimization criteria, definition of tariff areas, technology to be considered, etc. Such transparency has led to a reduction in the margin of conflict over the review process and approval of the tariff study.

Given the large distortion presented by the regulated tariffs, the legislation called for a maximum adjustment period of 5 years, in accordance with a calendar to be established when the results of the first tariff study were implemented.

V. SPECIFIC ACTIONS TAKEN TO PRIVATIZE LARGE COMPANIES

In addition to the efforts to prepare the regulatory framework described above, the Chilean authorities began to take measures aimed at privatizing the state-owned telecommunications companies. The privatization process was administered by CORFO, the official owner of the State's shares in the industry. The mechanisms utilized for privatization included the auctioning of share packages on the Stock Market, direct sales of shares to workers-- paid for with indemnization funds corresponding to the number of years of employment -- as well as sales to foreign buyers and the acquisition of reimbursable bonds by clients.

In the case of the CTC, the company's tremendous need for investment made the strategy of sale to foreign buyers with a commitment to invest particularly important. This mechanism, implemented by CORFO in late 1987, was wholly successful and as a result by early 1988 the CTC had been fully privatized, producing an immediate boost in its development.

For ENTEL, privatization took place primarily through the sale of sharepackages on the Stock Market. An interesting aspect of this privatizationprocess which differentiates it from that of the CTC was that the new ownersacquired only existing paper (additional capital investment was not neededto expand the company) as pending projects could be financed with depreciationand debt. Nonetheless, private participation produced tremendous dynamism in the operations and development of the company.

VI. CURRENT STATUS OF THE INDUSTRY

A review of the physical and economic indicators achieved following privatizationmakes it clear that the process has been wholly successful, although itwill probably be several years before its full impact is registered.

From the perspective of physical development, the private firms haveshown tremendous dynamism in meeting demand and moving forward with developmentplans. This progress can be seen in the charts provided earlier in thischapter.

Moreover, state-of-the-art technology, including cellular phones, networkdigitalization and the use of fiber optics, is being introduced in Chile.

Additional data on the privatization of the large, state-run companiesis provided in Charts 12, 13 and 14. Chart 12 reflects the evolution ofthe property of the CTC and ENTEL during the 1980s, showing how State participationin the industry fell from over 90% in 1982 to just over 70% in 1987 andto zero in 1990. Furthermore, reasonable levels of property dispersion havebeen achieved through the privatization process, as can be seen in Charts13 and 14.

2. PERSPECTIVES FOR THE FUTURE

Industry perspectives are promising; as we have noted, the large companiesare developing with considerable dynamism and efficiency in terms of theirexpansion plans and continue to modernize services currently provided andintroduce new ones. The legislation currently in place has been administeredwell and provides an adequate framework for continued efficient development.

Technological evolution may mean that in the future services will beintegrated in such a fashion that monopolies are formed where today theydo not exist. Should this occur, the matter of how to regulate prices forintegrated network services will have to be addressed.

3. PENDING PROBLEMS

The problems of fixed telephone service are essentially resolved; itwill continue to be a natural monopoly and existing legislation providesadequate mechanisms

to ensure regulation. Most likely, it will be necessary for the State to place an emphasis on providing regulatory agencies with sufficient resources to constitute a good counterpart to the tariff studies. This is vital to providing assurances to users that the fees they are paying are truly cost-effective, independent of the professionalism and good intentions of industry companies in conducting those studies.

In areas where telephone development projects require the use of direct subsidies -- such as rural networks, for example -- the State, in granting such financing must take care not to interfere with the emergence of services which phone companies might otherwise have developed spontaneously.

Conflicts also exist in the development of data transmission networks, as does the classic problem of the separation of activities between the CTC and ENTEL. In analyzing potential solutions to this problem it is important to recall that subsidies from long distance to local calling continue to exist. A second factor worth considering is that the maximum rates ENTEL is authorized to charge for transmission services provided by the CTC, while complying with the costs established in prevailing legislation, do not represent the maximum effective rates given that ENTEL currently utilizes technology which makes it possible to provide those same services at lower rates.

The attitude of government officials in responding to this type of conflict should focus on ensuring that participating companies do not acquire monopolies. If the market is left to act for itself, any over-investment which may occur in the industry should not be a problem; moreover, this may be the best path for bringing prices down, should companies with maximum rates set beyond the bounds of what the market will bear fail to react in time. The alternative -- reconsidering a separation of areas of activity on the grounds that duplication of investment will reduce efficiency -- may, in the long run, hamper development by providing excessive protection to industry companies.

CHART 12

STATE PARTICIPATION

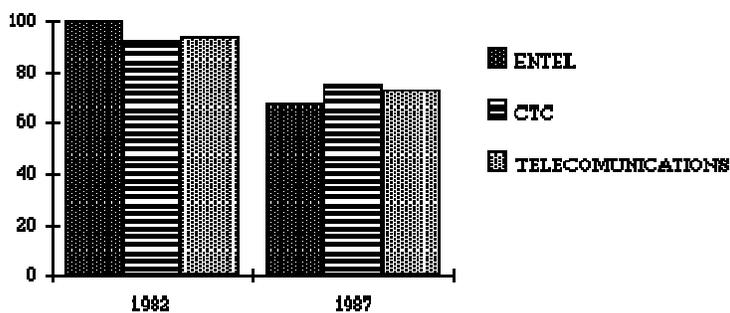


CHART 13

CTC SHARE HOLDERS

(December 1990)

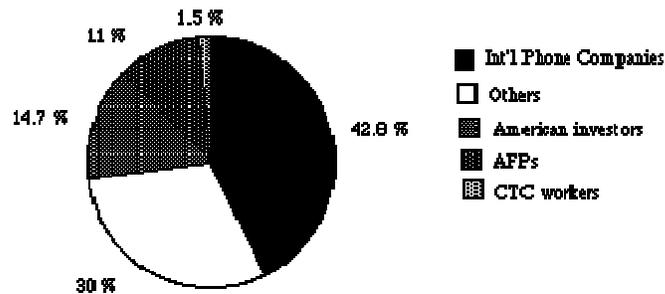
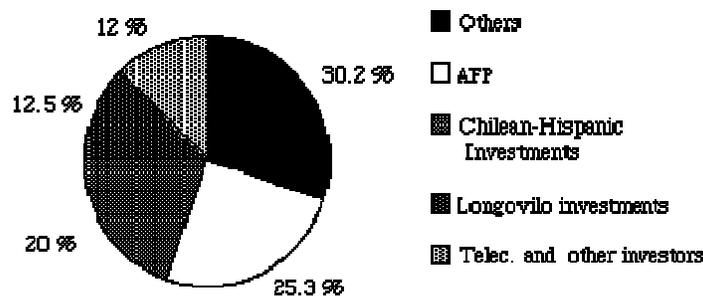


CHART 14

ENTEL SHARE HOLDERS

(December 1990)



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Notas :

1 The Thompson Project, approved in 1977, consisted of installing 168,000 lines.

2 Pending applications for phone lines totaled between 110,000 and 230,000 lines for the period 1982-1987 but overall demand was much greater.

TRANSPORTATION INDUSTRY

JORGE ASECIO F.

I. INTRODUCTION

This chapter covers solely maritime, harbor, air and railroad transportation, while highway, cargo, passenger, urban and suburban transportation is not included here given the broadness of the subject and a tradition of private participation for such services.

With the emergence of the military government and particularly as of 1975, the development strategy launched in Chile required a transport system capable of facilitating the achievement of economic objectives both domestically and on the international level. Given Chile's geographical location and its relative distance from the world's key markets, the debate over international transportation was of particular relevance.

No doubt, the majority of the modifications implemented in the area of transportation were radical -- particularly those dealing with Chile's port system. Nonetheless, it is important to note that, in some cases, certain segments of the modernization plan were not fully implemented, as was the case of with the privatization of the operations of port facilities and railroads. This failure to privatize may have a specific impact on these industries in the future given that they have reached operational levels where it is impossible to expect increased productivity solely through normative changes. Today, the challenge is to engage in large-scale investments (which the private sector is capable of) and establish a legal framework under which these investments can flourish.

Special consideration should be given to modernization of the ports which, although partial, has made it possible to save important quantities of resources. It is important to note that in 1973, Chilean ports were so crowded, that ships had to pay between 60,000 and 80,000 dollars in demurrage. Moreover, consideration was given to building new berths in the Valparaiso - San Antonio corridor to abate the chronic overcrowding ("bunching"). Nevertheless, with the implementation of the reforms, said ports are today in a position to move more cargo with fewer berths than those available in 1973 (the earthquake of 1985 partially or completely destroyed several moorings). In addition, in the case of some products, savings equal to moving Chilean ports significantly closer to the destination of certain types of merchandise is achieved by facilitating departure from domestic ports (typical distances for wood are over 10,500 kilometers whereas Chilean fruit products frequently travel some 3,500 kilometers).

The success of the changes implemented in Chile's ports, both in terms of labor relations and the operation of the state-run port company, was made possible

thanks to the compensation granted to the workers who had a monopoly over the port activities. As a result, a setting was prepared in which the private sector would take responsibility for port operations and actions by the government-owned port company would be strongly restricted.

In terms of sea, air transport and port operations, the modifications introduced into the legal framework sought to establish an essentially competitive system and open the system to the participation of the private sector in each field of transportation services. Special emphasis should be placed on the application of the principle of reciprocity in international transport (air and maritime), which served as the foundation upon which the juridical framework for the area was built. Moreover, it is important to note that initially, in these two cases, the legal modifications introduced were much more rigorous than those in force today. In any case, one could say that, on balance, the institutional regulations instituted in each sector safeguarded a highly competitive system while providing tools through which Chilean companies could consistently compete with foreign enterprises in the fields of maritime and air transport.

In the development process of the air transport sector, the lack of business groups charged with administering existing facilities was evident. Moreover, these facilities continue to be managed by the Central Government through a semi-decentralized institution which answers to the Chilean Air Force.

Important aspects of the modifications introduced as of 1975 were the privatization process (still unfinished) and the dissolution of firms that were state-owned (or nationalized during the Popular Unity government). This process made it possible for the private sector to play a decisive role in providing transportation services, either through privatized companies in some cases, or by creating new companies. In addition to the necessary juridical framework, assurances needed to be provided to private investors that the Government, through its companies, would not compete disloyally with them, as had been a tradition in Chile in recent decades.

Progress was also made in the railroad industry, where efforts were undertaken to "rationalize" organizational structures, focus the state-run company's activities (on those most appropriate for such an entity) and seek to identify areas where the firm had comparative advantages. Furthermore, the private sector was introduced -- however incipiently -- into the area of railways, particularly insofar as maintenance, equipment repair and infrastructure were concerned. Unlike other transportation industries, no modifications to the legal framework governing the industry were introduced in order to achieve the goals which had been set. This may well be why the efforts to "rationalize" the firm were relatively successful while the efforts to project an efficient enterprise, with significant private participation (either directly or through railroad operation companies) was less productive.

Lastly, we should note that one of the most important limitations the author confronted in preparing this study was the lack of quantitative and qualitative statistical information dealing with the aforementioned objectives.

II. AIR INDUSTRY

The origin of commercial domestic air transport dates back to March 5, 1929, when the president of the country, General Carlos Ibañez del Campo signed the deed that inaugurated the Santiago-Arica Mail Airline. Three years later, Decree-Law 247 was passed creating the National Air Line (Lan Chile). Commander Arturo Merino Benitez, the project's true architect, served as the company's first Vice President.

In addition, a Civil Aeronautical Board (Junta de Aeronautica Civil, JAC) was created at the initiative of the Chilean Air Force. Thus, on October 30, 1941, the Air Counsel, led by Arturo Merino Benitez (who by that time had been promoted to the rank of General), recommended the creation of a civil organism, charged with organizing, developing and controlling civilian air services. This proposal materialized in 1948 through decree-law No. 42. The JAC served an exclusively administrative role through 1953, at which point it placed under the jurisdiction of the Ministry of Defense.

As of 1953, the JAC was empowered to authorize domestic traffic services, so long as Lan Chile was consulted in advance. As one can imagine, from this date Lan Chile enjoyed a privileged position that far outstripped that of any other service. This situation was not rectified until 1978, when justifies to domestic traffic service were granted to all Chilean domestic companies. Furthermore, in 1979, traffic within Chile was deregulated and foreign operators were authorized to compete on domestic routes (such concessions were based upon reciprocity justifies).

In any case, Statutory Decree 241 of 1960 established the responsibilities and attributes of the Civil Aeronautics Board, tasking the organization with the following:

- Direct Chile's commercial aviation.
- Develop a general plan for airports, airfields and installations in an effort to facilitate and protect air navigation.
- Distribute and allocate, in accordance with the plan mentioned above, the resources required for the construction, maintenance and modification of airports and airfields.
- Inform the Ministry of Defense regarding fees and duties to be charged for the use of airports and airfields.

- Authorize the establishment of air transport services within Chile's air space.
- Regulate traffic capacity and approve the frequency of flights of commercial air navigation services.
- Formulate proposals on rates for air transport for review by the nation's President.

The legislation passed in 1960 also called for the administrative oversight of the JAC to be transferred to the Ministry of Economics, Development and Reconstruction, through the Under Secretariat of Transportation. Subsequently, law 16,723 of 1967 shifted responsibility for both the Under Secretariat and the JAC to the Ministry of Public Works which was to be known as the Ministry of Public Works and Transportation. In 1974, a separate Ministry was created to handle transportation issues (decree law 557) and the activities performed by the Under Secretariat and the JAC were shifted to the domain of the newly-formed Ministry of Transportation.

One of the JAC's primary responsibilities is to define and seek to ensure proper implementation of Chile's domestic air traffic policies. Thus, as of its creation, two periods can be identified: the first, from 1948 to 1979, was characterized by ample powers for regulating the commercial air market; while the second, dating from 1979 to the present, has been characterized by a restricting of the powers granted to the JAC as increased regulatory responsibility has been granted to the marketplace on the basis of supply and demand.

In terms of international services, from 1948 to 1964 the only international route handled by Lan Chile ran between Santiago and Buenos Aires, Argentina. As a result, individual agreements with foreign companies were signed to provide such services. During the period 1964 - 1979, Lan Chile increased its international services and successfully lobbied government officials into restricting the operations of foreign carriers, including per-flight quotas for both passengers and cargo.

In 1977, administrative measures were adopted aimed at easing cargo restrictions affecting foreign carriers. Subsequently, the JAC took additional administrative steps to free up Chilean international air travel by adopting a policy of approving all new applications for passenger services, unless Lan Chile could demonstrate conclusively -- within a week -- that such services would be detrimental to the state-run airline. Thus, the framework for the deregulation of Chile's air travel was cast.

A year later, on December 5, 1978, two pieces of legislation were approved (Decree Laws 446 and 459, respectively) which granted complete freedom in establishing rates for international air cargo and passenger services between Chile and other countries.

Just six months later, on June 22, 1979, a decree was issued to revise the regulations on commercial aviation contained in the legislation approved in 1931 and 1960 noted earlier. The new decree called for restrictions on access to the market to be lifted and granted freedom to establish fare schedules. Furthermore, the JAC was empowered -- in accordance with internationally accepted norms -- to restrict access to the Chilean market by airlines representing nations which limited access by Chilean carriers to their airspace (the so-called "principle of reciprocity") and establish tariff schedules for those international routes where price freedom was not possible as a result of the price setting policies of foreign powers.

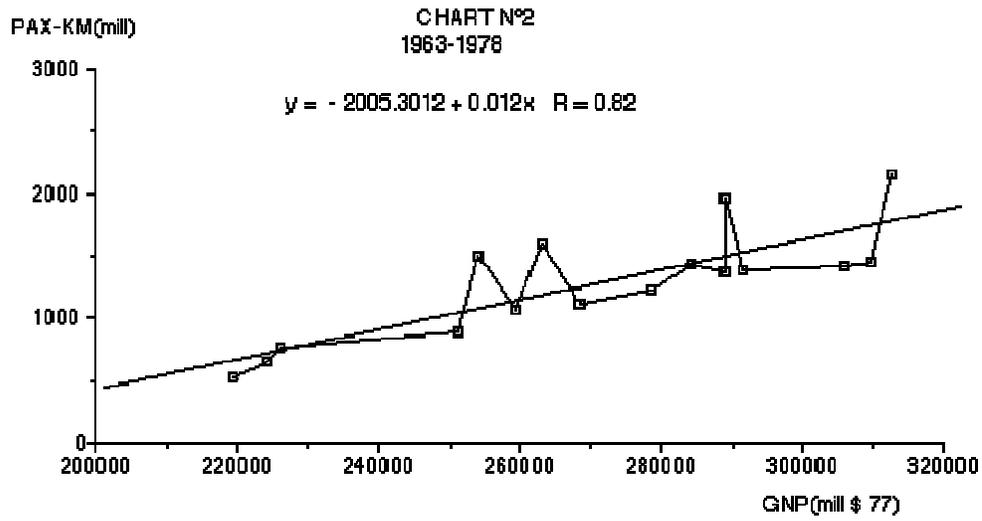
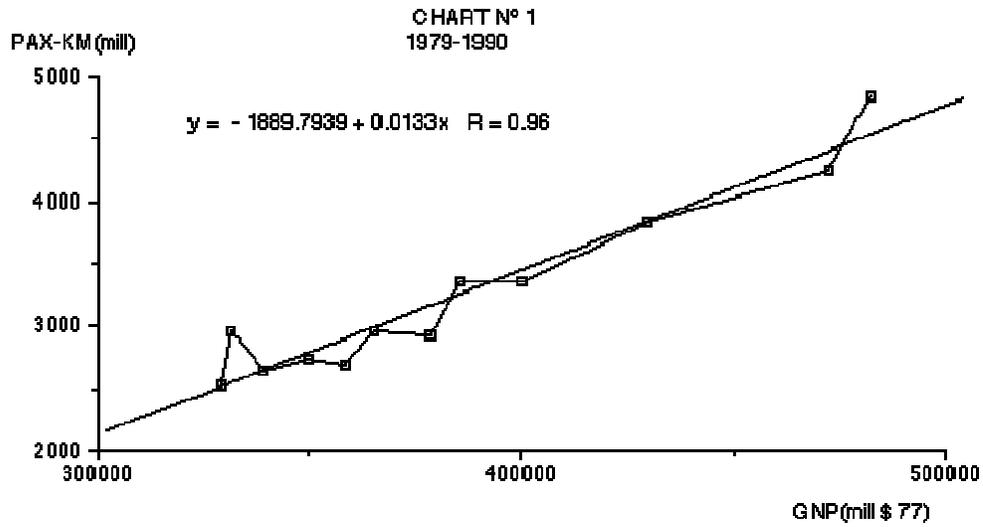
Thus, as of 1979, the Civil Aeronautics Board was charged with:

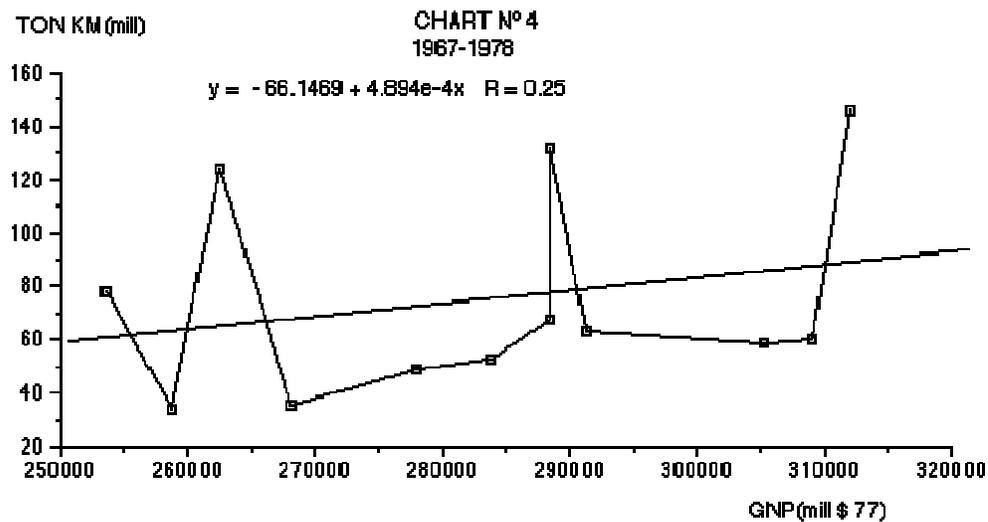
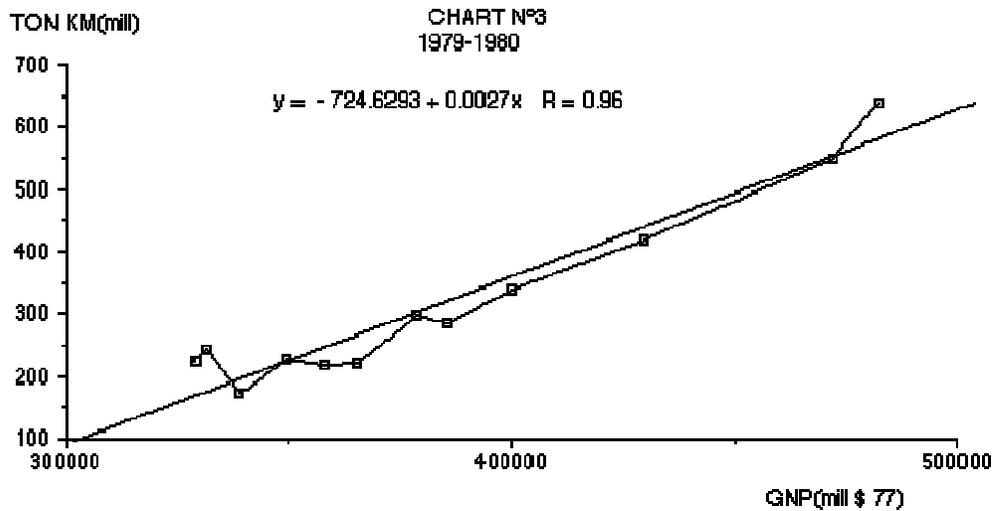
- Directing Chile's commercial aviation and administering related policies.
- Representing the Chilean Government before international organisms.
- Participating in negotiations and the preparation of international agreements on commercial aviation.
- Classifying the level of reciprocity awarded to Chilean carriers by foreign countries.
- Establishing international flight time schedules through a process of public bids.
- Setting international airfares in cases stipulated by existing legislation.
- Maintaining a record of fares on routes with unrestricted fare schedules.
- Establishing and ensuring compliance with insurance requirements for commercial aircraft.

A subsequent modification to the legislation (Law 18,063 of November 23, 1981), sought to strengthen certain elements of the JAC's powers in an effort to enhance the Board's ability to negotiate airspace justifiably with third countries. As of that date, the JAC's attributes have not undergone further modification.

It is important to note that a nation's justifiability to commercial airspace is determined by what is known as "freedom of the air." As a result, individual nations can define the level of access to their airspace granted to foreign carriers. Chile's new policies sought to open additional markets for the nation's airlines by negotiating bi-lateral reciprocal treatment agreements.

These policies have led to a steady rise in demand for international air transport services in recent years, as can be seen in the following charts:





Clearly, the indicators which best represent "production" levels in the air transport industry -- that is, passengers and tons transported per kilometer -- are only slightly dependent on GNP (in constant terms) in the years prior to 1979. As of that date, the data indicates a much closer relationship between GNP and production.

This phenomenon can be explained, at least in part, by the restrictive policies in place prior to 1979 which kept Chile's commercial air industry from playing an effective role in the nation's development. This situation was further exacerbated by the economic conditions which prevailed in Chile through 1975. Furthermore, the growing trend for a closer relationship between GNP and production indicates a process of continual adjustment in both supply and demand. These adjustments are the result of an overall improvement in competitive conditions for air transport (in terms of both fares and technology) and the effective use made by customers of available flight offerings.

The burgeoning of new service companies in the marketplace, combined with the incorporation of newer, more modern aircraft into the airline's fleets, has made it possible to meet demand at a lower cost (on average) which in turn has secured and bolstered existing demand for air travel and cargo services.

Chile's international air travel is characterized by long trips and intermediary stops are obviated as much as possible, a boon for passenger comfort. Moreover, technological developments in commercial aviation around the world have brought high-capacity, low cost aircraft on-line whose state-of-the-art engines have made it possible to overcome rising fuel costs, a critical factor in air transportation. Another important aspect of the Chilean market is its reduced size. Thus, the nation serves as a terminal (or "end of the line") for many carriers. Although the advantages of this unique situation is quite obvious for users, it does tend to hamper the activities of domestic airlines.

These and other market characteristics led the Chilean government to implement a policy which would allow for competition among airlines. As a result, flight frequencies have increased, services are provided at a lower cost and a multiplicity of routes connecting Chile with the world has blossomed. (yes, Peter, that is a "carril" of my very own).

The results of the new policies are clear: in 1964, 14 foreign carriers serviced Chile. By 1991, over 32 companies were offering a wide variety of regular services and a plethora of tariff schedules for travel between Chile and other nations.

1. AIRLINES

Decree Law 3 of 1969 (which modified laws 10,645 and 15,334 and repealed DFL 305 of 1960), created a legal framework known as an "Organic Law" for the formation of the Línea Aérea Nacional - Chile (LAN Chile). This legislation further noted that:

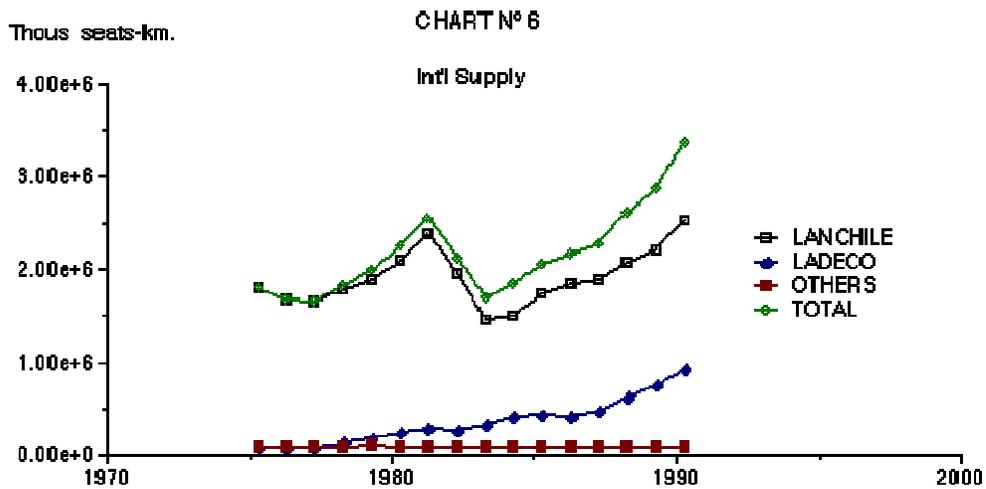
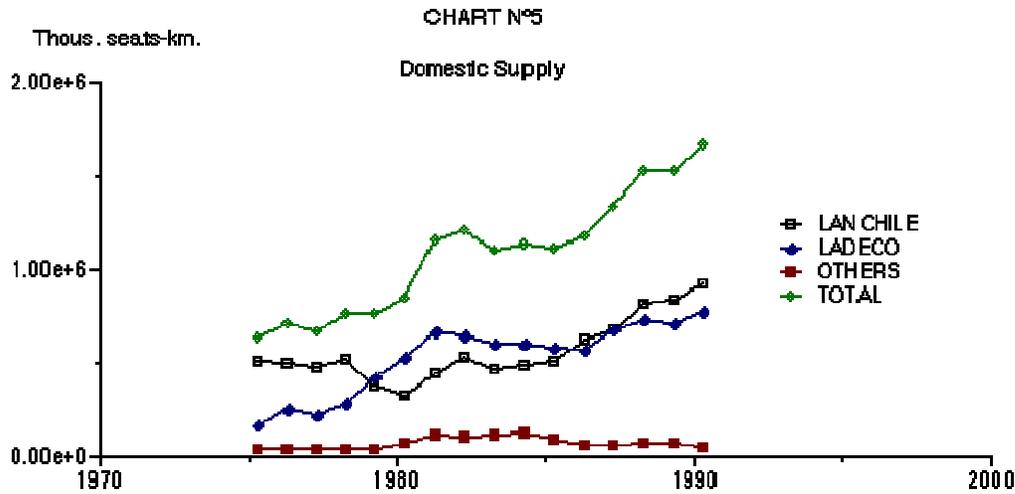
- The government was to act as a broker to ensure air transport between different points within the country and abroad.
- The nation's yearly budget was to include an allocation aimed at covering the operations deficit of LAN's domestic and international routes.
- LAN Chile was exempted from all national and local taxes.
- Prior to the discussion of international agreements on air transport or any other action requiring new permits to be issued or extending existing authorizations for engaging in commercial air operations within Chile, the opinion of LAN Chile had to be requested.

- Officials from all public, semi-public, administratively autonomous and municipal bureaus were required to purchase their tickets on LAN Chile. This rule was also applied to representatives of other state-owned firms. Furthermore, air cargo belonging to these agencies or individuals was also required to be transported by the national airline.

With time, the company's "organic law" was subjected to political manipulation as a series of administrations further stipulated the services LAN was required to offer, regardless of cost, thanks to the government's ability to allocate the necessary resources during budgetary process. These conditions, in conjunction with managerial procedures which failed to reflect the firm's level of efficiency, led LAN to accumulate losses of US\$74 million. This drain on the national budget, combined with the lack of managerial flexibility, persuaded the government of the need to formulate a new legal structure for LAN Chile and completely re-organize the firm.

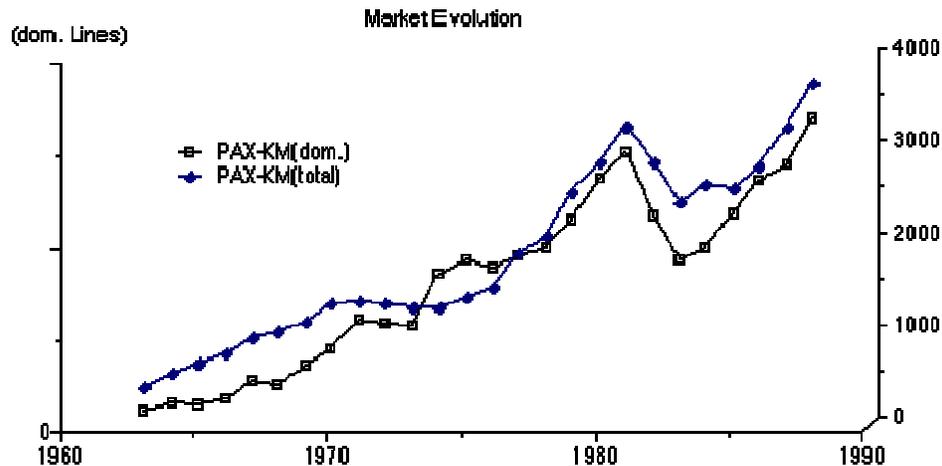
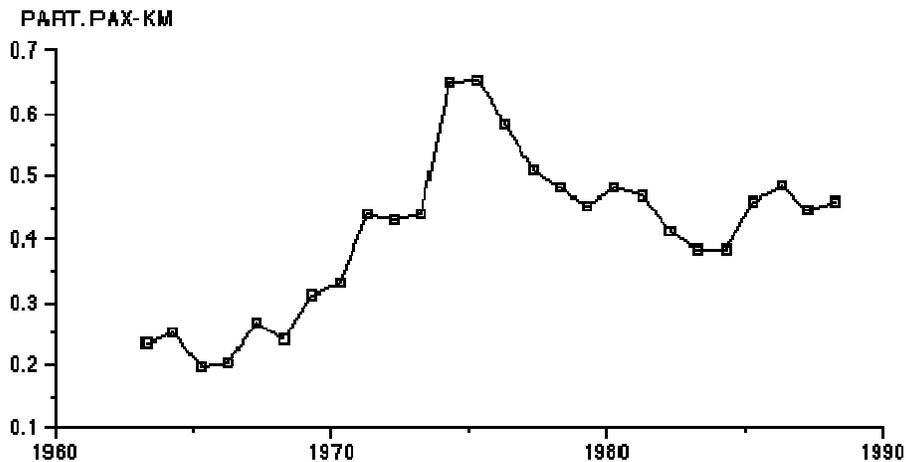
In 1985, legislation was approved calling for the state-owned autonomous firm responsible for administering LAN Chile to be transformed into a private company. In December of 1988, further legislation was approved which repealed the requirement that CORFO retain a 40% share of the company's capital. As a result, the privatization process of Línea Aérea Nacional S.A. was initiated with the sale of 15% of the company's shares to its workers. At present, the State retains a minority share in the company which, in the view of this author, is wholly unjustified in practical terms.

Furthermore, the end of Lan-Chile's monopoly made it possible for private companies to become active in undeveloped or poorly developed areas. Companies such as AERONOR, ASA, AERPAMDOMA, T.A.C., AERO GUAYACAN, AEROVIAS DAP, AEROSANTA were born and others, such as LADECO, were strengthened. Only those firms utilizing good business principles and strategies were able to remain in operation, as was the case with LADECO (Líneas Aéreas del Cobre). The evolution of the participation of domestic carriers in air travel over the last 15 years can be seen in the following charts (Charts 5 and 6):



In addition, the evolution of the participation of domestic carriers in international traffic is reflected in the charts provided below (Charts 7 and 8). As is clear from the data presented here, in recent years there has been a trend for this participation to level off at between 45% and 50% of this rapidly expanding market.

CHART N°7
Participation of Domestic Companies over
total Passengers (Pax) per Km



2. EVOLUTION OF FARE SCHEDULES

a. International Market

IATA, an organization created under the auspices of the International Civil Aviation Organization (ICAO, a United Nations agency), to assist in the organization of international air travel has divided the world into three large traffic zones. Each of these zones is in turn divided into regions and sub-regions with coordination systems among them. Thus, Traffic Zone 1 (The Americas) is divided into four regions, including South America (1D), within which a sub-division has been formed to cover Argentina, Brazil, Chile, Paraguay and Uruguay (known as sub-region 1D2).

The aforementioned agencies have developed a concept of fare schedule that calls for the "prices to be charged by the air transport company or companies [to]

be established at reasonable levels, with due consideration being given to assessment factors, including costs of development, service features, commission rates, a reasonable level of profit and fares applied by other air transport companies".

Furthermore, the objective of Chile's new air transport policy

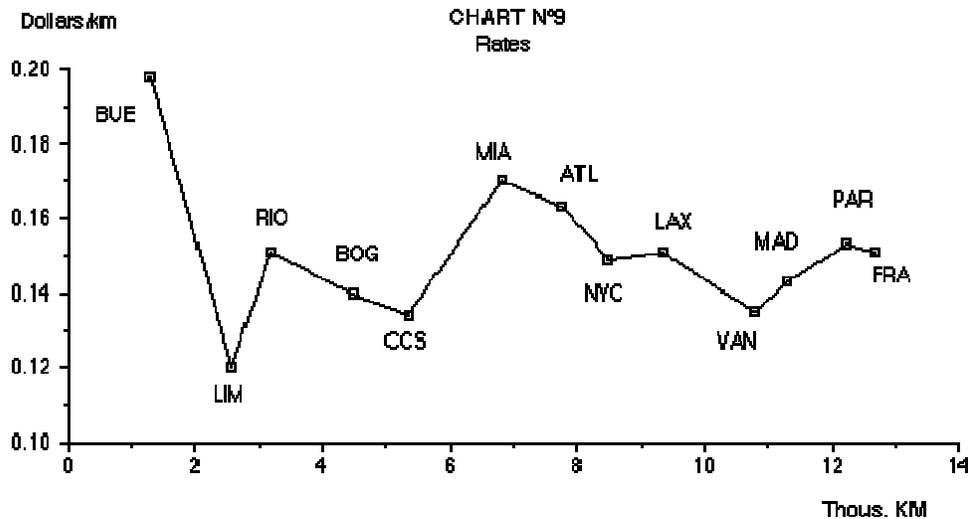
was to obtain the largest possible number and variety of quality passenger and cargo transport -- both within its territory and among other countries-- at the lowest possible fare. In an effort to achieve this goal, the Commercial Aviation Law -- approved in June of 1979 -- called for the complete deregulation of passenger and cargo air transport rates, domestically as well as internationally, and granted carriers the justify to charge the prices they deemed most appropriate for their services.

Within this competitive framework, there were strong incentives for an increase in the participation of the private sector in air transport. For example, the tremendous distances between Chile and the majority of its trading partners mean that there is a high demand for seats and tons per kilometer, the two standard measures of air transport "production."

Therefore, the greater the distance, the greater the need for equipment. However, as noted earlier, Chile's location at the end of most carrier routes presents a competitive disadvantage for domestic airlines. This is particularly true of European airlines which stop over in Brazil and Argentina or U.S. firms which stop in countries en route (or utilize the U.S. as a transfer point toward other destinations).

Another important element which affects real costs, and therefore the development of the participation of a variety of airlines in the international market, is the direct or indirect support granted by certain foreign legislation in an effort to foster or discourage traffic originating or terminating in Chile.

As a result, it is particularly illustrative to review the fares recommended by IATA for coach class travel between Chile and other destinations. The fares shown in Chart 9 are given in U.S. dollars per kilometer. Naturally, costs are higher for destinations where demand or protectionist policies make it possible to charge higher fares. The effects of demand and monopolistic positions for some North American and European cities are clearly shown in the following chart:

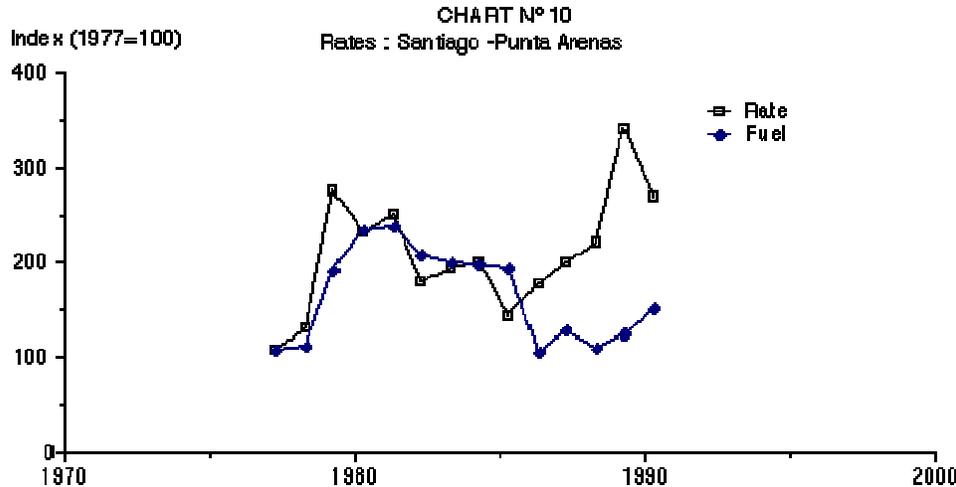


As can be seen, there is a tremendous difference between the per kilometer fares for cities located farthest from Santiago and those located closerby. Clearly, the cost per passenger-kilometer is lower when the distances are greater. This situation leads to a wide variety of promotions aimed at reducing IATA recommended fares. Whenever such reductions are made, effective competition in the international air transport market ensues.

b. Domestic Market

An analysis of the historical evolution of domestic fares shows a trend toward monopolies through such elements as fare differentials for the hub of large domestic carriers as well as their itineraries. For example, the difference in fares on routes costing between \$30,000 and \$60,000 pesos is some \$100 despite the fact that the itineraries are practically the same. Although it is clear that in a market economy fares and service quality will tend to level off, such conditions do not guarantee that "duo-polis" (a monopoly of two companies) situations will not arise (it is particularly difficult to document and contest these situations). Thus, it is of crucial importance to seek to ensure expedient access to the market by additional operators and to create oversight agencies charged with imputing monopolistic abuse.

Chart 10 shows the historical evolution of fares between the cities of Santiago and Punta Arenas. This route tends to be fairly self-contained for domestic airlines and therefore reflects real costs better than many others.



An illustrative response to the situation presented in Chart 10 was the incorporation of SABA AIRLINES into Chile's domestic marketplace at prices substantially lower than those of traditional airlines. On this matter, it is important to note that the argument of early supporters of an opening of Chile's air travel market who noted that, in such a small market with a constant rate of growth, small companies will tend to grow in the medium term. As this growth occurs, space will once again be made available for the emergence of additional small airlines to cover new routes as well as those abandoned by expanding carriers. Thus, these smaller companies can be expected to play an important role in regulating the market, particularly while they remain small.

Another important feature affecting the industry today is the lack of business-oriented entities capable of financing, constructing and managing air infrastructure, as well as a noteworthy void in regulations which would allow for these responsibilities to be assumed by private industry.

3. CONCLUSIONS

The policies implemented in the air transport industry as of 1974 have been highly successful in achieving their goals, namely, providing efficient, low-cost air services to the country, increasing flight frequency and having the industry serve as an effective aid for the nation's economic and social growth while ensuring truly efficient growth among domestic carriers.

Nonetheless, international air transport continues to operate under protectionist policies implemented by foreign governments in an effort to provide benefits to local carriers. However, the impact of these policies is negative for both the local and complementary markets (such as Chile's).

In any case, Chile's domestic air policy and regulatory instruments alone do not provide sufficient protection against the effects of protectionist policies applied by

other nations in the local marketplace. Therefore, it is important that Chile continue to strive to open additional markets rather than contribute, however unintentionally, to their closing.

As noted in this chapter, the historical evolution of air traffic in Chile demonstrates quite clearly the disastrous effects of the participation of a state-run company in the market for air travel, given that such agencies tend to become a political instrument for the administration in office at any given time. Moreover, the Chilean Air Force -- despite its initial role as a champion of commercial air navigation -- currently plays an excessively active role in the formulation of regulations on commercial air traffic and in the management of airports (which should justifiably belong to civil authorities) and competes directly with private industry by providing commercial passenger and cargo services.

III. RAILROAD INDUSTRY

1. HISTORICAL BACKGROUND: 1851 - 1978

In 1851, twenty five years after the first passenger train in the world started to run between Stockton and Darlington in England, railroad activity commenced in South America with the inauguration of a train line between the Chilean cities of Caldera and Copiapó. As of that date, construction of a rail network moved forward quickly, thanks to the initiative and drive of the private sector.

As a result, in 1862 the first regulations were drafted to control railway use and called for free access to the industry to be granted so long as minimal safety conditions were met which were compatible with the development of rail transport for cargo and passengers.

In 1884, the Chilean State became active in the railroad industry through the creation of the Empresa de los Ferrocarriles del Estado (State Railroad Company). The new entity was charged with the management, operation and development of Chile's railroad system. At that time, legislation was also approved stipulating that companies providing railroad services would, in general, not be exempted from taxation. However, any such exemptions that might be implemented were to be equally applied to all companies, including the state-run firm.

Several years later, in 1889, the state company began to benefit -- with what would prove to be a spiraling series of government-mandated advantages -- from legislation requiring municipalities receiving funding from the central government to provide the State Railroad Company with drinking water, free of charge.

In 1922, duties began to be charged on merchandise imported or exported by train. However, government merchandise, or that transported by the state-run company were expressly exempted from these payments. Furthermore, a

process of State intervention commenced with the establishment of rates for train-related services in an effort to cover the operating expenses of the most inefficient company (the state-run firm). Private companies were barred from charging lower rates. Therefore, the combination of duties on transported merchandise and price setting created a system which openly discriminated against the private sector in this industry.

It is also important to note that, from its inception through the 1940s, railroad activities in Chile retained a semi-monopolistic role in the transport industry, competing solely over long distances with maritime transportation. Furthermore, Chile's railroads played a crucial role in the settlement of the Southern part of the country, in the development of mining and as a fundamental means of surface transportation.

In 1937, in an effort to extend services South from the city of Puerto Montt, the State railroad company created the Servicios Marítimos de los Ferrocarriles del Estado (State Railroad Maritime Services), which, in 1953 was transformed into the Empresa Marítima del Estado (State Maritime Company), known as EMPREMAR. During that same period, Ferrocarriles del Estado (FF.CC) built a chain of hotels throughout the country which later were passed on to CORFO, creating what was called HONSA.

Following the Second World War, however, the explosive development of the automotive industry destroyed the quasi-monopolistic privileges of railroad transport. This trend was particularly strong between 1955 and 1965, at which time the Pan American highway was constructed, running parallel to the railway network and linking the country from North to South.

By the time the use of the automobile became widespread, the State railroad company had expanded to enormous proportions and had an organizational structure which was quite impossible to sustain under the competitive conditions emerging in the transportation industry. The company ran a consistent and progressively higher deficit, forcing the State to absorb the losses through subsidies. In practical terms, such financing protected the company from outside competition and made it unthinkable to try to adapt the firm to the new market conditions.

In 1960 legislation was approved which sought to redefine the state-run railroad's organizational structure, identify its objectives, obligations and attributes as well as the relationship between the company and the government, including payments to the latter.

From 1960 through 1973, the railroad was considered a public service company and its investments, as well as its operating deficit, were financed by the State. Between 1972 and 1973, the number of railroad employees reached its historical peak, totaling almost 28,000.

The application of a severe and systematic misconception of the role of a public service company resulted in a consistent deterioration in the company's economic and managerial conditions.

In 1973, the new government initiated a process aimed at rationalizing the services provided by the state-run company. This process commenced with a drastic reduction in personnel -- the number of employees fell from its all-time high of 28,000 to 15,000 by 1978 -- and continued over a period of several years, culminating with the definitive suspension of government subsidies in late 1978.

The rationalization process produced an immediate improvement in management; employee productivity rose from 178,600 traffic units per worker to 196,500; the management factor (the ratio between total income, excluding government contributions and total expenditures, excluding retirement costs) increased from 0.53 to 0.80, and the operational coefficient (the ratio of income to expenditures) rose from 0.54 to 0.84.

These advances notwithstanding, the company's level of indebtedness -- which had totalled 53.1 million dollars in 1974 and was subsequently reduced to 36.8 million in 1976 -- again expanded for a total of 44.4 million dollars in 1978.

As noted earlier, the government initiated a drastic program aimed at reducing railroad subsidies and, as of 1979, eliminated these payments completely.

2. ELIMINATION OF GOVERNMENT CONTRIBUTIONS: 1979 - 1991

In 1979, a new era commenced for the Empresa de los Ferrocarriles del Estado when, for the first time, the company began operations without government contributions or compensation of any type. Neither its assets nor its liabilities, or its over-sized investments, number of employees and size of its network -- which together accounted for a 50 million dollar debt -- were to continue to be financed by the State.

As of that date, the company was forced to operate within the framework of a free market economy in which the most efficient allocation of resources was achieved through market mechanisms.

In order to facilitate the new operational procedures, the State agreed to eliminate the factors which distorted market-based allocations in the transportation industry. The most important change in this regard took place in the area of the commercial use of railroads (for cargo and passenger transportation) which, up to that time, had been made available to users practically free of charge.

Moreover, a variety of employee benefits and taxes, as well as the legal obligation to provide certain services, weighed heavily on the state-run railroad's ability to operate efficiently.

By eliminating government contributions, an effort was made to force the management of the FF.CC. to investigate ways of reducing its size and focusing its efforts solely on profitable areas and services.

Toward this end, a Master Plan was formulated which established the dimensions of the new company, determined its operation criteria and made a series of recommendations on a variety of aspects of railroad management.

To order to achieve financial stability, the following measures were taken:

- Efficient organization of the staff.
- General downscaling of the other resources.
- Sale or transfer of extraneous assets.
- Implementation of modern, dynamic and flexible commercial actions.
- Strict control over expenditures.
- Transfer to private companies fields of activity which did not pertain directly to transportation or which would provide substantial savings to the company if they were sold off.
- Legal and managerial rationalization of the company.

The implementation of these procedures established a solid framework for additional measures such as:

- Closing down non-profitable branch lines.
- Establishment of temporary routes based on demand.
- Elimination of steam engines still in operation on the Southern railways.
- Reconditioning of engines and cars.
- Creation of an agency charged exclusively with handling passenger service.
- Staff cut-back from 15,000 to 7,500 employees.

- Adjustment of rates and fares to reflect market prices, despite a lack of complete deregulation in this area.
- Elimination of passenger service from the capital to the far Northern reaches of the country (1,800 km. of railroad).
- Creation of services such as the Autotren (trains which transport automobiles as well as passengers) and lounge-cars with small areas for video shows.
- Remodeling of sleeping cars.
- Restoration of a large quantity of other equipment.
- Computerized system for ticket reservations and sales.

Chile's economic boom, from 1979 through 1981, and the measures mentioned above generated positive results and the operational ratio rose to an average of 0.91 during those years. However, as of that date, the ratio experienced a decline which bottomed-out at 0.69 in 1985.

By December 31, 1985 the total debt of Empresa de los Ferrocarriles del Estado reached approximately 105 million dollars, derived primarily from loans obtained to compensate personnel for lay-offs and the operational deficit which had accumulated prior to 1979. Another important element of the debt was credits extended by suppliers in an effort to help finance modernization plans. This meant that the FF.CC. not only had to make payments on such installations and equipment -- which by market standards were not always profitable -- but also cover, at times, excessively high costs for capital and equipment maintenance.

Railroad transportation policies as of 1979 focused on modifying the conditions and operational policies of the FF.CC. in order to make its management more efficient, balance the budget, eliminate the accounting deficit and obtain real benefits from the State's extensive investment in the industry. Moreover, in order to implement the principle of a subsidiary role for state-owned companies and introduce flexible, efficient business management strategies and criteria, the company had to abandon its policies of self-sufficiency and transfer the supply of goods and key services to the private sector.

Despite the changes in policy, by 1985 the state-run company was still far from achieving the goals established by the Master Plan. It is important to note that despite erstwhile efforts to organize the company efficiently, the measures taken proved to be insufficient and a cash flow balance was never achieved. Furthermore, prices for transportation services were artificially depressed as a result of Chile's economic crisis and government subsidies to the railroad's direct competitors: commercial trucking.

This situation underscored a variety of problems existing at the time (many of which still prevail) such as:

- Low traffic densities resulted in less than optimum use of Chile's railroad system. This was true even for lines with the heaviest traffic frequencies and resulted in inordinately high per unit fixed costs.

- A total lack of maintenance of infrastructure and, in many cases, of tractor and rolling equipment seriously restricted service options. Thus, further development of railroad traffic was hampered and in some areas even became unsafe.

- The infrastructure technology, including tracks, signaling controls and traction energy, dated back to the 1st half the 20th century for the most part of the network. This clearly out-dated equipment restricted service features, operational efficiency, and to a certain extent, safety.

- Nevertheless, in some areas, investment had been made in installations which greatly exceeded historical and current traffic needs. Such investment represented a tremendous potential for increased profitability, although a clear imbalance existed between overall capacity and the real levels of cargo and passengers those lines were in a position to handle.

- The company had accumulated a large number of unproductive and extraneous assets.

- As a result of these and other factors, the level of quality of railroad services -- particularly passenger services -- was severely diminished. It is important to note that such services have never covered their costs and require substantial investment in infrastructure, moveable materials and a sizeable staff.

- Despite tremendous improvement in the reliability of services during this time period -- particularly in the areas of cargo and adapting to users' needs -- a huge gap continued to remain between quality and reliability. Clearly, both elements are required in order to satisfy current demand and compete successfully in the transportation marketplace.

- As noted earlier, rates for passenger travel and cargo were depressed and were therefore highly unstable. This meant that traffic patterns and rates could not be consolidated and users were alert to the probability of frequent changes.

Undoubtedly, the changes resulting from the new transportation policies enacted as of 1974 took place faster and more markedly in railroad services than in any other transportation field. The State-owned company, which engaged in the lion's share of the industry's activities up to that time, saw State contributions plummet from some US\$122.8 million in 1974 to zero as of 1980 while its personnel was markedly reduced. The operational savings which made it possible for the

company to get by without government subsidies came, for the most part, at the expense of salaries and a noteworthy reduction in maintenance costs, achieved through both greater rationalization of expenditures and postponement of non-crucial procedures.

Moreover, it is important to note that the process was not perceived by government officials as an opportunity to rationalize the company and enhance its financial standing through mechanisms provided by the central government. Rather, an emphasis was placed on imposing financial restrictions in an effort to force the company to eliminate unprofitable operations and sell off idle assets to reduce its debt. The savings were then expected to be reinvested in recuperating the firm's infrastructure and moveable materials.

Nonetheless, this strategy never failed to clash, in one way or the other, with the restrictive policies imposed by the authorities themselves, with the lack of legal instruments for executing changes and, frequently, with the lack of willpower among company executives to implement the reforms.

In addition, an important factor in understanding the status of Chile's railroads and their evolution over the last few years, is the unequal treatment the government gave to different modes of transportation as a result of a lack of consistency in development policy. The most important dichotomy in this regard was priority of the government of lowering the cost of highway infrastructure. This funding in effect provided a subsidy to trucking companies which served as a detriment to the railroads. In fact, some studies have concluded that the government's actions at the time added some 15 to 20 million dollars per annum in losses to the railroads books (today, lower figures could be expected due to new fuel taxes established recently). In an apparent effort to off-set these effect, the railway system is exempt from land taxes and it does not pay dividends on the sizeable assets inherited from the government through the privatization process. Nevertheless, these exemptions -- as well as many others -- are also applicable to road transportation and infrastructure for commercial use.

In terms of private participation, recent traditions seem to have been the key factor in the limited success achieved in efforts to increase private investment in railroads. This tradition encompasses the tendency of Chilean railroads toward self-sufficiency and exclusivity as well as the perception that, in general, neither the company nor the State are reliable partners or counterparts for mid-term or long-term business deals. The entry of private companies into the railroad business -- the most important component of the privatization goals -- requires tremendous institutional stability and clear company policies in order to ensure that the "rules of the game" will remain unaltered. Within the FF.CC. and in the management policies established by the government, an emphasis on creating and disseminating this stability has been lacking. Certainly, the company's financial problems have posed an important obstacle to such stability.

Furthermore, the rules of the game between company management and that of the government have not been at all clear. This makes it difficult to consolidate the operational conditions needed to attract potential investors.

In terms of maintenance and the supply of other materials, however, there is a stronger tradition of private participation which has led to satisfactory, although still limited, levels of private activity in this area. Nonetheless, such private firms do not consider business coming from the FF.CC. to be stable enough to justify and guarantee large-scale investments. Clearly, if these investments were to be made, the FF.CC.'s service performance would be greatly enhanced.

The analysis of railroad traffic statistics shows, quite obviously, a gradual and steady drop in the railroad's share of the transportation market. Nevertheless, an increase has been registered in the use of medium-distance trips (although the number of passengers has dropped in the last few years due to the introduction of the Metro-Train). These changes indicate that despite the loss of its position as compared with other means of transportation, the railroad system is concentrating its efforts on those areas where it has the greatest comparative advantages.

CHART N° 11

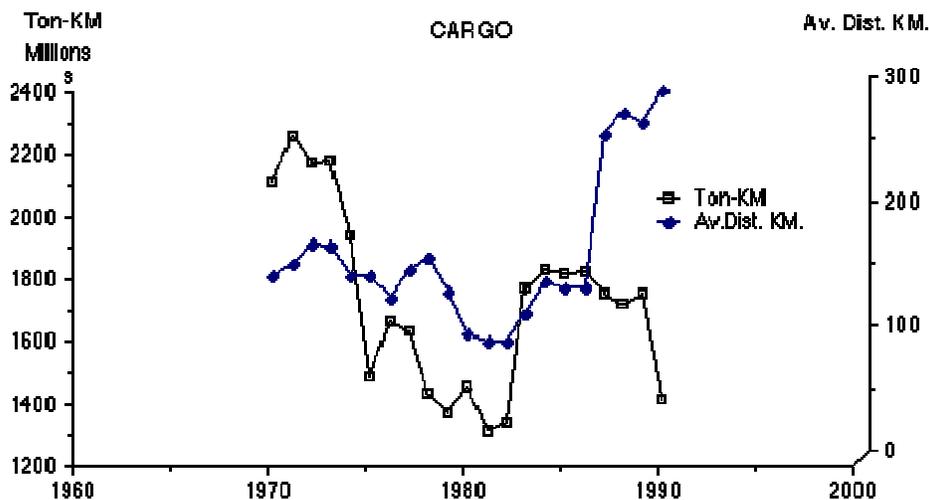
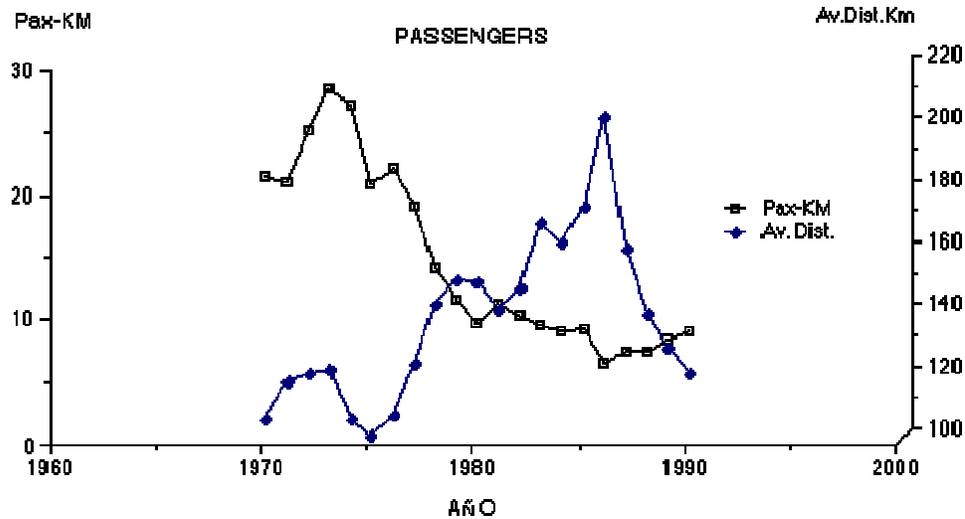


CHART N° 12



3. DEEPENING OF THE FINANCIAL CRISIS: 1986 - 1991

In 1986, Ferrocarriles del Estado owed US\$128 million, its highest debt in history. In 1987, a so-called "Rehabilitation Plan" was introduced and approved by the government in an effort to find a way to salvage the failing industry. In essence, the plan sought to create affiliate companies (by type of activity), generate an investment plan and formulate a program aimed at consigning nonessential assets. During the plan's first year of operation, nonessential assets valued at US\$21 million were sold off.

In 1988, the rehabilitation plan continued and expendable assets totalling US\$22 million were sold. On December 30, 1988, commitment to sell was signed between the Empresa de los Ferrocarriles del Estado (FF.CC.) and the Empresa de Transportes Ferroviarios (Rail Transportation Company or FERRONOR S.A.), a Corfo affiliate, which was implemented once legislation authorizing the sale had been approved. The sale included real estate and other types of property located between the Calera Norte and Iquique stations, including branch lines and services, as well as the stretch between Augusta Victoria and Socompra. This transaction resulted in revenue of US\$37 million and an accounting loss of US\$232 million.

The sale of the FF.CC.'s assets reduced the company's debt from its all-time high of US\$128 million in 1986 to US\$88 million by 1989. Moreover, the State served as co-signer for the firm's commercial bank loans during that time period.

Nevertheless, by 1990, the company's liabilities had once again increased to US\$94 million as a result of the deterioration suffered by tracks and other equipment and a slowdown in the process of selling off expendable assets. This resulted in government expenditures of US\$3.5 million in January of 1990 and subsequent first quarter debt service payments of over US\$9 million. Given that the company is not in a position to sustain expenditures of this size and that the

sale of assets has been suspended by government officials, the FF.CC. will undoubtedly incur additional increases in its liability in coming years.

As a result of these conditions, legislation is currently under study in Chile that would seek to resolve the company's most pressing needs. The bill under review by Congress calls for a reducing the FF.CC.'s liabilities with its own resources, such as the sale of assets; incorporation of financial and technological resources through partnerships with private companies; re-locating human resources through compensation payments; definition of a Strategic Plan every three years; and the identification of common ground for competing fairly with land transportation. If approved, the project under consideration would enable the FF.CC. to retain ownership of existing infrastructure and will seek to take advantage of cargo services. For passenger service in suburban Valparaiso, Santiago and Concepcion, subsidiary companies are to be created in conjunction with Metro S.A. (Santiago's subway).

4. CONCLUSIONS

The efforts undertaken by the previous government to rationalize and organize railroad operations were important, but insufficient. Nonetheless, it is important to recall that government officials under the previous administration never believed that the government should take direct responsibility for solving the company's financial problems. On the contrary, members of the previous administration believed quite firmly that such intervention would serve as a disincentive for the creation of a development strategy for the company which would coincide with the nation's new economic system.

Furthermore, unlike other transportation industries, the legal framework governing railroad operation was not modernized. This has made it difficult to create a system that would encourage private companies to participate in this field of transportation.

The extensive debt accumulated by Ferrocarriles del Estado and its poor operational results require that drastic economic and managerial measures be taken to rectify the situation. Toward this end, the company should make every effort to see that a legal framework is adopted which would allow it to participate actively in a competitive marketplace and authorize the firm to enter into agreements with private companies or sell off portions of its operations.

In addition, modifications need to be introduced into the General Law on Railroads (which dates back to 1925) in order to establish clear rules aimed at facilitating the emergence of private companies in the railroad industry.

Lastly, the bill currently under study in Chile may provide an important instrument for resolving pending problems within the state-run railroad company and for encouraging the private sector to participate in the industry. Nonetheless, in order

to achieve these goals and other goals -- such as an overall strengthening of the nation's railroads as part of a domestic development strategy -- the legislation can be greatly enhanced.

IV. MARITIME INDUSTRY

1. MERCHANT MARINES

1. HISTORICAL BACKGROUND

On June 26, 1956, legislation was passed calling for the creation of a National Merchant Marine (law 12,041). This law, which replaced the so-called Cabotage Reserve Law of 1939, remained in force for 23 years and served as the legal framework for the development of Chile's maritime transportation industry.

A series of measures aimed at promoting the activities of Chile's new-found Merchant Marines were contained in the bill approved in 1956, including:

a. Cabotage (trade within Chilean territorial waters)

- Cabotage was reserved for Chilean ships.
- Any ship registered in Chilean ports, with Chilean owners, captain and crew was considered to be Chilean.
- Twenty percent of the value of ships, tugboats and docks was allowed to be depreciated annually.
- Shipping companies in charge of tugboats, launches and docks were required to allocate a yearly amount of at least 35% of profits toward a special "acquisition fund," which could be utilized solely to acquire buy ships, tugboats, launches, equipment, machinery and other elements destined to active maritime business activities. This fund was tax free. Losses suffered by the companies in any fiscal year could be charged to the savings accumulated in the special acquisitions fund.
- Establishment or modification of cabotage services had to be authorized by the president of the country.
- There were preferential products for ships dedicated to cabotage.
- Rates for cabotage as well as international routes were established by the Maritime Rates and Transport Commission.
- Itineraries had to be studied by the Commission.

- Postal transportation was free of charge.
- Fuel used by cabotage ships was tax free.

b. International Transportation

- Fifty percent of maritime transport of imports and exports was reserved for domestic shipping lines as follows: import and export freight was classified separately according to the type of cargo and country of origin or destination.
- Large-scale, homogeneous import cargo was reserved exclusively for domestic merchant ships.
- Rates charged by Chilean shipping companies could not be higher than those determined by the Liner Conference.
- Ships applying for Chilean registry were required to hold the highest classification granted by Lloyd's Register of Shipping; moreover, such ships could be no more than 10 years old.
- Ships with Chilean registry could be sold solely with the express authorization of the nation's president.
- Half of the capital increments of Chilean companies could be deducted from taxable income.
- National shipping companies with services abroad were authorized to sign agreements with foreign companies to reserve or distribute cargo or to divide profits, so long as the cargo percentage belonging to Chilean ships by law did not decrease. As a result, shipping companies were forced to hold the justifiable 50% of profits.
- Domestic shipping lines were required to carry insurance provided by Chilean insurance companies.
- The Sociedad Química y Minera de Chile (Mining and Chemical Association of Chile, SOQUIMICH) was granted special benefits.
- All imports of ships, machinery, spare parts, accessories, equipment, material, and supplies, including fuel and lubricants for use on board were duty free, as were all incorporation papers.

Furthermore, additional legislation (laws 6,037 and 7,759) comprising the so-called Organic Law of the Caja de Prevision of the Marina Mercante Nacional (National Merchant Marine Social Security Fund) indicated that all freight on

board domestic and foreign ships was required to pay 0.5% tax directly to said Fund. That percentage was subsequently increased to 3%. Additional adjustments were made to the existing legislation through Statutory Decree 466 of 1974.

Toward the end of the 1970s, Chilean officials initiated a program aimed at deregulating the port and maritime industry (the latter was to be broached first). The idea behind these efforts was that the deregulation of the maritime transportation would lead to increase competition which would in turn provide stronger incentives for proceeding with the deregulation of the port industry.

The first such modification sought to allow Chilean lines to register their ships in foreign countries, thereby avoiding the obligation to use exclusively Chilean crew members. This change alone accounted for savings in labor costs of up to US\$350,000 per ship. Moreover, this shift effectively destroyed the monopoly held by Chilean crews and served to reduce costs for users.

2. NAVAL DEREGULATION

On December 21, 1979, a new decree law (law 3,059) was officially enacted to replace existing regulations with the following:

a. Cabotage

- 100% of cabotage was reserved for domestic ships. Nonetheless, bids could be submitted by users with participation in foreign lines for cargoes over 5,000 tons.

b. International transportation

- Regulations on the justifies of foreign ships to load Chilean export products was based on the so-called principle of reciprocity (e.g. the justifies granted to Chilean vessels in foreign ports). However, shippers objected to this definition, alleging that the measures taken by Chilean authorities did not adequately compensate for treatment received in foreign ports. For example, when access by Chilean lines to exports in foreign ports was restricted, local authorities reacted by barring the offending nation's ships from transporting Chilean exports (rather than adopting "reciprocal" cargo restrictions).

- Rate freedom for all services was implicitly established.

- The taxation, subsidy and exemption systems remained subject to general rules.

- Resolution 663 of the Under Secretariat of Transportation (dated June 20, 1980), determined that access and participation of ships from Argentina, Bolivia, Colombia, Ecuador, Paraguay, Peru, Dominican Republic, Uruguay, Venezuela

and Brazil could total up to 50% of Chilean foreign transportation trade with those nations.

Subsequent legislation (law 18,454 and decree law 3,059 of 1985 and Statutory Decree 24 of February 1986) once again re-defined the regulations on maritime transport. These regulations stipulated that:

- Cabotage is reserved for Chilean vessels. Foreign merchant vessels are authorized to transport cargo volumes over 900 tons (contracted through an open bidding process called by the user).

- Transportation of foreign trade will be subject to the principle of reciprocity.

Furthermore, important innovations were adopted in areas such as new regulations on port employees, those on ship board and seafarers in general.

2. SHIPPING COMPANIES

By September 1973, all of Chile's shipping companies were fully or partially in the hands of the State. Thus, over 50% of the Compañía Sudamericana de Vapores, 95% of the Compañía Chilena de Navegación Interoceánica and through them, 100% of Naviera Interoceánica S.A., and Sociedad Anónima de Navegación Petrolera (the nation's largest shipping firms) had been acquired by CORFO. For the most part, these acquisitions had taken place during the Popular Unity government as part of the so-called Social Program. In addition, the Empresa Marítima del Estado (State Maritime Company) and Transportes Marítimos de Chiloé Ltda. (Chiloé Maritime Transport Ltda. - TRANSMARCHI) continued in State hands. By adding to this list the Empresa Portuaria de Chile (Chilean Port Company) and the Empresa de Servicios Portuarios (Port Service Company -- Enserport), it becomes clear that the entire development of Chile's port and maritime sector was fully controlled by the State, either through purchase or expropriation.

In 1974, a policy aimed at re-privatizing these companies was implemented, including the dissolution of Enserport. Moreover, the situation of TRANSMARCHI -- where private shareholders which accounted for 49% of the company's total holdings -- was normalized. This was achieved by transferring ownership to CORFO and extending service to the region of Aysen (as a result, the name was changed to TRANSMARCHILAY).

The modifications to the legal framework and ownership of these shipping companies facilitated the rapid incorporation of technology into both vessels and cargo handling. This, in turn, enabled the companies to introduce substantive changes in their management systems and compelled them to look for new markets and renew their fleets. As a result, Chile's shipping lines became a model emulated world-wide. For example, the Compañía Sudamericana de

Vapores (known abroad as the Chilean Shipping Lines) and the Compañía de Navegación Interoceánica have been highly successful in diversifying their cargo and markets and developing new management techniques. Moreover, their innovations in the field of cargo handling technologies have become one of Chile's most sought-after non-traditional exports. This success achieved by Chilean companies is shown in Charts 13 and 14.

Chart Nº 13

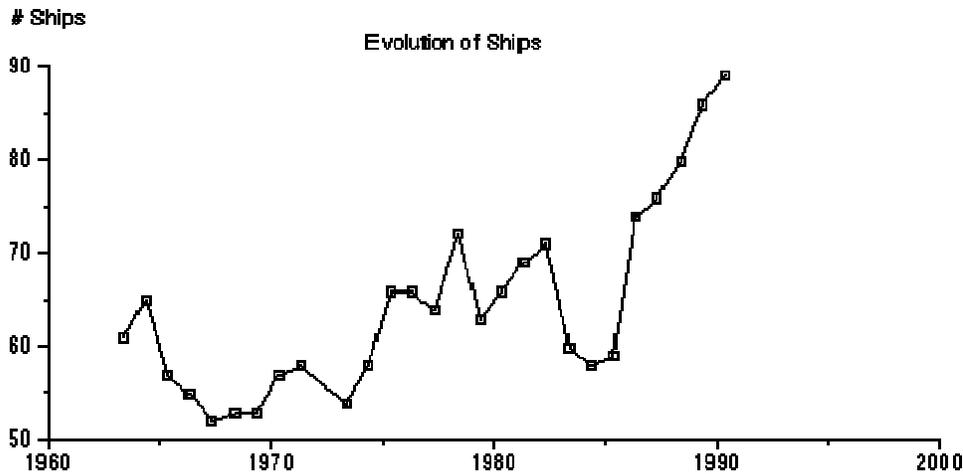
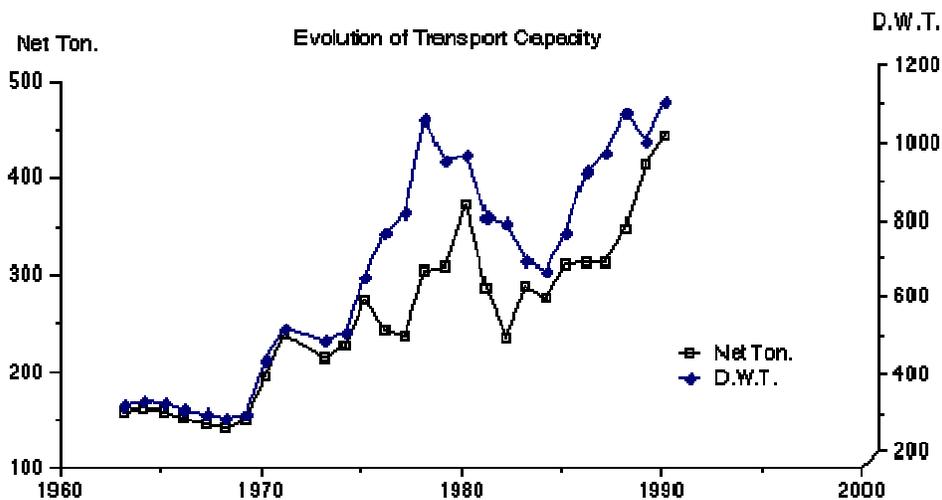


Chart Nº 14



3. EMPREMAR S.A.

This company was established as a result of law 18,773 of January 1989 which transformed the State Maritime Company into a corporation in which CORFO held a 99% interest and the government the remaining 1%.

From its creation in 1938 through 1973, the State Maritime Company had been used as a political tool by the government. Moreover, given that State subsidies could be counted on to balance the books, the company had never implemented accounting procedures capable of ascertaining the firm's real level of efficiency.

This situation not only generated huge losses, but also brought an end to cabotage within the country as a result of the rates applied by the company. Furthermore, these subsidies served as the basis of the strong distortions affecting domestic transportation on the whole. From 1962 through 1967, the company accumulated a debt of US\$ 17 million dollars. In 1962, 53.7% of governmental resources were utilized to cover operational expenses. This figure dropped to 29% in 1966, rising to 39.3% by 1969. It was not until 1974 that this situation was rectified and the company showed a profit of 1.13 million dollars.

Final Results

(thous US\$)

1980	9,370	(Sale of Lagos type ships)
1981	3,610	(Sale of Lagos type ships)
1982	(6,010)	
1983	(1,348)	
1984	(5,748)	
1985	(1,745)	
1986	6,199	(Insurance for loss of OBO Valparaiso)
1987	376	
1988	174	
1989	4,392	(sale of Pdte. Gonzalez V. freighter)
1990	500	

In general, the company has not generated important profits except as a product of high non-operational earnings, as in the case of payment of an insurance claim from the loss of a vessel or the profitable sale of ships.

It is also important to note that for many years Empremar has held a transportation contract with ENAP, the State oil company which has generated sufficient revenue to off-set many of its other losses. This situation is clearly reflected in the chart showing the company's final balance over a period of 11 years.

On November 27, 1989, EMPREMAR S.A. and Empremar Navigation Service arranged for the creation of a subsidiary, EMPREMARSUR S.A., in an effort to utilize operating resources generated by the so-called Flota Regional (Regional Fleet) based in the Southern city of Puerto Montt. As a result of losses generated in 1990, the company was liquidated.

2. PORT STATUS

In 1973, the Liner Conference had imposed overcharges of up to US\$40 per ton for Chilean foreign trade cargo. Freighters, in general, paid between 60 and 80 thousand dollars for demurrage at Chilean ports and Bolivian cargo had been detoured to Peruvian ports.

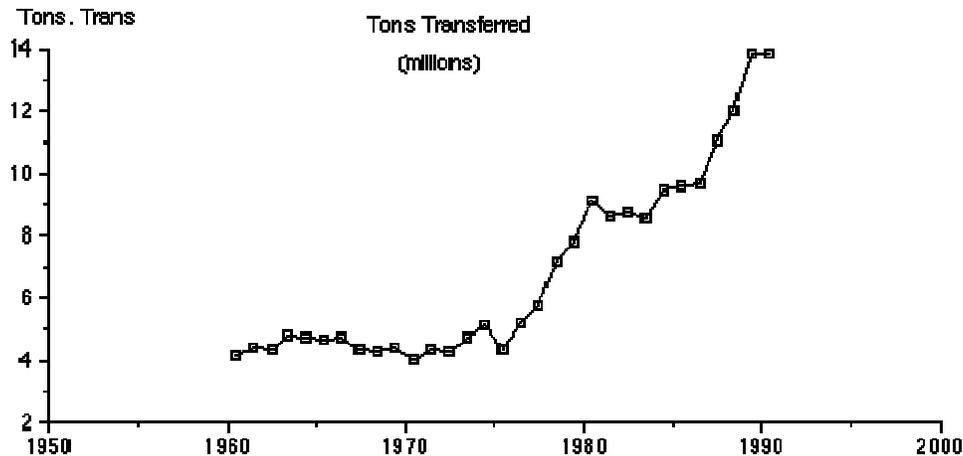
In those days, labor unions were particularly powerful within the ports and their influence on the organization of port-related activities was clearly felt. This situation frequently led to the hiring of excess personnel and inflated rates and the use of obsolete equipment. Also, rate systems and administrative practices, for both the State Port Company (Emporchi) as well as the labor unions, tended to make poor use of existing port infrastructure.

Emporchi's financial statements were three years behind. As of 1974, a rate system was established based on real costs, expressed in U.S. dollars; pending balance sheets were prepared (including the one for 1970); and by the end of 1974, the company became self-financed, covering an accumulated deficit of 15.6 million dollars and, for the first time, generating a profit. As of that date, the company has consistently generated positive returns which are transferred to the national budget (for the period 1980-1990, said revenue was over 3 billion pesos per annum).

In 1972, as a result of overcrowding in Chilean ports, the government signed a service contract financed by the government of Holland with port expert Dr. Th. J. Risselada, who, after studying the situation, recommended a variety of alternative solutions to the problem. Among them, he outlined the need to increase the number of berths in Valparaíso and San Antonio and the construction of a port complex in Quinteros bay. That year, the complex managed by EMPORCHI moved 2,372,379 tons. In 1990, these same ports handled 5,634,132 tons; fully 39.5% more than the tonnage handled by twelve ports managed by the company in 1972.

In 1990, movement in all of Chile's ports and marine terminals totaled 64,438,498 tons (of which 31,065,146 were in foreign trade and 16,686,676 tons in cabotage). The 10 ports managed by Emporchi handled 13,639,462 tons, whereas between 1960 and 1973, tonnage managed by these same ports failed to surpass 4,500,000 tons per year.

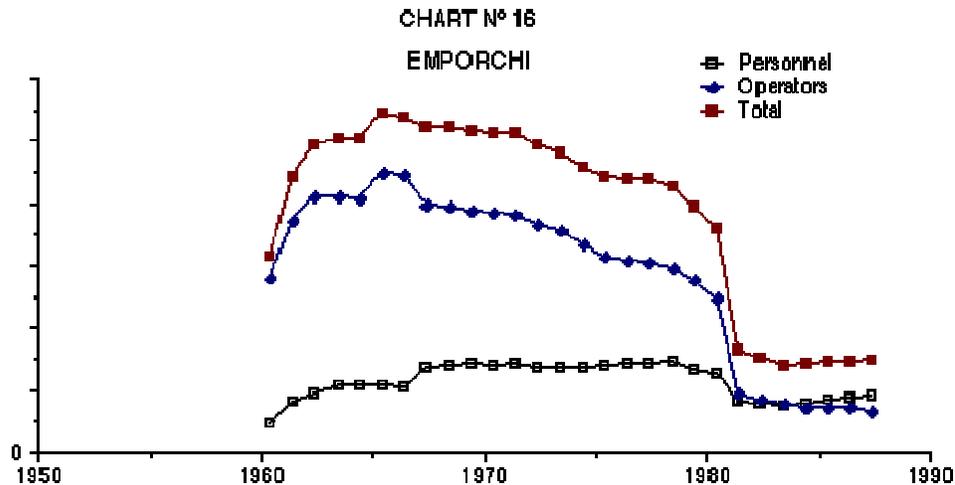
Chart Nº 15



Research conducted to analyze this situation has concluded that the primary cause of the limited movement in Chilean ports prior to the mid 1970s was the poor performance of port workers which resulted from the monopoly unions held over port employment. Moreover, the monopoly made it impossible to incorporate new technology into the ports aimed at reducing manpower and increasing efficiency. Moreover, the unions had a similar impact on restricting the incorporation of similar technology on Chilean vessels.

As of 1973, a series of small improvements were made which permitted the incorporation of a larger number of temporary workers and private executives into the port system. This was essentially achieved by freezing the hiring system, prohibiting EMPORCHI from acquiring new equipment and by organizing the company's personnel more efficiently.

Nevertheless, the most important modification to the port system was introduced through law 18,032 which banned the labor monopoly and opened the doors of the ports to the entire labor force. The legislation was officially enacted on September 25, 1981 and required that compensation payments be made -- at a total cost of some 40 million dollars -- to workers who had enjoyed the benefits of such a monopoly. Clearly, these payments served to legitimize the modifications and stave off discontent among workers which, if it had gone unchecked, might have undermined the entire project.



Another relevant change was the elimination of the separation between maritime and port workers. This facilitated the integration of port operations and allowed for the creation of companies dedicated to dockside loading and unloading activities.

A second legal instrument was devised which helped to create conditions propitious for substantive change in the organization of the port workers. The legislation, law 18,042 (approved on October 15, 1981) called for the formation of a National Port Corporation and provided for each EMPORCHI managerial sub-division to be transformed into a holding company. Moreover, the legislation called for the elimination of the exclusive justify of Emporchi workers to perform port and warehouse jobs, as well as ensuring the safekeeping of cargo inside of Chile's ports. Nonetheless, pressure from a variety of sectors (workers, the Navy and Emporchi itself) kept this legislation from being implemented.

In early 1990, legislation was signed (law 18,966) which repealed Emporchi's authority to perform transfer-related work. As a result, the Under Secretariat of Transportation drafted Statutory Decree 125 of August 3, 1990 in an effort to resolve the accounting difficulties the new legislation produced. The decree created a wharfage fee (charged to the cargo) which in effect was equivalent to a transference fee, except that use was not made of Emporchi's equipment or personnel.

As of 1981, Emporchi's rate system was organized more efficiently and work shifts were increased to three a day to enhance the effective use of port infrastructure.

According to studies carried out by steamship agents, the savings to foreign trade in 1990, as compared to 1981, totalled almost US\$96 million annually.

An example of these savings was developed by INECOM, a consulting firm, and shows the evolution of the cost of resources used in port operations.

COST OF RESOURCES USED IN PORT OPERATIONS

(in 1986 dollars)

Product	Unit	1970	1975	1980	1986
Fruit	US\$/box	0.73	0.72	0.54	0.26
Copper in bars	US\$/ton	0.71	9.13	7.01	4.36
Fish meal, bags	US\$/ton	16.17	15.32	14.62	8.44
Sawn wood	US\$/m3	15.70	15.19	7.80	3.35
Logs	US\$/m3	13.28	12.84	6.47	3.11

Another way of analyzing the figures pertaining to the application of the new regulations can be seen in the following analysis done by the Maritime Chamber:

PRODUCT: APPLES

1980 yield	:	1,100 boxes per crew
1986 yield	:	1,700 boxes per crew
Freighter lay days in 1980	:	127 hours
Freighter lay days in 1986	:	48 hours
Total cost in 1980	:	US\$101,856.00
Total cost in 1986	:	US\$ 36,005.00
Cargo	:	200,675 boxes
1980 unit cost	:	US\$0.51
1986 unit cost	:	US\$0.19

Lay-day savings expressed in the distance a freighter can travel at 12 knots (3,420 kilometers.)

PRODUCT: WOOD

1980 yield	:	250 m3/crew
1986 yield	:	350 m3/crew
Freighter lay days in 1980	:	294 hours
Freighter lay days in 1986	:	144 hours
Total cost in 1980	:	US\$179,309.00
Total cost in 1986	:	US\$ 78,582.00

Cargo	:	34,9143 m3
1980 unit cost	:	US\$5,14
1986 unit cost	:	US\$2,25

Lay-day savings expressed in the distance a freighter can travel at 12knots (10,683 kilometers).

PRODUCT: COPPER

1980 yield	:	380 tons per shift
1986 yield	:	470 tons per shift
Freighter lay days in 1980	:	37 hours
Freighter lay days in 1986	:	24 hours
1980 total cost	:	US\$19,248.00
1986 total cost	:	US\$13,791.00
Cargo	:	2,800 tons
1980 unit cost	:	US\$6.87
1986 unit cost	:	US\$4.93

Lay-day savings expressed in the distance a freighter can travel at 12knots (728 kilometers.)

3. CONCLUSIONS

1. MERCHANT MARINES

The general strategy for economic development implemented in Chile required strong growth in foreign trade. In order for this strategy to be successful, the deregulation of the maritime and port industry and the large number of private companies willing to provide such services was crucially important.

Authorities at that time chose to spearhead such modifications through the maritime industry despite existing international agreements aimed at regulating traffic and rates on the grounds that competition arising in this area would provide an incentive for additional deregulation of the port-related industry.

In terms of international maritime transportation -- the initial focal point for reform -
- the policies approved were much more radical than those in place today. Shipping companies were forced to become highly efficient, otherwise, they ran the risk of going out of business. We should also note that shortly after the new regulations were put into effect, an international financial crisis erupted which had

a substantial impact on Chile's foreign trade. Moreover, cargo owners began to organize in an effort to negotiate better rates with freight forwarders in what proved to be a remarkable reversal of what had once been the freight companies' semi-monopolistic position prior to the modifications implemented in maritime transportation regulations.

Although data on the overall volume of cargo transported by Chilean shipowners is not available (only data on vessels flying the Chilean flag can be secured), informed estimates indicate that when the 50% requirement was in force, in truth no more than 35% of all cargo was carried by Chilean ship owners. Today, that figure is calculated at being around 40%.

In addition, the number of freighters and net tonnage registered by Chilean shipbuilders has increased by approximately 35% since 1979, with the tonnage of dead weight remaining more or less stable.

In analyzing the evolution of the merchant fleet, we should also note the contribution of increased efficiency in Chilean ports in fostering the availability of maritime services and reducing waiting time of freighters due to overcrowding.

Furthermore, the development of cabotage, and cargo in general, has been seriously affected by the regulations and behavior of state-run companies, making it almost impossible for the private sector to enter this field of activity.

2. PORTS

Clearly, the presence of a government with both the authority and energy to implement change was crucially important to the success of the measures implemented in Chile, particularly since some of the modifications faced strong resistance (such as law 18,042 which was never fully enforced).

One of the most important factors in ensuring success in achieving the goals established for the port and maritime industries was the sequential programming of modifications. Thus, actions aimed at preparing the field were undertaken before more substantive changes were enacted. As a result, the gradual incorporation of private companies, the increased number of temporary workers, the decrease in the government's sphere of action, modifications to Merchant Marine regulations and rate schedules all form an integral part of a process which should have culminated with the regionalization of ports and operations in the hands of private companies.

Furthermore, it is worth noting that one of the most negative aspects of the modernization process was the slow pace with which changes took place. As a result, some of the most important tasks, such as the definition of the institutional framework governing port infrastructure and the participation of the private sector

within Chile's ports, is still unclear. This is becoming increasingly important as the need to make important investments in port infrastructure -- which the private sector could very well provide -- grows. In addition, the competitive experience between Emporchi and private ports in Southern Chile (VIII Region) has been marred by efforts by the state-run agency to run its operations in those areas below cost. Naturally, this serves as a disincentive for the creation of truly competitive port facilities. Instead, investments and improvements have only been made within existing private and publicly-owned ports in that area.

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