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Evaluation of the Reforms

The Americas Social Security Report 2003

Inter-American Conference on Social Security

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The Americas Social Security Report 2003

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Calle San Ramón s/n • Col. San Jerónimo Lídice
C.P. 10100 Mexico, D.F.
Tel: (5255) 5595 0011
Fax: (5255) 5683 8524
ciss@ciss.org.mx
http://www.ciss.org.mx

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The CISS has as its main objective the development of social security in the Americas. In order to attain that goal it fosters the diffusion of achievements in social security, cooperation and exchange of experiences among social security institutions.

Through its publications, the CISS gathers and disseminates social security studies across the Americas, while making policy recommendations for the consideration of planners of programs and policies throughout the continent.

AUTHORITIES
INTER-AMERICAN CONFERENCE ON SOCIAL SECURITY
(CISS)

President
Santiago Levy
Instituto Mexicano del Seguro Social, Mexico

Vice Presidents
Vinicius Pinheiro
Ministerio da Previdência e Asistência Social, Brazil (2002)

Joseph A. Gribbin
Social Security Administration, United States (2003)

Orlando Peñate
Ministerio de Trabajo y Seguridad Social, Cuba (2004)

American Social Security Commissions (CASS)

Actuary and Finance (CAAF)
Elsebir Ducreux
Caja del Seguro Social, Panama

Older Adults (CADAM)
Jorge D´Angelo
Asociación Mutual de los Agentes de los Organismos
para la Tercera Edad, Argentina

Legal Social Commission (CAJS)
Benjamín González Roaro
Instituto de Seguridad y Servicios Sociales de los
Trabajadores del Estado, Mexico

Medical Social Commission (CAMS)
Onofre Muñoz
Instituto Mexicano del Seguro Social, Mexico

Organization and Administrative Systems (CAOSA)
Joseph A. Gribbin
Social Security Administration, United States

Working Risk Prevention (CAPRT)
Baldur Schubert
Ministerio da Previdência e Asistência Social, Brazil

Sub-regions Coordination

I, The Andes
Néstor Ricardo Rodríguez
Caja de Compensación Familiar COMPENSAR, Colombia

II, Central America
Richard Zablah
Instituto Hondureño de Seguro Social, Honduras

III, South
Miguel Ángel Fernández
Administración Nacional de la Seguridad Social, Argentina

IV, North America and the Engish Speaking Caribbean
Reginald Thomas
National Insurance Scheme, St. Vincent and Grenada

V, Mexico and the Latin Caribbean
Santiago G. Velasco
Instituto de Seguridad Social del Estado de Mexico y Municipios, Mexico

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Social Security Board, St. Christopher and Nevis

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Director of the CIESS
Luis José Martínez Villalba

The Report Team

The Americas Social Report 2003 was prepared in the Department of Publications, Editorial Policy and Information of the General Secretariat of the Inter-American Conference in Social Security (CISS), directed by Eduardo Rodríguez-Oreggia.

This report was prepared by a team of experts within and outside the CISS, led by Jorge Meléndez. External contributors were invited to analyze the specific cases of each chapter. This document was elaborated with the participation of members of the General Secretariat of the CISS and its General Office, as well as the aforementioned Department of Publications. The Inter-American Center for Social Security (CIESS) also collaborated through its Research Office.

Eduardo Rodríguez-Oreggia and Mario Villarreal wrote the chapter on economic and political factors that influence social security reforms.

The chapter corresponding to the social, economic and political context of the reforms, with a vision from the countries concerned was prepared under the direction of Antonio Ruezga, who invited and coordinated a team of experts who prepared the various case of study. The case of Argentina was prepared by Jorge D'Angelo and Alfredo Gamietea; the Brazilian case by Baldur Schubert and Helmut Schwarzer; the Chilean by Gonzalo Bustos; the Colombian by Juan Carlos Cortés; the case of Costa Rica by Carlos Enrique Fuentes; the US case by Joseph A. Gribbin; and the Mexican case by Antonio Ruezga himself.

Nora Garro, Jorge Meléndez and Eduardo Rodríguez-Oreggia planned the chapter about the impact of the reforms on the labor markets. Rodríguez-Oreggia coordinated a team of external experts who analyzed what has happened in some countries. The Argentinean reform was analyzed by Pablo Brassiolo, Guillermo Mondino and Hernán Rufo; the Bolivian one by José Luis Evia and Miguel Fernández; the Brazilian by Francisco Galrão Carneiro and Andrew Henley; those in Canada and the US by José A. Pagán; the Chilean by Alejandra Cox-Edwards; and the Mexican one by Garro, Meléndez and Rodríguez-Oreggia.

The fiscal aspects of the reforms, especially the redistributive implications, were studied according to reference terms prepared by Héctor Peña, who coordinated the work of two external experts, who contributed to the case studies: Enrique Dieulefait on the Argentinean case and Álvaro Forteza with the Uruguayan one. Héctor Peña developed the Mexican case.

The chapter on the impact of the pension system reforms on the household savings was based on a conceptual framework developed by Liliana Charles. She coordinated external experts who contributed to the analysis of the cases, Andrés A. Berruti analyzed the case of Argentina, Francisco Gallego the Chilean case and Liliana Charles the Mexican one.

The authors of the chapter on the performance of the reformed pension fund managers were Iván Marinovic and Salvador Valdés, who also analyzed the Chilean case. Flavio Marcilio Rabelo analyzed the cases of Bolivia, Peru and Uruguay and Jorge Meléndez that of Mexico.

In order to analyze the reforms in the social security healthcare system, Jacqueline Arzoz developed a theoretical framework, which was the base for the contributions by Shelton Brown and José A. Pagán, who analyzed the cases of Canada and the USA, while Bitrán y Asociados, a consulting practice, prepared the cases of Colombia and Chile. Jacqueline Arzoz also prepared the case of Mexico.

During the preparation of the Report, the CISS was assisted by Cynthia Caamal, Lilia Cortez, Lucero Durán, Gabriela García, Norma González, Verónica Guajardo, Julio Leal, Eduardo Rodríguez-Montemayor, María de Jesús Sánchez, Jessica Torres and Francisco Zarco. Editorial assistance was provided by Lilia Cortez, Lucero Durán and Gabriela García.

FOREWORD

The first edition of the Americas Social Security Report was presented in October 2002, during the XLVI Meeting of the Permanent Inter-American Committee on Social Security (CPISS) of the CISS, in Mexico City. The President of the CISS, Dr Santiago Levy, had proposed the project in June 2001.

In 2003, during the XLVI Annual Meeting, the CPISS approved by unanimity that the topic of this second Report would be the effect that the social security reforms have had in the continent. It was also agreed that such a document should be presented during the annual meeting of the CISS, to be held in November 2003 in St Michel, Barbados.

Although some evaluations of the social security reforms already existed, it was thought that the CISS could contribute with new material to the discussion, that is, generating new data and analysis on the topic.

In doing so, the CISS carried out 32 studies, which analyzed different aspect of the social security reforms in the continent, of which 25 were commissioned to external experts. The results of those works fed into the analysis of the many chapters of this report, each of them dedicated to a specific topic.

Many research questions were asked, some of which this text tries to answer, leaving some to the consideration of the reader.

First, it was asked what are the main political and economic determinants for a country to undertake reforms to the social security scheme. Are democracies more prone to reforms? Is this more likely in context of economic freedom? What is the influence? If political opponents of the Executive of a given country are involved in the discussion on reforms, is it favored by the presence of pressure groups, such as the elderly?

These questions have a first answer supported on statistical trends observed in many countries. However, the Report does not overlook the perspective of the reforms that may arise within the countries, that is, the development of social security was also examined by some agents directly involved in the systems.

In widening the analysis of specific topics, the report posed the question of what would be the impact of the social security reforms on the labor markets. Would the coverage of the system increase? Is it encouraged that workers choose to work for more years before retirement?

The fiscal implications of the reforms come later. On many occasions, the system goes from one in which pensions were financed thorough the contributions of the young, to others where the workers are forced to make contributions to savings when working in order to pay their own pension when retired. Does this mean that social security is no longer a social mechanism of income redistribution? On the other hand, what is the cost of changing from one system to another?

For some time, it has been believed that the structure of social security could impact on the household's saving decisions. There is a hypothesis that suggests that if a worker is forced to save through pension scheme it is possible that they might reduce their voluntary savings. What about this? Is there a change in the saving pattern due to the reform in social security?

In addition, some reforms lead to a pension scheme based on accumulated funds in individual saving accounts for retirement. In those cases, private firms are encharged with the management of resources. Are the costs of management lower under the new administration? What happens to the returns? Is there a competitive industry and does it tends towards monopoly?

Finally, the social security healthcare systems have their own problems, which the reforms to the systems have also set out to solve. For example, for the most part the public financing of health insurance has been maintained, while space has been made for the participation of the private sector in the provision of services. In some cases, there have been efforts to restrict the excessive use of the healthcare services by the patients through different policies of cost containment. What is the evidence to evaluate reforms to healthcare insurance regarding these and other aspects?

Of course, in no way do we claim that the evaluation of all the topics presented in this report are definitive. Social security is always evolving.

Nor is it possible to analyze all the situations in all the countries of the continent that have undertaken any reform of the system. There is neither the time, nor the resources available to undertake such a task. Thus, the analysis emphasizes some of the more emblematic cases for which some experts were found in order to undertake such an analysis, even with the aforementioned limitations.

The hope is that we might make a contribution to the knowledge of the reality of the Americas social security schemes, in particular, those that are reformed, in a way that aids our understanding of what is behind the debates.

Let us hope that the reader considers that this effort was not without success. If this is the case, the Inter-American Conference in Social Security would have get closer to the accomplishment of its main goal, to contribute to the development of the social security systems in the Americas.

Jorge Meléndez
Secretary General of the CISS

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Acronyms and Abbreviations

AFAP	Previsional Savings Funds Manager
AFC	Cessation Fund Manager
AFJPs	Pension and Retirement Fund Managers
AFORE	Administrative Costs of Retirement Fund Manager
AFP	Pension Fund Manager
AFPC	Cessanty Funds Manager
ARS	Subsidized Regime Managers
CCSS	Costa Rican Social Security Association
CISS	Inter-American Conference on Social Security
COLA	Cost of Living Adjustment
CONAPO	National Council of Population
CONAPREV	Social Security Ministry and State Administration Secretaries
CONSAR	National Commission of the System on Savings for Retirement
CPI	Consumer Price Index
CPP	Canadian Pension Program
EBAIS	Basic Teams of Integral Health Care
ECLA	Economic Commission for Latin America
EPS	Health Promoting Organization
FONASA	National Health Fund
GDP	Gross Domestic Product
GDR	Diagnosis Related Group
HI	Hospital Insurance
IADB	Inter-American Development Bank
ILO	International Labor Organization
IMF	International Monetary Fund
IMSS	Mexican Institute of Social Security
INEGI	National Institute of Statistics, Geography and Information
INSS	National Social Security Institute
ISAPREs	Welfare Health Institutions
ISS	Colombian Social Security Institute
ISSSTE	Social Security Services for Workers of the State
IVM	Disability, Old Age and Death Regime
MPS	Superintendence of Private Insurance
NGOs	Non-Government Organizations
OECD	Organization for Economic Cooperation and Development
PAHO	Pan-American Health Organization
PAMI	National Institute
PAP	Permanency Additional Benefit
PAYGO	Pay as You Go
PME	Monthly Employment Survey
PPS	Private Pension System in Peru
PRA	Personal Retirement Account
RGPs	General Social Welfare Regime
RJP	Retirement and Pension Regime
RNC	Non Contributive Regime
RPPS	Proprietary Social Welfare Regime
SCFWA	Senior Citizen's Freedom to Work Act
SENCE	National Training and Employment Service
SICERE	Centralized Collection Regime
SIEFORES	Investment Funds Specializing in Retirement Saving Funds
SIJP	Integrated Retirement and Pension System
SISBEN	Beneficiary Identification System
SPC/MPS	Ministry of Complementary Welfare
SSAB	Social Security Advisory Board
SSI	Supplementary Security Income
STF	Supreme Court in Brazil
SUSEP	Ministry of the Treasure

CHAPTER I
INTRODUCTORY CONCEPTS

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INTRODUCTORY CONCEPTS

Social security system reform has become one of the main topics of discussion in public policy fields in every country.

The matter has captured equally the attention of rulers, public officials, political parties, academics, unions and entrepreneurial representation organizations, in short, of every type of social agent involved in such debates, in the industrialized world as well as in developing nations.

In fact, during the course of discussions, it sometimes transpires that more advanced countries are interested in making a thorough study of what has been done in the matter of pension systems in Latin America, something that does not often happen when different public policy problems are analyzed, revealing the universality of the difficulties faced by social security.

Debates on reforms to medical care insurance or pensions generate empassioned debate in society, as well as complex political battles with results that have a long rangelasting influence on the future of the countries, and, particulary, on their economies.

Unfortunately, sometimes the environment of such debate is not entirely favorable for the participants to be able to notice that, regardless of the political result, valuable information contributing to increased knowledge on social security is acquired in the process, and others who are facing similar dilemmas may be able to profit from this experience.

It is within this context that the Inter-American Conference on Social Security, the CISS, endeavours to offer new information and analyses on the performance of reformed systems, in pensions as well as in healthcare insurance.

In this way the CISS sets out to accomplish its purposes, which include making a valid contribution to the development of social security in the countries of the Americas, encouraging cooperation and the exchange of experiences among social security institutions, and compiling and disseminating reports on advances made in this field.

Before discussing in detail some of the key aspects of social security reforms in the American continent, however, it is first necessary to define and comment on several reference concepts that will be utilized throughout this report.

I.1 Social Security Systems

The aim of social security schemes is to ensure that every inhabitant of a country has the same social and economic opportunities, regardless of whether they may suffer the materialization of different risks that may permanently or temporarily reduce their sources of sustenance.

Some of these risks may be premature death, disability, labor-related accidents or diseases affecting health adversely. Other circumstances in which a worker's capacity to generate income is diminished occur with greater certainty, as is the case of old age, which forces retirement from the labor force, but there are also social mechanisms allowing the individual to 'insure' themself against this fact, through a pension.

The two most important branches of social security in terms of the incidence of events insured and the amount of resources required for their operation are the old age pension and healthcare. The analysis in this report is limited to reforms to these two types of insurance.

Pension Systems

These types of insurance have been classified as public or private. Their characteristics are those shown in Table I.1 (Mesa-Lago, 2003).

Table I.1
Aspects of Public and Private Pension Systems

	Public System	Private System
Contribution	Not defined	Defined
Benefits	Defined	Not defined
Financial regime	PAYGO or partial collective funding	Totally funded, individual
Management	Public	Private or multiple

Source: Mesa-Lago (2003).

In the so-called public system, contribution rates are said to be not defined since they depend on the country's demographic conditions. In fact, as the population ages, payroll contributions must gradually be increased since the proportion of active worker with respect to those who have already reached the age of retirement, diminishes, as will be explained later on.

The benefits or services are established in a formula dictated by the law. The system is financed through the PAYGO scheme, that is, the pensions of the older members of society are paid with contributions from their younger counterparts, and the fund is managed by a government agency.

In private systems, contributions are determined in principle without taking the country's demographic conditions into consideration, although as will be shown, this is not necessarily possible if the pension amassed at the time of retirement is too low.

The benefits or services are not defined with certainty since they will depend on the amount accrued in the worker's individual account, but it must be emphasized that, ultimately, the benefits established by law in the public system may be financially unsustainable and, therefore, it is not certain they will be received.

The private system is funded in the sense that the pension depends on the amount the individual has accrued in his/her individual account and fund management is usually private.

There is no national social security system that limits itself to forcing workers to save in an individual account. They all in some way incorporate a minimum pension guarantee, which is a fiscal responsibility of the State, charged to revenue sources not stemming from social security but rather from general taxation, or else, the guarantee is financed with solidary contributions from those who do not need it. One way or another, all private systems actually maintain some financing element under the PAYGO scheme.

This means that the classification in Table I.1 must be understood as a reference to two extremes between which retirement pension systems are actually located.

Other authors classify pension schemes using different criteria. For example, it is said that a system is a defined contribution scheme when the plan's aggregate financial risk is transferred to its account holders only and a defined benefit scheme if no part of the plan's aggregate financial risk is transferred to pensioner members (Valdés, 2002). That is, the emphasis is placed on who has to adjust and pay for the consequences should the economy go into recession, if the demography should change, or if any other event adverse to the system should occur, the insured or the insurer?

This other definition helps one to understand that, in the passive stage of a pension plan, account holders choosing an annuity are invoking a defined benefit since their pension is not affected when there are variations in investment returns or when a demographic shock occurs. The risk is absorbed by the life insurance company that sold the annuity and is therefore responsible for paying the pension for life.[1]

In short, what this discussion shows is that pension system classification is difficult, because if the arguments are followed through to their last logical consequences, it is always found that a scheme shares to some extent defined benefit and defined contribution elements.

[1] An annuity is sold to a worker wishing to retire by an insurance company that usually receives the amount that the person has accrued from savings and guarantees him/her a pension for life, charging him/her a premium for assuming the risk that the individual may live longer than expected, to mention just one of the possible risks involved in such a contract.

Table I.2
Aspects of Social Health Insurance

	Public System	Mixed System		Private System
Service supply	Public	Public-Private	Public-Private	Private
Financing	Public contributive	Public contributive	Public contributive-Private	Private
	Public non-contributive	Public non-contributive		

Health Insurance

The classification of health schemes in social security is somewhat complicated, but the focus is usually on two dimensions: who finances the system and who provides the services. That is, the government may finance medical attention, but it does not necessarily have to offer it directly, but can instead hire third parties to this end.

As shown in Table I.2, financing may be public or private, regardless of whether there may be a mandate from the State making it compulsory to insure the health of individuals.

In turn, should the financing come from the government, it may be based on payroll contributions made by workers and employers, or depend on fiscal revenue from different non-contributive sources.

Likewise, the direct supply of attention may be provided by the government or by private companies, regardless of the financing origins.

In many countries, social security originally consisted of union or employer plans for which the financing was totally private and the provision of services to insured workers was hired from outside companies. In the United States, it is still the norm for companies to offer their employees a medical insurance plan as part of their labor benefits.[2]

On the other hand, several countries have elected to finance their health schemes within the social security system, based on general taxes instead of payroll contributions.

In other cases, which have arisen more recently, the worker has been given the option of 'exiting' the health insurance scheme, taking his/her public contributions and complementing them with private resources to finance his/her medical insurance in according to his/her needs and preferences.

The most 'traditional' systems are those with totally public financing, contributive in nature, in which the government also provides attention directly.

I.2 Main Challenges to the System

Population aging is the main problem faced by pension schemes. The fact that there are an increasing number of older adults with respect to those of working age also significantly affects health insurance.

Pension Systems

The financial bases of the defined benefit scheme financed through PAYGO are negatively affected as a result of population aging (CISS, 2002).

Suppose S is the number of pensioned workers and P is the amount received by each one: the total amount of benefit to be paid is, therefore, $S \times P$. On the other hand, if the total number of persons working is equal to L, each worker's average salary is W and the rate at which they contribute to social security is T, then total system collection is $T \times W \times L$.

Now, given that in a 'pure' PAYGO scheme in a mature state,[3] retiree pensions are paid with contributions from active workers, it must, therefore, be true that:

$$T \times W \times L = S \times P.$$

[2] In the USA, the benefits of the public social security are targeted only at the population aged 65 years and over, and the low-income population.

[3] Because when the system is young, benefits must be paid through debt accumulation. This happens because system contributions from the first generations of workers pensioned were lower than the services or benefits received (CISS, 2002). This implicit debt has to be made explicit when the PAYGO scheme is abandoned, because ultimately there will be workers who contributed throughout their lives to the system prior to the reform and, when the law is changed, they will no longer receive their pensions under this system. This debt that must be met by the government is called the 'reform transition cost', as will be explained in detail later in the report.

If the contribution rate required for the system's solvency is cleared, the result is:

$$T = (S/L) \times (P/W).$$

Note that the contribution required is directly dependent on the rate of senile dependency, which is equal to (S/L), that is, the number of pensioned individuals over the number of active workers. When this rate increases, then T also needs to increase.

This is precisely the challenge that population aging presents to defined benefit pension systems that are financed through PAYGO. When (S/L) grows moderately, it is possible to adjust the rate upwards, but when the aging process becomes more acute, it is no longer politically and economically possible to increase T, and the system becomes financially unviable.

Should it not be possible to increase T, then the amount of the pension, P, will have to be reduced, to the value:

$$P = (T \times W) / (S/L).$$

The higher the proportion of older adults (S/L), the lower the pension they may receive.

Population aging also has an adverse effect on the finances of a defined contribution pension scheme. In this kind of system, at the time of retirement, the worker has to acquire an annuity from an insurance company with the balance accrued in his individual account. That company will charge him/her a premium to guarantee him/her a pension for as long as s/he survives.

This premium is directly dependent on the individual's life expectancy, precisely one of the variables whose value gradually increases when the population ages. The price of an annuity may be calculated in a simplified manner as follows:[4]

$$PR = NSV \times (1+C) \times Q\ ,$$

where NSV is the expected number of years that a worker will survive after retiring, C is a percentage factor of that administrative charge that the insurance carrier asks in payment, and Q is the individual's annual probability of survival.

The equation shows that the more years that individuals are expected to survive, the higher the price that they must pay to ensure a pension for life. Precisely, NSV increases when due to the population aging process, people live longer and, thus, this generates an increase in the cost of the annuity, PR.

The implication is that the benefit to be received by the worker when s/he retires is reduced, because out of her/his accrued resources she/he will have to pay more to the insurance company and the net balance with which to finance her/his pension will be reduced. If it is not socially, politically and economically possible to allow pensions to fall below a certain level, then the increase in PR weakens the financial bases of the defined contribution scheme.

Another challenge that is particular to pension systems based on individual capitalization accounts is linked to the net return paid on funds managed. If high fees are charged for resource management, the return paid will be reduced. The return will also be low if the fund investment options are not good.

Under the PAYGO scheme, the return obtained on social security resources is directly associated with salary mass growth, so the profitability of the system is equal to the growth rate in the number of workers plus the growth rate of the average salary. In the long term, in countries that are less developed, this figure may be around 3.5 or 4 per cent. Can individual account schemes pay in a sustained fashion a rate of return net of commissions that is in excess of four per cent in real terms; that is, discounting inflation?

Finally, there is the problem of the transition cost that must be incurred when a defined benefit system is abandoned in favor of another with defined contributions.

There will always be a group of workers who had contributed to the system in place prior to the reform and will no longer receive their pensions from resources contributed by the young. When the rights of these individuals, called 'transition' workers, are acknowledged, the amount of the debt to them may be extremely high, to such an extent that it might not be politically or financially possible to pay it.

[4] The correct formula is: $PR=\sum^{\infty} d(1+C)q$,where the discount factor is $d=(1+r)$, r is the real interest rate, C is a factor of the administrative charge collected by the insurance carrier, and q_i is the individual's survival probability in years i from his/her retirement from the workforce. The expression of the text is obtained as a simplification assuming that the interest rate is zero and that it remains constant q_i at Q level until it reaches NSV.

In this case, there may be opposition to the implementation of a defined contribution scheme. Even with current reform, if the government is not able to meet its transition responsibilities, a social movement to revert the change could be initiated.

Health Insurance

The main challenges of health care schemes in social security are twofold: namely, the problem of adverse selection and the continuous increase in costs for services provided.

The first difficulty arises when a system does not have universal coverage, since in this case, many workers who are not covered want to become affiliated and contribute to social security only when they get sick and require medical attention.

This will create significant financial pressure on the scheme because individuals who utilize services intensely will be over-represented in the affiliate population, and those who contribute without utilizing the services will be under-represented.

It would then become impossible to diversify disease risks among the population and the system would be left with excess expenditure and a lack of revenue.

The other problem is a sustained increase in the cost of medical insurance, which has occurred to some extent in all the countries in the world, especially over the last three decades.

Costs rocket for several reasons. One is precisely that of population aging, since medical attention for older adults is costlier.

The epidemiological transition affecting modern populations must also be highlighted; this includes diseases that are expensive in terms of care and also their control; these arise mainly as a result of current lifestyles.

There has also been strong tendency towards price increases detected in medicines and treatment. The medical care available to the population is increasingly more effective, but considerably more costly.

Another long-standing factor contributing to the rise in medical costs is the increase in health service demand as population lifestyle levels improve, since there is a direct relationship between health expenditure and family and country revenues: those with a better economic position demand proportionately more medical services.

Finally, different studies have made it possible to determine that if service demand is not somehow limited, there is a tendency among individuals to use to excess the medical benefits to which they are entitled.

Social security health scheme financing thus becomes one of the most significant challenges faced by countries today.

I.3 What is Understood by Reform?

Reform may be understood as an attempt to improve policies or social institutions without modifying what is essential in them. A change, on the other hand, attempts to modify what is essential.

This difference compells us to try to identify the essence of social security, its reason for being. This matter was the focus of the *2002 Report on Social Security in America*, in which social security was defined as 'a scheme for insuring against individual risk, by managing the resources of society in the spirit of solidarity, through which the State assures that all its citizens will have the same economic opportunities no matter what family or group they happen to belong to, or whatever the particular twists of fate they have to deal with' (CISS, 2002, p. 2).

According to this definition, a change in social security would imply the modification of its solidarity goal and its purpose to preserve or enhance community wellbeing, while a reform would imply the modification of policies in order to ensure the viability and enhancement of the social security system.

Although throughout the text sometimes the terms reform, change, modification and others that are similar will be treated as synonymous, it is important to keep in mind that none of the cases analyzed found any country that had opted for a change, in the sense defined in the previous paragraphs, but rather that they have all carried out reforms to their schemes, that is, they have preserved the goals of their social security but modified the means of accomplishing them.

I.4 Types of Social Security Scheme Reforms

Pension system reforms may be parametric or structural (Mesa-Lago, 2003). The first refers to parameter changes to the traditional PAYGO scheme, such as retirement age, number of contribution years to be completed in order to acquire certain pension rights, the payroll contribution rate and others. This has been the reform model followed in recent years in Brazil, Canada and the United States, for example.

Structural reforms, on the other hand, imply the modification of the defined benefit regime, financed through PAYGO, and the total or partial adoption of a private system, or defined contribution system.

According to the result of a structural reform, another classification of the pension scheme obtained may in turn be made (Mesa-Lago, 2003). The model may be substitutive, when the previous PAYGO system is abandoned and one based on individual capitalization accounts is fully adopted. Examples of this type of reform are the reforms in Bolivia, Chile, El Salvador, Mexico, Nicaragua and the Dominican Republic. As was explained above, however, in all these cases the new scheme preserves certain elements of PAYGO.

The reform model is called parallel when the previous public system is reformed, a private one is created, and the two have to compete, as occurred in Peru and Colombia.

It is said that a model is mixed when the public scheme is preserved and still offers a basic pension while workers are allowed to seek a complementary pension from a reformed contribution system. This model applies to Argentina, Costa Rica and Uruguay.

Finally, one significant point that must be noted with respect to pension scheme reforms is that it has almost become a rule that, when the defined contribution model based on the capitalization of funds deposited in individual accounts is adopted, system parameters that would have a significant impact if a structural change were not to be carried out, are also reformed. For example, the number of contribution years required, the minimum retirement age and the contribution rate are usually increased simultaneously. It then becomes difficult to assess which effects of the reform are due to the change in the nature of the system and which are due to parameter modification.

On the other hand, one could also speak of parametric or structural reforms of health schemes. The former would consist, for example, of increases in contribution rates, an extension of the taxable base so that pensioners would also contribute to the scheme, in charging co-payments for the service, limits being imposed on certain benefits and other measures that would not modify the nature of financing and supply.

However, the most significant reforms have been structural in the sense that they have been oriented towards allowing private companies to provide services, but preserving public financing, as occurred in Colombia and Chile.

In a few cases, individuals are allowed to leave the scheme and complement their medical attention financing with private resources.

A problem in health schemes is that the objective of containing the costs of medical attention is opposed to the goal of increasing coverage, so debates on the considerations of reform are focused on the establishment of priorities.

I.5 Topics and Cases to Assess

Since the future of social security will remain as one continue to be one of the most important debates on public policy agendas in every country, it is then extremely opportune to begin the study by asking: What forces a country to reform its system? Under what political and economic conditions is some type of reform more likely to occur?

Thus, the following chapter is dedicated to identifying the main patterns in terms of the political and economical determinants of social security reforms. This is done through a statistical analysis of national data.

In Chapter III, the cases of several countries in the region are discussed in further detail, placing particular emphasis on the description that is made of the different aspects of the reform processes from within the nations involved, that is, an inventory of those who have directly experienced or participated in the facts under study is given. The chapter examines the cases of pension system reforms in Argentina, Brazil, Chile, Colombia, Costa Rica, the United States and Mexico.

It has been said that social security reforms can improve labor market efficiency by introducing changes that stimulate system coverage expansion or limit the incentives schemes usually offer workers to retire too early from the labor force. These arguments are assessed in Chapter IV, where the cases of several countries in the continent are taken into consideration: namely, Argentina, Bolivia, Brazil, Canada, Chile, the United States and Mexico.

In Chapter V, different aspects of the public financing of social security are discussed at length, especially with regard to a change from PAYGO schemes to others based on individual capitalization accounts. The questions considered here include: Which generations end up paying the schemes' deficits? What are the implications for income distribution when a social security system is reformed? An attempt is made to answer these questions in the cases of Argentina, Mexico and Uruguay.

It has also been argued that reforms leading to funded pension schemes, based on individual capitalization, encourage increased levels of saving in the economy.

The effect of these reforms on savings is assessed in Chapter VI, with a view to what occurred in Argentina, Chile, Colombia and Mexico.

The privatization of pension systems, leading to the creation of retirement fund managers, generates several questions that are extremely pertinent to social security: Do the costs of managing the schemes increase? Are the fund returns obtained better than those in the PAYGO systems? Is the risk of losing or incorrectly investing worker resources reduced? These issues are analyzed in Chapter VII, where results from Bolivia, Chile, Mexico, Peru and Uruguay are presented.

Finally, Chapter VIII looks at what has occurred with reforms to medical insurance in Canada, Chile, Colombia, the United States and Mexico. Some of the problems in this branch of social security are very specific and require the development of a particular conceptual framework for their analysis.

Pension system reforms are probably the most numerous, but several social developments have made health scheme financing one of the most significant future challenges for social security. The costs of medical attention are shooting up worldwide, exerting immense pressure on public budgets.

In this respect, some American countries have been pioneers in reforming their health insurance schemes and their experience is assessed in the penultimate chapter: Has coverage increased? Have schemes become more equitable? Has the problem of adverse selection previously referred to, and which weakens the financial bases of systems, been controlled? Has care quality improved?

Finally, Chapter IX contains a summary of the whole report and presents several comments that serve as a conclusion.

Although it has not been possible to study the cases of every American country that has reformed some branch of the system, new information and analyses that were specifically generated for this report are presented in the different chapters, which is hoped will provide valuable knowledge in the analysis of the effects of social security reforms throughout the whole continent.

CHAPTER II
POLITICAL AND ECONOMIC FACTORS INFLUENCING SOCIAL SECURITY REFORM

Authors:
Eduardo Rodríguez-Oreggia
Mario Villarreal

Editor:
Jorge Meléndez

CHAPTER II
POLITICAL AND ECONOMIC FACTORS INFLUENCING SOCIAL SECURITY REFORM

The last two decades in the evolution of public policies, all over the world, have been characterized by reform — or at least the consideration of reform— of social security systems, particularly pension schemes.

Traditionally set up as an intergenerational transfer scheme administered by the government, the long- and medium-term financial sustainability of public pensions have been put at risk due to economic and demographic changes.

These developments do provide the first reason to reform. However, before analyzing in the rest of the report the impact of social security reforms on economic variables such as coverage, labor force participation, savings, fiscal balance and income redistribution, among others, first this chapter asks some questions of a different nature: When is reform politically feasible? Under what kind of political institutions is reform more likely to be carried out?

That is, this part of the report addresses some considerations regarding the macroeconomic or socio-political conditions under which countries in the American continent have undergone some kind of reform of their social security systems, but giving a political interpretation of the statistical evidence that will be presented.

The analysis focuses on reforms to pension schemes, which provide by far the most numerous and important cases, and probably also the most controversial.

In addition to this, the other important goal of the chapter is to provide a broad picture of the patterns that characterize reforming countries. Chapter III, provides a deeper analysis for some study cases, a more detailed understanding of what is reformed and how, and what social, economic, demographic and political factors influence the decisions made by different countries with regard to how to tackle the financial problems of their social security systems.

In the first section of the chapter, the expected influence of key political and economic variables on the probability of a social security system being reformed is analyzed, and a few hypotheses are proposed. In the second section the theory is tested with statistical data from countries that have and have not reformed their schemes. An effort is made to identify patterns in which the American continent deviates from worldwide trends.

II.1 Social Security Reform and Political Issues: Theoretical Considerations

In 1981 Chile privatized its pension systems, starting a trend in that direction among other countries that faced challenges of a similar nature. This process of international diffusion affected the proclivity to privatize of countries that share similar cultural, institutional and economic characteristics with Chile (Madrid, 2000; Brooks, 2000).

In addition, international organizations such as the World Bank and the International Monetary Fund have endorsed structural reform of pension systems as a desirable policy. Some studies have found a positive correlation between the level of World Bank financing and the likelihood of privatization (Brooks, 2000).

These forces, together with specific economic and demographic changes, stimulated other countries to consider reform as a possible strategy.

In the late 1980s and early 1990s, revenue in PAYGO schemes was not increasing, reducing the rates of contribution to systems. Even when the system generated a surplus, the investment of the funds often

did not generate positive returns (Mesa-Lago, 1994). To add another pressure, evasion of payroll taxes further eroded the financial structure of the PAYGO systems (Mesa-Lago, 1991; 1994).

At the same time, however, economic considerations also provide arguments that would suggest, at the very least, the need for caution when moving to a funded system. Brooks and James (1999) point out that the potentially high transition costs of shifting systems might affect the degree of privatization[1].

Other authors consider that financial pressures provide only a secondary motivation for reform, while the main incentive for a move toward a private system is the hope of stimulating saving rates (Madrid, 2000). Despite the importance and persuasiveness of economic and financial arguments, whether favoring or opposing reform, it is important to keep in mind that the design, implementation, monitoring and, particularly, the adjustment of public policies is a highly political game. This is especially true for policy changes that have distributional consequences, as is the case with pension system reform.

First, it is not surprising that once in place, welfare programs are viewed as welfare rights. It has also been argued that a reform may be delayed, or even cancelled, because of its potential effects on the distribution of benefits and cost among relevant actors. In fact, under conditions of uncertainty, there is a bias towards sustaining the *status quo*, even if it is inefficient (Alesina and Drazen, 1991; Fernandez and Rodrick, 1991).

Efforts to analyze the politics of reforms have been translated into formal political economy models in which, for instance, the elderly play an important role, since they represent an important and attractive pool of voters.

The type of reasoning used to understand the politics behind reforms that is present in the above-mentioned body of work can be synthesized in the following hypotheses about how likely a reform to social security is to take place:

1. Reform fails when powerful, salient and well-organized pressure groups oppose changes. These may be, for example, associations of older elderly people.

2. Reform fails when multiple veto players, actors whose agreement is required to implement a change in the *status quo*, have very differing views of what is to be done and why. This situation tends to be more common in democratic countries, where different parties or political groups dominate the different government branches.

3. Reform fails when a credible commitment is not present. If compensation to potential losers is possible but very expensive to implement, the opposition to the reform will increase. This could be the case, for instance, if fiscal constraints make it uncertain that the debt to workers who contributed to the old regime will actually be honored without severely hurting the younger generations that will have to pay for it in the form of higher taxes.

4. Reforms fail when voters are badly informed about the real potential effects of reform. This effect may occur when politicians are able to extract political capital from this situation, since then they will have an incentive to restrain the flow of information about the policy change.

There has been previous research work related to these hypotheses, although only a few papers rely on a formal statistical analysis of the patterns.

The relationship between democracy and the size of social security budgets has been found to be weak, as democracies spend a little less of their GDP on social security and increase their budget more slowly than similar non-democracies (Mulligan et al, 2002).

Moreover, there appears to be a negative relationship between the effects of implicit pension debt and the degree of privatization (James and Brooks, 2001). The interpretation of this situation is that it reflects an opposition to reform on the part of pensioners and older workers who fear that the transition will hurt the government's ability to comply with its current pension financial responsibilities. The importance of this credibility effect on reform processes has also been stressed in other works (Alesina and Drazen, 1991).

Furthermore, economic freedom has been associated with the adoption of funded systems, while political freedom seems to have the opposite effect: the greater the political freedom, the less likely a country is to adopt a funded system (Wang and Davis, 2003).

[1] When a pension system is privatized, the government has to assume the implicit debt with workers who contributed to the former scheme, but now will not receive a pension financed by the young (CISS, 2002). Paying for this is known as the problem of financing the transition between systems. In some cases, this debt can be too high and generate opposition to the reform among the groups that will have to pay for it, depending on the way in which the government chooses to finance this obligation.

Before proceeding to the statistical analysis, and in order to close this section on theoretical considerations, it should be noted that it would appear from this discussion that several variables may be statistically related to the probability of social security reform. Consider first those of a political nature.

Level of democracy. Formal models and prior research results suggest that democracies spend more on social security than do non-democracies. However, at the same time, democracy may also facilitate not only the creation of interest groups, but also the necessary channels for those groups to express and advance their interests. As the diversity of interests increases, it may be the case that changes in the *status quo* are harder to achieve. For example, workers unions are more likely to flourish under democratic regimes, and the empirical evidence suggests that a growth in unionization rates has a negative effect on the probability of reform (Madrid, 2000). Therefore, democracy is expected to have a negative effect on social security reform.

Structure of veto players. Democracy is just one dimension of the interactions involved in reform processes, and the level of competition in the political arena must also be assessed. One important element to take into account is the number of actors whose agreement is necessary to implement changes in the *status quo*. Tsebelis (1995) called these actors 'veto players'. The presence of veto players can be conceptualized as the existence of political constraints. This factor, which is somewhat analogous to the political competition variable, is nevertheless subtly different. To have the opportunity to express alternative views is very different to actually having a real influence on the final outcome. One has to identify the number of independent branches of government (executive, lower and upper legislative chambers, judiciary and sub-federal institutions) with veto power over policy change in each country. This model suggests that each additional veto player increases the total level of constraints on policy change, although at a decreasing rate, and that if members of an opposition branch of government are not divided in their opinions and goals, then the policy change will be more constrained and more difficult to achieve.

In addition to the political variables, some other economic and demographic factors also exert an influence on the likelihood of a social security reform being implemented.

Pension government spending as a proportion of GDP. The so-called 'policy feedback' effect (Skocpol, 1992; Pierson, 1994) suggests that there is path dependence in policy evolutions. In the case of pensions, the creation of constituencies that receive benefits from current social security programs may create pressure groups that mobilize to prevent the potentially harmful effects of reform on their wellbeing. What started as welfare programs end up being seen as welfare rights. According to this argument, the higher the current spending level on the social security program, the less likely it is that reform will occur.

Real GDP per capita. By interpreting this variable as a proxy for the level of development, it may be the case that less developed countries have different attitudes towards reforming the pension system than developed ones. However, it should be noted that other prior empirical evidence suggests no effect of GDP per capita on the level of social security expenditures (Cangiano et al, 1998).

Gross domestic saving rates. World leaders seem to believe that social security reform will have a positive impact on saving (Madrid, 2002). If this is correct, currently low saving rates should have a positive effect on the probability of reform, since it will be promoted as a device to increase savings.

Population over 65. This group being the main recipient of pension transfers, it is clear that the share of population over 65, as well as the growth of that population must be included. With regard to social security spending, several studies have found evidence of a positive correlation with the share of elderly people in the population (Mulligan et al, 2002; Gruber and Wise, 2001). In the case of social security reform, and based on pressure group theory, a negative sign is expected: the more rapid the growth of this population segment, the more likely it is that there will be reform.

The following section examines in greater depth the political and economic determinants of pension reform, and tests the hypotheses offered above.

II.2 Evidence on the Economic and Political Determinants of Reform

The statistical analysis is carried out in two stages. First, worldwide patterns are studied in part II.2.1. Second, the patterns for the Americas are analyzed in part II.2.2. It is important to examine larger sample of countries from several regions of the world for two reasons: on the one hand, in this way one avoids a bias in the understanding of reform determinants, since many other political and economic scenarios are considered and one ensures that results are not driven by the very particular experience of a few countries; and second, by contrasting the American patterns with those found at the world level, one acquires a better picture of some realities of the countries of the continent.

II.2.1 Worldwide Patterns

Table II.1 displays the statistical relationship between the reforms implemented and several key economic, demographic and political factors for a set of 65 countries for which there is information on all the variables during the 1975–2000 period. It presents different equations in which the probability of social security reform is determined by the factors specified there.

Only the fact that an important social security reform was made is considered, without a distinction between parametric and structural reforms. This represents an attempt to avoid the bias of focusing only on the privatization of pension administration as the possible outcome of a reform effort.

The variables that are included in the analysis are social security expenditure as a percentage of national GDP, per capita GDP, the gross savings rate, the growth of the population over 65 years of age and indices for democracy and political constraints that include a veto player structure.[2]

Three models are displayed. The first does not include political variables, the second does not allow for the possibility that there is an interaction between the democracy and political indices, while the third posits that the impact of democracy on the reform probability depends on the level of the political index and vice versa, the latter affects the outcomes depending on the democracy index.

Although some readers may be familiar with this type of statistical analysis, a discussion and interpretation of the results is provided below.

Social security spending as a proportion of GDP. The estimates in Table II.1 suggest the existence of a path dependence process that reduces the probability of reform. In the three models, the current expenditure on social security has a negative impact on the probability of reforms being implemented. This seems to confirm the hypothesis that, with the passage of time, welfare programs end up being viewed as welfare rights.

Per capita GDP. The analysis also suggests the existence of a relatively small wealth effect, since the higher the per capita GDP, the higher the

Table II.1
Probability of a Social Security Reform being Implemented throughout the World, 1975-2000

	(1)	(2)	(3)
Social Security Expenditure/GDP	-0.205	-0.1917	-0.4486
	(0.1277)	*(0.1221)*	*(0.1433)*
Per capita GDP	0.0001	0.0001	0.0001
	(2.19)	*(1.92)*	*(2.51)*
Savings/GDP	0.0263*	-0.0014*	-0.0369
	(0.0207)	*(0.02)*	*(0.0256)*
Change in the percentage of population over 65	-0.4892	-0.3125	-0.6692
	(0.2398)	*(0.1594)*	*(0.1912)*
Democracy Index (D)		-0.123	-0.7717
		(0.075)	*(0.2633)*
Political Index (P)		0.1160*	0.1722*
		(0.1303)	*(0.2265)*
Interaction D*P			0.3716
			(0.1058)
Log Likelihood	29.94	31.86	32.31
Likelihood Ratio Index [A]	0.3526	0.2712	0.2776

[A] Equivalent to the R^2 in linear regression models. Standard Errors in parentheses.

* Not significant at 10%. Probit model.

[2] The democracy index is the one of the Polity IV project, which ranges from 0 to 10, and takes into account how competitive elections are, the rules for political participation and a measure of the level of constraints on the executive power. The political index comes from Henisz (2000) and attempts to capture the veto player structure. It measures the number of independent branches of government with veto power and includes the level of cohesion across the main actors, using data of party composition for the executive and legislative branches.

probability of reform to the pension system. It may be the case that as the population's economic wellbeing improves, then people rely less on future retirement resources that come from compulsory savings and therefore the country is more likely to change the PAYGO system.

Gross Savings Rate. This has a negative effect on the probability of reform. This result supports the assertions that reform may be used as a device to stimulate saving rates, since lower rates increase the likelihood of policy change.

Percentage of the population over 65 years old. The growth of this group generates a consistently negative effect on reform. This confirms the findings of the previous literature, which also suggest that this pattern reflects the opposition from the elderly to changes in the pension arrangements, since they fear that the reform will affect the current level of transfers or the ability of the system to honor the previous commitment. Additionally, it may be argued that this effect is also an indicative of the ability of this population group to exert pressure to prevent changes in the *status quo*.

Democracy index. Regarding the effects of the political variables, political freedom has a negative effect on the probability of reforming the social security system. It seems to be the case that when a country facilitates the expression of different voices and actors, changes in the *status quo* are harder to achieve. The existence of an institutional setup that allows interest groups to express and advance their goals reduces the probability of a reform being implemented.

Political index. On the other hand, the level of political constraints is not relevant in explaining the probability of reforming the pension system. The evidence shows that in highly constrained political environments, due to the strength of veto players, sometimes politicians find a way to make opposition agree to a reform, but in other cases they are not able to achieve this. There is no clear pattern.

Interaction of democracy and political indices. The interaction effect between political freedom and the veto player structure generates a positive result. Thus, the combined existence of institutions that allow the expression of heterogeneous preferences and a higher number of veto players increases the likelihood of reform. This counterintuitive effect suggests that the presence of more relevant actors in a more democratic regime will make likely a change to the *status quo*.

It is true that most of the countries that have engaged in reform in this sample did so in periods in which they had a high democratic score. If democracy reduces the probability of reform, what mechanisms did theses reformed democracies apply to implement those changes? If the joint existence of more veto players and democratic institutions increases the likelihood of reform, how do they reach agreements that conciliate their heterogeneous preferences?

This opens up many interesting questions for further and more profound study. For instance, why were the military left out of the reforming process in several reforming countries? Or, why in some others were the bureaucracies not touched by reform or granted more generous pensions?

II.2.2 Evidence among Countries in the Americas

How do these patterns fit in with the analysis of social security reforms in the American continent? In answering this question, it is important to note that there are at least three other hypotheses that can be formulated and studied in the case of the countries in this region.

First, with a few exceptions — namely, the United States, Canada and Uruguay — on average, the rest of the nations in the continent have not reached the levels of population aging that prevail in other parts of the world. Most of the Caribbean and Latin American countries are still comparatively young.

Thus, it is worth making a new study of the relationship between social security reform and the share of the population over 65 years old.

Second, during the last two decades the continent has witnessed an important wave of economic liberalization, particularly in Latin America. Many aspects of the role of the State in the economy have been politically debated and reformed.

Therefore, the link between economic freedom and the likelihood of social security reform should be analyzed, especially with regard to pension privatization.

Third, Latin America is a region that has been blighted by chronically high inflation rates and currency devaluations resulting from large fiscal deficits. Many observers have noted the great importance of stabilization as an economic policy goal among the countries of the region.

Thus, it may be the case that there is a relationship between fiscal pressure on the economy, measured as the impact of the government's budget deficit, and the likelihood of structural social security reform.

In that case, in order to further address the economic and political factors that help to explain the patterns of social security reform in the Americas, in this section a more specific analysis is carried out for the countries of the region, particularly with regard to these additional hypotheses.

The study presented here includes 33 countries for which there are complete data for the 12 years of the 1991–2002 period. It is not possible to use exactly the same definitions of the political variables that were considered in the last section, because data limitations would prevent many of the American countries from being included in this analysis. However, the available information allows for a statistical study that takes into account some variants of the main arguments.

In addition, given that Latin America was a pioneering region in pension privatization throughout the world, it was considered more interesting to examine the determinants of this form of so-called structural reform.

Table II.2 displays such analysis for the probability of country choosing to reform its traditional PAYGO scheme and introduce some degree of privatization, that is, to deposit at least part of the contributions in an individual account administered by a private firm.

As can be seen, the variables included are the percentage of the population aged 65 and over, per capita GDP, public expenditure on social security as a percentage of GDP, the fiscal balance,[3] and measures of political[4] and economic freedom.[5]

One of the hypotheses to examine is that a fiscal surplus would allow the government to support a social security system in given conditions, but a deficit would limit the government on its public policies and push it to take action towards a reform.

Another idea is to examine whether more political freedom leads to a greater likelihood of structural reform. The pattern identified at the world level in the last section is that in general social security reform tends to happen in less democratic regimes, but what is the trend in the Americas?

Table II.2
Probability of Structural Social Security Reform in the Americas

	(1)	(2)	(3)	(4)	(5) [a]	(6) [b]
Constant	-0.1671*	-4.0026	-4.2787	-4.2871	-5.1150	-5.2061
	(2.3914)	*(0.9256)*	*(0.9396)*	*(0.8708)*	*(1.007)*	*(1.0904)*
Per capita GDP	-0.5916					
	(0.3542)					
Population 65+	0.4048	0.1768	0.0936*	0.0939*	0.2082	0.2361
	(0.1378)	*(0.0784)*	*(0.0687)*	*(0.0663)*	*(0.0821)*	*(0.0987)*
Social security	-0.1541	-0.0898*				
expenditure / GDP	*(0.0737)*	*(0.0655)*				
Fiscal balance / GDP	-0.0726	-0.0890	-0.0849	-0.0848	-0.0751	-0.1682
	(0.0435)	*(0.0416)*	*(0.0422)*	*(0.0416)*	*(0.0410)*	*(0.0789)*
Political freedom			-0.0025*			
			(0.0832)			
Economic freedom	0.3375	0.3801	0.4239	0.4247	0.4618	0.5038
	(0.1208)	*(0.1165)*	*(0.1149)*	*(0.1143)*	*(0.1255)*	*(0.1352)*
$X^2 > 0$	0.00	0.00	0.00	0.00	0.00	0.00
N	396	396	396	396	372	216

Probit regression with panel data. Standard errors in parentheses. Equal correlation panel data with 33 countries, 12 years (1991-2002).
* No significant at 10%.
a) Excluding Canada and the U.S. b) Excluding Canada, the US and the Caribbean.
Data sources: World Bank (2003), Freeedom House (2003), Gwartney, Lawson and Lawson (2002).

[3] Measures the deficit or surplus in the government's budget as a percentage of the GDP.
[4] This is an index of the level of political freedom as constructed by *Freedom House*, and it comprises comparative issues of elections and civilian freedom. A lower index indicates greater political freedom.
[5] This variable is introduced in order to distinguish between economic and political freedom (Barro, 1997). It is the index developed by the Fraser Institute (Gwartney et al, 2002). A higher index means greater economic freedom, understood in the sense of a liberal economy, i.e. lower state intervention.

One more issue to analyze is that, hypothetically, a more liberal government would seek efficiency outcomes, and therefore it would try to adopt reforms towards such goals. Economic freedom should then have a positive effect on the probability of structural social security reform.

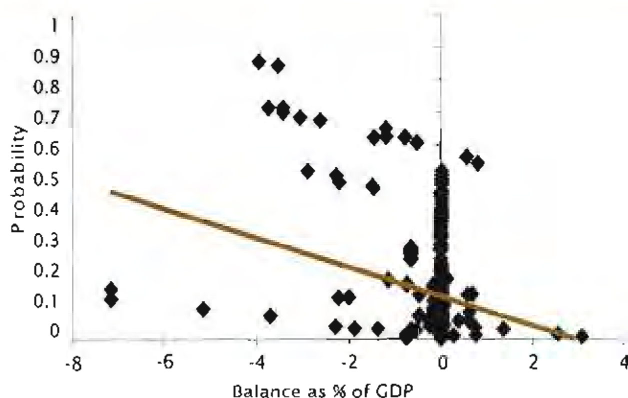
As can be noted, the per capita GDP has a positive impact, in line with the pattern discovered at the world level, but since this variable is highly correlated with others, it is difficult to isolate its individual effect from that of savings, for example.

On the other hand, the level of political freedom is shown to bear no relation to the probability of reform: this policy change is as likely to happen in democratic as in non-democratic regimes.

The variables with stronger links to the probability of structural reform are the importance of the old age population, the level of the fiscal balance and the index of economic freedom. Another variable with an influence, although not as clear, is social security spending, for which the impact on reform is negative, except when per capita GDP is excluded from the set of explanatory variables; that is, reform is as probable in countries with a low or high tendency to devote a large amount of resources to social security.

Figure II.1 shows the relationship between the size of the fiscal balance and the probability of a structural reform being implemented, which is negative, as reported in Table II.2. This suggests that the less the financial pressure on a government's budget, the lower the probability of a reform being implemented. Thus, reform seems to be interpreted as a way to reduce fiscal pressure on the public treasuries, perhaps because the old social security systems suffered significant financial imbalances that were expected to negatively affect the public budgets in the medium run.

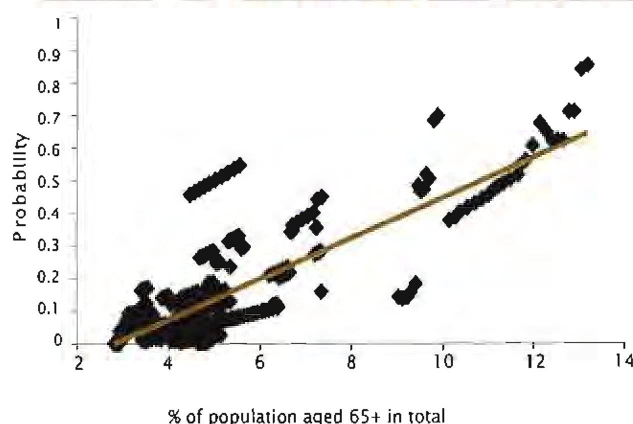
Figure II.1
Fiscal Balance and the Probability of Structural Reform



As displayed in Figure II.2, the relative size of the elderly population has a positive effect on reform. This means that structural reforms are more likely in countries with a higher share of older population, the opposite trend that was observed worldwide, as concluded in the last section and also in Wang and Davis (2003).

Together with the fact that political freedom is not relevant, the results suggest that this population group seems to have no mechanism through which to exert an influence in policy negotiations, or at least that the elderly are not as effective a pressure group as in other parts of the world.

Figure II.2
Proportion of Elderly Population and the Probability of Structural Reform

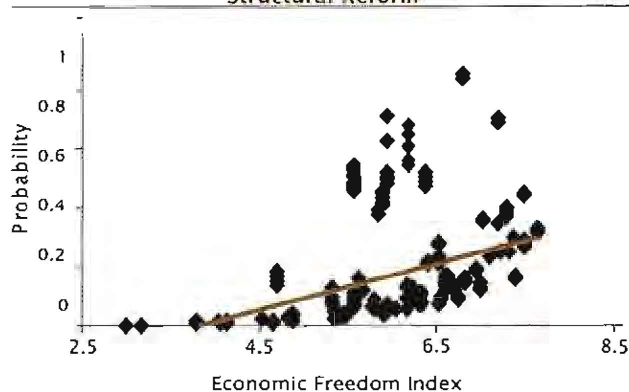


On the other hand, the evidence summarized in Table II.1 indicates that structural reforms in the Americas can be interpreted as an attempt at efficiency seeking on the part of the governments, as economic freedom is found to have a positive effect on the likelihood of the policy change. This is depicted in Figure II.3. Some governments in the continent seem to have imposed an agenda in which there is less state intervention in the economy and structural reform is more likely to be achieved.

II.3 Further Discussion on the Political and Economic Determinants of Reform in the Americas

Reforms to social security must be analyzed from a combined economic, political and social perspective, and not in isolation. This way one can gain an understanding of policy-making, which guarantees that the potential efficiency gains of a reform are shared by all, without leaving any big losers in society, so that the net impact on social welfare is positive and substantial.

Figure II.3
Economic Freedom and the Probability of Structural Reform



The findings of this chapter indicate that in the Americas, particularly in Latin America and the Caribbean, elderly groups of the population are usually not able to employ lobbying mechanisms against social security reforms, as they do in other parts of the world. However, contrasting the trends regarding this issue in the Latin America region with those elsewhere can aid the understanding of why the elderly of Latin America sometimes form political alliances with other groups in order to obtain some benefits. For example, in the case of the structural reform in Bolivia, it has been reported that pensioners allied the opposition in parliament, which did not hold the majority by itself, and the unions. In this way they obtained some concessions or forms of compensation when the reform went through, although these were minimal (Gray, Perez and Yañez, 1999).

It is worth recalling that the population aged 65 and over in Latin America and the Caribbean accounted for five per cent of the total in 1995, while in Europe they accounted for 15.34 per cent. In European countries with higher shares of older population groups it is more likely that they can organize and then strongly influence public decision-making, as they represent an attractive pool of voters for politicians.

In some cases, this also happens in the Latin American region, even though it is not the norm. An illustrative case is Uruguay. This country has one of the highest shares of elderly people in the Americas, together with Canada and the United States, with levels comparable to some of the European countries —12.3 per cent of the total in 1995.

There, the process of reform — which the government had intended to implement in 1985 — was far from easy, as the pensioners organized various referendums on the government's proposals. They won those referendums, and it was only in 1995 that the project was passed, after many concessions, including state participation in the management of the new funds, and also that some specific groups would remain outside the new scheme (Mesa-Lago and Müller, 2002).

According to the findings, economic freedom is a key determining factor in the application of structural reforms, but this does not mean that the credibility of the politicians does not play an important role.

To give an example, in Peru the cabinet ministers did not explain the reform project to the population, which caused suspicion and lack of information to be the main issues raised against the adoption of the new system, especially on the part of the unions. In the end, the reform was adopted thanks to substantial support from the entrepreneurial elite, after congress had been dissolved in a famous self-coup, the index of political freedom at that time being the worst that Peru has ever witnessed (Mesa-Lago and Mueller, 2002; Ortiz, Eyzaguirre, Palacios and Pollarolo, 1999).

Even though Latin American reforms in the 1990s have occurred in an environment of economic freedom, these have been in political structures with a disciplined majority from the governing party, with weakened unions and with some concessions being given (Huber and Stephens, 2000).

Given that with reforms some groups receive more benefits than others, public policy-makers may be able to devise compensation mechanisms to avoid large losses to some people if there is an early identification of winners and losers, which also depends on the credibility of the policy-makers and on the transparency of a process in which useful information flows freely.

CHAPTER III
SOCIAL, ECONOMIC AND POLITICAL CONTEXT OF THE REFORMS: VIEWPOINT FROM THE COUNTRIES CONCERNED

*Contributions**:
Argentina: Jorge D'Angelo and Alfredo Gamietea
Brazil: Baldur Schubert and Helmut Schwarzer
Chile: Gonzalo Bustos
Colombia: Juan Carlos Cortés
Costa Rica: Carlos Enrique Fuentes
United States: Joseph A. Gribbin
Mexico and analysis framework: Antonio Ruezga

Editor:
Antonio Ruezga

* The original papers, with the detailed analysis of each country case study, are available upon request from the CISS.

CHAPTER III
SOCIAL, ECONOMIC AND POLITICAL CONTEXT OF THE REFORMS: VIEWPOINT FROM THE COUNTRIES CONCERNED

The statistical analysis of the relationships between social security reform and economic and political factors is important as it helps towards an understanding of causes, times, results and directions for policy-making, as well as other crucial aspects.

However, a survey of social security system reforms in different countries can also provide valuable data to get a thorough understanding of the complexities of such policy measures.

The purpose of this chapter is to present an analytical description of social security reform processes in several countries in the continent. The description is made by officials in institutions affiliated to CISS, who were closely involved in the reform process.

Some of the contributions reflect an official viewpoint of the issues, while others reflect a more independent view. However, all are inside views from the countries involved.

III.1 Argentina

III.1.1 Reform Origins

Since 1991, certain events took place in Argentina that led to the reform of the social security system.

The pension and retirement regime, which for many years was in financial equilibrium, began requiring government support to sustain itself. In the years prior to the 1994 reform, the government contribution to the pay-as-you-go (PAYGO) regime from general fiscal revenues was less than 30 per cent of expenditure.

There were several factors that negatively affected revenue collection and system financing, among them:

1. The statization of several social security branches previously in the hands of jointly managed organizations.

2. The reduction of contributions made by employers to social security systems.

3. The modification of the independent workers regime.

4. The consolidation of provincial systems to the retirement and pension system without corresponding budgetary transfers.

5. The payment of non-contributive pensions without matching transfers.

6. Labor flexibility, which generated considerable worker turnover and reduced contributions.

7. Unification of system collection.

8. Inexistent or poor fiscal controls.

Several international organizations were involved in the Argentine reform, openly expressing their opinions, which in most cases alerted of the foreseeable financial distress of the system.

The influence of the World Bank was significant, as was that of the International Monetary Fund. The latter conditioned external debt refinancing on the implementation of several measures, which eventually had a negative impact on the system.

The primary law project on individual capitalization accounts did not get the social discussion it merited, even though there were several policy positions. Social actors saw the reform as unavoidable due to the lobbying of the project in society, as well as the existing external pressures at that time.

The discussion of the reform was mainly held in the legislative branch. Serious proposals were discussed, but were generally opposed. However, a majority, influenced by the administration of that time, approved the Law.

Although the Declaration of Reasons of the Reform Law of 1994 included a number of justifications, the two main points were: 1) the inefficiency of the PAYGO and 2) the inability to fund the system in the near future.

At the time, the involvement of public opinion in the reform debate was very limited. This situation gradually changed and at present the population are much better informed about their rights and obligations in the new social security system.

III.1.2 Characteristics of the Reformed System

The fundamental change to the system was based on the creation of individual saving accounts, managed by private institutions called *Administradoras de Fondos de Pensiones y Jubilaciones* (AFJPs — Pension and Retirement Fund Managers). These accounts are credited monthly with the amount withheld from the worker's salary for his/her retirement.

The pension of an individual retiring under the capitalization regimes is made up of three elements: 1) a universal basic benefit, related to contributions made by employers and which currently amounts to $200; 2) a complementary benefit, related exclusively to contributions made by the worker under the old regime, if any; and 3) his/her capitalized funds.

The Argentine scheme allows the worker to choose between systems, the previous PAYGO system or the reformed capitalization system. If the worker selects the capitalization system, s/he is not allowed to switch to PAYGO, but the opposite move is allowed.

In either case, the retirement age is 60 for women and 65 for men. Both must meet a requirement of 30 contributing years, with almost no flexibility in this requisite.

A superintendence oversees the reformed system. Unfortunately, it lacks the powers to adequately fulfill its controllership functions.

Currently, the old PAYGO system, managed by the National Social Security Administration, pays some 3.3 million pensions monthly, at an average of $350 in benefits (excludes provincial, professional and special saving associations), plus 326,000 non-contributive minimum pensions.

By the end of 2002, the private system was paying more than 32,000 retirement pensions, 56,000 death pensions and 15,000 disability allowances.

III.1.3 Results of the Reform

To date, the reformed system has not generated the expected results, due mainly to the government's take over of almost 80 per cent of the fund manager reserves. This measure implies that funds intended to guarantee individuals' retirement are experiencing the same fate as the beleaguered Argentine economy.

In fact, during the economic crisis at the end of 2001, manager fund reserves experienced the same fate as the Argentine external debt: from technical reserves, they were transformed into default paper.

The cost of the service offered by AFJPs is high and regular retirement or disability-induced retirement from an AFJP is as complicated in the current system as it was in the previous PAYGO regime.

Another issue is that with the reform the government thought that by privatizing the regime its obligation to society would be secondary. This turned out to be a serious mistake.

One challenge not addressed by the reform is how to increase the level of social security coverage. To date, those people employed in the informal labor market and the unemployed are not covered by the system.

Labor market behavior affects the system's collection. Current behavior signals a serious social conflict if no measures are implemented. Only 35 per cent of a labor force of 15.5 million individuals is in the formal market. Some 2.2 million workers are registered in the old PAYGO system but less than one million make monthly contributions. There are 9.1 million workers registered in the capitalization system, but only 2.9 million make regular contributions. In addition, over one million employees of the municipalities and provinces are not incorporated into the new regime.

Currently, most of the economically active population is made up of the unemployed, informal workers and under-employed, including those who receive special welfare plans. Therefore, only a small fraction is protected by the new regime. There are even less people who will be in a position to retire in the future. It will take a long time to find a way out of this problem.

In order to settle the retirement and pension shortfall, at the end of 2002 the government made contributions exceeding 70 per cent of contributions received. This government contribution represented a 134 per cent increase in Treasury contributions between 1994 and 2002.

III.1.4 Social Structures: the Status of the Elderly

Argentina has one of the largest proportions of elderly population in the continent. Currently, 14 per cent of its population is over 60 years old and 10.4 per cent is over 65. The projections for 2025 indicate that 17 per cent of the population will be over 60 years old and 14 per cent over 65.

Unlike in other countries, in Argentina the elderly had always received some form of support. There are three elements in the support network that are worthy of mention.

First, the existence of a National Institute — known as the PAMI — in charge of offering medical and social benefits to the elderly.

Second, community organizations for the elderly called *Centros de Jubilados y Pensionados* (Retiree and Pensioner Centers) sponsored by the government. They concentrate most third age individuals in 2,200 locations. These are autonomous organizations that have a board of directors elected among their members.

Third, the presence of several NGOs supporting the elderly, either directly or indirectly, and offering multiple services not provided by the State.

There is also a ministry dedicated to the elderly. However, a lack of concrete actions and unsuccessful results have prevailed. There is also a third age legal aid office. Additionally, there are contingency plans for the elderly at the municipal and provincial levels. In this case, their plans and impact on the elderly are significant.

In summary, the elderly population is largely regarded but modestly served. This population group has also suffered from the social and economic crisis in Argentina.

For several months, the incomes of retirees and pensioners were reduced by 13 per cent. Low collection levels seriously affected the resources of PAMI Social Works, devoted to healthcare for the elderly. Medical service quality deteriorated and some government benefits were reduced or eliminated. Inflation also affected the resources for the elderly.

Despite these problems, and although the elderly are not being served as in the past, medical benefits are within minimum acceptance parameters and social benefits are still significant.

It also must be stated that, although the economic outlook for the elderly is not promising, nor is the situation of the working population. In fact, it is interesting to note the emergence of a social phenomenon. As all retirees and pensioners became 'privileged' by still collecting their benefits every month, they became the main source of support of many households amidst growing unemployment and under-employment.

The concept of the 'Argentine family' includes the elderly in most cases, which is important in this crisis anatomy. The participation of the elderly in intermediate organizations, which are in fact directed by them, facilitates integration and containment, countering loneliness and discrimination.

III.1.5 Problems in the Health System

There were many attempts to reform the health system, including privatizations. But the current social works regime, which operates effectively and is largely controlled by Argentine unions grouped in the General Labor Confederation, successfully opposed the intended changes.

In spite of the opposition, several modifications were introduced which ultimately favored beneficiaries and were therefore welcomed by society. Two of the most significant were:

1. Affiliates were allowed to choose social works, the healthcare provider organizations. Thus, even if they enter a job belonging to an affiliate service, they may change to another the worker might find it more appropriate to his/her needs.

2. A compulsory minimum benefit, called the compulsory medical benefit, must be offered by every social work. It represents a floor for the services offered, allowing each institution to increase its coverage range in order to compete in the market.

The social security health system was also affected by the crisis. It is experiencing problems related to costs and services. However, this has not affected affiliate coverage. The same is true for the public health system, for which services are free.

An additional pressure to the system arises from the unemployment level, informality and poverty because the number of persons who resort to the public systems exceeds the existing capacity. However, this fact is related to the economic juncture and not to any deficiency in the system.

III.1.6 Different Aspects of Social Security

The attitude adopted by the authorities with respect to pharmaceuticals policy merits particular attention. Under this policy, the use of generic drugs was regulated. In the past, this topic was neglected by the Argentine authorities.

Regarding risks in the workplace, it is worth pointing out that the previous legislation, the Working Accidents Law, did little to prevent and assist in the case of an accident.

The current regulations, based on workers' insurance, mandate prevention measures, set payment rates based on risk and cover the employee from the moment of the accident, including medical attention and rehabilitation, if necessary.

As any body of laws, there is room for improvement in certain aspects of the system. For example, functions and controls that overlap end up affecting individuals. However, it can be affirmed that the new regime operates within acceptable standards.

Although other protection systems were reformed, one area of concern is that of family allowances. Since 1996 certain measures have been taken to the detriment of its beneficiaries.

This system of income redistribution was adversely affected by radical economic and financial measures that did not take into account social family aspects. In spite of this, it is still important to the poorest workers.

Recently adopted measures have the aim to return this form of family support will once again become to what it was many years ago.

One should keep in mind that the allowance and family subsidy regime in Argentina was the pillar of jointly managed administrations, which operated successfully but regrettably disappeared with time as the result of government intervention.

III.1.7 Reform Perspectives

The social and labor situation in Argentina is complicated, although it has shown incipient signs of improvement. However, the advent of a new government restores the hope of the population.

In the field of ideas, social security issues are being analyzed once again and society is aware of the need for change. New ways to organize social protection are being devised.

One important lesson is that control and regulation of the reformed system must not be confused with the arbitrary seizing of private fund manager reserves. Otherwise, the following questions arise: Why was the system privatized? To pay commissions? To pay interest on the money it previously collected itself? In summary, the State must be attentive to the proper operation of the system, but must not disrupt it.

The high levels of informal labor and unemployment are now regarded as normal. To think that the social security system will be able to sustain itself from contributions from the formal market alone under these conditions is a serious mistake.

In order to devise a universal social security system, the scope and financing methods of that system must be redesigned.

Thus, differentiated benefits and financing through general taxes must be taken into account.

It is important to realize then that whatever is provided may not be the ideal, but feasible.

III.2 Brazil

This section offers a brief diagnosis of the Brazilian social security system and the details of the reform proposal that was recently submitted to the National Congress. The intention is to provide the foundations for a more in-depth discussion of the policy course that Brazilian society may choose for its system. The analysis is oriented towards linking together and presenting the main data and phenomena that are necessary in order to grasp the urgent need for system reform. The discussion also represents the point of departure for the reform debate under the new administration of President Luis Inácio 'Lula' da Silva.

III.2.1 Reform Origins

Both social welfare regimes in Brazil (in the private sector, administered by the National Social Security Institute (INSS), and in the public sector, which exists at federal government level, in the 27 federated states and in the 2,140 municipalities in the country) are in deficit. The INSS deficit is explained by the the rural welfare sub-system, which has significant effects in fighting poverty, as well as by other factors, such as the deterioration of the urban labor market in the years following the devaluation of the currency in 1999. In December 2002, the INSS paid 19 million benefits, of which almost two-thirds corresponded to the minimum salary, resulting in a deficit of around R$17 billion, equivalent to 1.3 per cent of GDP. In contrast, in the same year the public sector employee system paid approximately 2.6 million benefits, under a R$39.8 billion deficit or 3.1 per cent of GDP.

In the public sector employee system, the strong budget commitment is the result of benefit access and indexation rules, which are completely different from those in the private sector. The latter were reformed in 1998-99, during the government of Fernando Henrique Cardoso. The most striking differences lie in the fact that public sector

employees do not have a benefit ceiling, the minimum age to gain access to a pension is only 53 years old for men and 48 for women, the pension calculation is based on the last remuneration received by the worker and pensions increase according to the increase in the remuneration of active workers in the same profession.

In the General Social Welfare Regime (RGPS) of INSS, after the welfare reform of 1998-99 the pension by contribution period is calculated based on an average of 80 per cent of the highest salary after July 1994 and by applying the welfare factor. This factor includes in its formula the retirement age, life expectancy and the contribution period, thereby creating a reduction in the pension replacement rate if the insured person opts for an early retirement, that is, before the age of 60 for men and 55 for women. Pensions with the INSS are indexed to inflation through the National Consumer Price Index and are subject to a R$1,869.34 ceiling, some US$620 as of August 2003. As a result, a large disparity in average pension values between regimes has opened up, exacerbating the economic and social differences in the country.

Currently, the elderly in Brazil represent 8.6 per cent of the population, some 14.5 million people. With respect to 1991, there was a 35.5 per cent increase in the total number of elderly people. Life expectancy at birth reached, in 2001, 65 years for men and 73 for women. For each life, excess life, a concept that is more adequate for social welfare systems, has increased through the years. In the 1970s and '80s, excess life was 22 years for a 50 year-old man and 24 years for a woman of the same age. That is, they would reach 72 and 74 years of age, respectively. By 2001, excess life had increased to 23 years for men and 28 for women. All these changes are closely related to social security and have a marked effect upon it.

Regarding changes in the labor market, according to the Monthly Employment Survey (PME), of the total number of employed individuals, formally hired workers amounted 57.5 per cent in 1990, and 44.1 per cent in 2000. The proportion of workers without a contract increased from 19.3 per cent in 1990 to 27.7 per cent in 2000. That of independent workers increased from 18.7 per cent in 1990 to 22.6 per cent in 2000.

The impact of changes to the formal labor market on social security financing can be verified through the following exercise: if the labor market structure in 2002 were the same as that of 1990, it is estimated that RGPS would have a surplus of nearly R$2 billion. However, as previously indicated, there were financing requirements of R$17 billion.

By any measure, the proportions of social security in Brazil are remarkable. Any indicator of revenue and expenditure, coverage, benefits or poverty alleviation shows impressive magnitudes. However, a time for reflection about the course the system should follow. Anyone who states that there is a tension between the problems in Brazil's system and the benefits it provides is not wrong. In the future, the system may become unviable.

III.2.2 Characteristics of the Reformed System

The Brazilian system has four regimes, each targeted at specific population groups.

The RGPS, administered by the INSS, compulsorily covers all workers in the private sector, including the self-employed, domestic workers, farmers and others.

Another Brazilian social security regime serves the public sector employees at the three levels of government. According to the Constitution of 1988, the federal, state and municipal government levels may establish a Proprietary Social Welfare Regime (RPPS) for their employees or choose to have them affiliated to the INSS. As of January 2003, all of the states, 2,140 municipalities and the federal government had established an RPPS.

A similar case applies to the military. According to the Constitution, they have the right to resort to an independent regime.

Finally, the complementary regime is optional and is intended for those who want a benefit complementary to the one they enjoy in any of the other regimes. The complementary regime works either through 'closed' funds, which are directed to specific groups of employees, or through 'open' funds, which may be acquired in the financial market by any citizen. A private institution manages this regime, while the Ministry of Complementary Welfare (SPC/MPS) and the Superintendence of Private Insurance (SUSEP/Ministry of the Treasury) regulate the system. Unlike the other regimes, which are PAYGO, this is a capitalization regime.

The RGPS is one of the main social insurance mechanisms in Brazil. Over the last few years, the system reported negative financial results, which affected the fiscal outlook. However, the system plays an important social role in terms of reducing poverty, improving income distribution and fostering economic development, particularly in rural and small urban communities. In this respect, the system is fundamental to the stability of the country.

In 2002, the basic regime benefited 73.9 million workers, representing 42.1 per cent of the total population.

The RPPS coverage services 7,312, 063 individuals.

An analysis of the social aspects, that is, of the real impact on the life of individuals, reveals some results worth bearing in mind. Such results depict the Brazilian State as an agent capable of promoting welfare. An instrument that crucially helps to this end is the 'non contributive' regime, a mainly rural system. In rural areas, the system contributes to the dynamics of the local economy, creating jobs and preventing migration to urban centers.

III.2.3 Results of the Reform

The measures implemented mainly through Constitutional Amendment No. 20 of December 1998, and by Law No. 9,876 of November 1999, contributed to the financing requirements for the following years, particularly in relation to the containment of early retirement that was being granted to individuals averaging 48.9 years of age. Currently, the average age of affiliates receiving pensions is 53.2 years old, still a very young age.

The RPPS also has significant financial problems. System expenditures, as mentioned before, imply a requirement of resources of nearly 3.1 per cent of GDP.

Because of the severe financial conditions, the system for public sector employees was targeted as the main object in the proposal for future reforms. From January through April 2003, following the completion of an analysis of the system, there were lobbying efforts made especially by the Presidency of the Republic, the Social Welfare Ministry and the Ministry of the Treasury. One of the main forums for discussion was the Economic and Social Development Board, an advisory agency for economic, political and social reforms, created by President Lula. Membership of the board includes some 100 personalities from the entrepreneurial, labor, academic, cultural, religious and social sectors. During February and March 2003, there were intense debates among the Board about the condition of the system and policy options.

The most important political alliance was created after intense lobbying between President Lula and the 27 state governors. The collaboration was reproduced in the technical field by experts from the Social Security Ministry and State Administration Secretaries in the form of a Council (the CONAPREV). The federal legislation for a public sector worker system is compulsorily applied to state and municipal sub-systems. Since the states and municipalities in Brazil are, in general, in an even more critical budgetary situation than that of the federal government, the governors and mayors were the most interested parties in the reforms.

III.2.4 Reform Perspectives

Coverage represents one of the main challenges of Brazilian social policy. The efforts carried out by within the system to increase coverage should not be limited to a policy implementation on the part of the government, but must become a commitment of all society.

Reforms to the social security system, rather than only considering changes to financing and benefit rules, must include administrative measures against fraud, outstanding debt recovery and coverage expansion.

The growing imbalance in the public sector employee system is of special concern since it covers a considerably smaller number of affiliates, but with larger benefits and longer benefit duration.

The reform proposal submitted to Congress on 30 April 2003 is based on three main goals: 1) the creation of a new regime for incoming public sector employees with rules harmonized to those of the INSS; 2) a radical adjustment to system parameters for current worker generations; and 3) the creation of a solidarity contribution from current pensioners, who obtained benefits based on rules that were quite generous. The main proposals are:

1. The INSS only modifies the value of the ceiling on taxable income from R$1,869.34 to R$2,400.00 (US$ 800), equivalent to ten official minimum wages. Increasing the ceiling at the INSS is based on a decision that intentionally goes against the trend in social security reforms in other Latin American countries. In those countries, the maximum taxable income in the old system was reduced after the reforms to make room for capitalization-based systems.

2. Maintaining the rights acquired for those who have already retired as well as for those meeting the eligibility requirements for a pension. The concept of 'acquired right' in the proposal corresponds to the interpretation made by the Supreme Court (STF) on several occasions, which clarified that only those meeting all the requirements (minimum age, minimum contribution period, minimum affiliation period to the public sector regime) are eligible for a pension under the current rules.

3. Changing the formula used to calculate public sector pensions, so as to introduce the use of the average taxable salary throughout the affiliate's labor life to calculate the pension, instead of using the last taxable salary.

4. Creating new references for retirement age for public sector employees currently active in the

workforce by establishing a proportional reduction in the replacement rate for early retirement (with respect to the ages of 60 for men and 55 for women). Those who choose to retire early will be penalized five per cent for each year of retirement before the required age. This reverses the current logic of increasing the income of public employees upon retirement. For those who meet the current retirement rules (age from 53 /48 and 35 /30 contribution years) until the end of 2005, the reduction for each year of early retirement will be 3.5 per cent. For employees who joined the public sector after 1998 the minimum retirement age was set at 60 and 55 for men and women, respectively.

5. Ruling out the possibility of retiring after reduced contribution periods. Currently, men and women are allowed to retire after a 30-year minimum contribution period for men and 25 for women. This has been abolished. A public sector employee may receive a pension that is not proportional to the contribution period, if he has made at least 35 years of contributions in the case of men and 30 in the case of women.

6. Maintaining the possibility of getting a pension based on the last salary received, but under more stringent requirements and limited to currently active workers. As a result of negotiations in Congress, current public sector employees can obtain a pension equivalent to their last salary only if they reach 65/60 years for men/women with 35/30 years of contributions.

7. Introducing the INSS ceiling on taxable income for future public employees and creating complementary pension funds. Federal, state and municipal laws will create complementary pension funds for public employees, once the reform has been approved. Future public employees entering after the complementary fund has been established will be compulsorily subject to the same INSS taxable income ceiling (R$ 2,400 monthly).

8. Complementary funds for public employees will operate under the same rules as for private sector workers. Brazil already has an extensive capitalization-based system of complementary and voluntary occupational pension funds for private sector workers. The pension funds created for the public sector will be occupational, not-for-profit and jointly managed by worker representatives and government agencies. According to a change introduced by national representatives, fund management will be 'public in nature', meaning they will not be managed by private banks and insurance companies. However, the regulations will be the same as those for private pension funds. The proposal establishes that complementary pensions will be based on the defined contributions principle.

9. Modifying calculations for widows' pensions. Under current legislation widows' pensions amount to the total remuneration of the deceased public employee, generating dependent overprotection. Following to the original government proposal introduced by representatives, the new rule states that pensions for widows and orphans will be up to the INSS limit, plus 70 per cent of income in excess (if any) of that cap.

10. Creating a solidarity contribution from current pensioners in the system. Such contributions were justified on the grounds that the pension calculation formulae applied in the past were extremely generous and, therefore, it is necessary to equitably redistribute the costs of balancing the system among generations. As a result, the proposal included the introduction of contributions from current beneficiaries to the public sector employees system.

11. Introducing an upper limit for current remunerations and pensions in the public service. The reform proposal also includes such a limit on remunerations and pensions in the public sector.

12. Creating pecuniary incentives that encourage extension of the working life.

13. Implementing minimum contribution rates at the state and municipal levels equal to those at the federal level. Currently, there are large differences in contribution rates among states and municipalities. In general, they must be increased.

14. Consolidating savings associations in each state. The provisions establish than only one management unit of the public regime will operate in each state. The proposal, however, did not make any progress towards the consolidation of savings associations for both systems, public and private.

15. Modifying the indexation of pensions granted after the reform. For legal reasons, pensions granted before the reform will continue to be indexed according to increases in public employee salaries.

III.2.5 Conclusions

The goal of the reform is to make the Brazilian social security system more equitable and sustainable.

The challenges in this area are enormous. More important, Brazil envisages a universal basic system, with equal rules — the same rights and obligations — for all citizens. The model must include income redistribution elements that allow the country to overcome social inequality. This fight against inequality and poverty is an ethical commitment of President Luis Inácio 'Lula' da Silva.

III.3 Chile

There have been profound reforms to the main social security systems, the pension system and the health system, in Chile during the last 23 years. They have resulted in models that served as a template for reforms in other countries.

This section presents a summary of pension and health systems. The latter is currently going through a new reform process. The most relevant aspects of the recently implemented cessation insurance, in operation in Chile since October 2002, are also presented. Finally, the initiatives carried out regarding protection systems for the older adult are described.

III.3.1 Reform Origins

Until the end of 1980, Chile had a PAYGO pension system in which pensions were guaranteed by the government. To meet this commitment, the government passed on to the economy all system costs. This was reflected in the rising deficit. The system became unbalanced and inequitable. Contributors affiliated to the social security regime (which covered more than 70 per cent of the population) — mostly lower income workers — were the most affected.

A number of different factors exacerbated the financial problems. Those factors included increases in life expectancy and decreases in the birth rate, which further exacerbated the deterioration in the relationship between assets and liabilities. Another problem was the lack of a single legal statute, which resulted in the existence of 32 different savings associations. These managed more than 200 regimes, leading to discrimination against certain social groups.

III.3.2 Characteristics of the Reformed System

With Decree Law No. 3.500 of November 1980, a compulsory pension system was implemented in Chile. The new system was based on the capitalization of individual defined contributions, on competitive private management and on affiliates' freedom of choice. This regime, designed to substitute the PAYGO system, was the first known case with such characteristics in a social security system of national scope.

Workers affiliated under the previous system and those who started working up until December 1982 were allowed to choose between the two systems. The rest had to enroll in the new regime. Therefore, both pensions systems coexist for some time.

In the individual capitalization system, dependent workers are obliged to save in a personal account managed by a Pension Fund Manager (AFP) chosen by the worker. The savings will finance their old age, disability and survival pensions. Self-employed workers may voluntarily join the system.

The government, in its subsidiary role, guarantees a minimum pension level to those workers who, having met the requirements described below, have not accumulated sufficient funds to reach that level.

As of June 2002, total worker savings accumulated in the individual capitalization accounts amounted to more than US$37 billion, more than 55 per cent of GDP and an average of four million pesos per affiliate. Additionally, for 21 years the system has allowed many Chileans to access through savings investment, housing financing, mortgages and company projects that provide employment.

The benefits of the new system are basically old age, disability and survival pensions. Each pension type has its own financing rules and they may be paid in the form of: *programmed withdrawal*, paid by the AFP and under which the affiliate or beneficiary assumes pension and survival fund return risk, but maintains possession of his/her funds; *immediate annuity*, whereby the affiliate contracts with a life insurance company a monthly pension payment until his/her death and, subsequently, survival pensions for the beneficiaries; and *temporary income with deferred annuity*, whereby the worker purchases a monthly payment of an annuity to begin at a future date after retirement. Before this date, the affiliate receives a monthly pension from the AFP, calculated by distributing the funds in the personal account as defined payments at the same rate as for programmed withdrawals.

Old age pensions are paid to workers who have lost their ability to generate an income as a consequence of age — 65 years for men and 60 for women. However, they may retire before that age if their savings are sufficient to fund a pension. The law includes provisions to determine the minimum amounts that make workers eligible for this option.

Disability pensions substitute the remunerations of those who during their active life get sick or suffer a disabling accident, either total or partial. Disability resulting from work accidents or work-related illnesses originates benefits that are governed by a different system, which is regulated by Law No. 16.744 and managed by employer mutual funds.

Survival pensions are generated by the decease of active affiliates or pensioners and are granted to the spouse, to the disabled spouse and to descendants who meet the requirements set forth in the law. In some cases, mothers of the affiliate's out-of-wedlock

progeny, as well as the affiliate's parents, are entitled to survival pension benefits.

The AFP's are private corporations whose exclusive purpose is to manage pension funds and to provide the services and benefits laid out in Law Decree No. 3.500.

Life insurance companies are involved in the administration of the regime through the sale of annuity insurance, payments for temporary disability pensions and financing the resulting difference, in case of death or definitive disability, between the present value of pensions and the balance accumulated in the affiliate's individual account.

Until the late 1970s, the government was solely responsible for the administration of the healthcare system. Private sector participation in open healthcare areas was negligible. Thus, the government had a hegemonic position. All control, regulation, management and service functions in Chile were assigned to the executive branch.

Following the reform of the 1980s, individuals may choose between health systems, public or private, according to their preferences. They finance the system through a compulsory contribution.

That is, the Government Health Regime is set up as a single and universal system. The regime offers, in turn, two types of service: *freedom of choice* and *institutional*. Both may be indistinctly used at any time. Both types are financed by a single fund made up of worker contributions (seven per cent of their salaries) and fiscal transfers. This fund is managed by the *Fondo Nacional de Salud* (FONASA — National Health Fund), an organization that, unlike private institutions, offers a 'single plan' of payments to beneficiaries.

Within this framework, the Ministry of Health issued the Decree with Force of Law No. 3 in 1981. The decree set the guidelines for the provision of health services and benefits by the *Instituciones de Salud Previsional* (ISAPREs —Welfare Health Institutions). affiliates, the ISAPREs are allowed to freely negotiate the characteristics and the level of the benefits by means of a 'Health Contract'. Under that contract, the institution and the contributor agree on non-basic healthcare to be received by the affiliate and his family.

The organizations responsible for providing basic healthcare are the services that constitute the National Health System. The government system prohibits these organizations from denying attention to whoever may require it, or from making that attention contingent upon any payment.

At present, this, the most important reform bill in the last 20 years, is under legislative review. The plan includes new rules for benefits, health authorities and ISAPREs.

With regard to benefits, the reform created the so-called 'Plan AUGE' (BOOM Plan) aimed at ensuring equity in the access to healthcare services, preventive as well as curative, regardless of the payment capacity of individuals. The main element proposed to achieve the goal of equity is the design of a universal access plan that defines non-discriminatory universal services guaranteed by the State in some health areas. This guaranteed system is standard, non-exclusive, universal, integral, incremental and total.

III.3.3 Results of the Reform

The most obvious result is that the systems are still subject to reforms. In March 2002, a reform modifying voluntary savings became effective. The new rules provide a significant tax incentive in order to encourage worker savings, especially from those who contribute above the taxable limit (60 Units), equivalent to nearly US$1,450.

In October 2002 the Multifunds became operational. This event has been regarded as the most significant change experienced by the AFP system in its 21 years of life. Through the Multifunds affiliates can choose among five funds the alternative most suitable to their needs and preferences. The funds are differentiated by number of fixed income and variable income instruments in which savings are invested. The purpose is to increase the pension amount over time by means of investment instruments suited to individual preferences.

Also in October 2002, the new compulsory cessation insurance went into operation to cover voluntary or involuntary unemployment. It is based on financing by workers. 0.6 per cent goes to the individual account and 0.8 per cent goes to a Solidarity Fund. The government makes an annual contribution to that fund. These contributions are tax exempt.

A private manager administers the insurance. The manager is awarded that right for ten years through public tender. In the only tender held to date, a consortium formed by pension fund managers won that right.

The Cessation Insurance is compulsory for dependent workers governed by the Labor Code who started working or resumed labor activities after 2 October 2002. Renewal of a contract in place as of 1 October 2002 does not create this obligation. Those workers hired before 2 October 2002 may voluntarily choose to join this type of insurance.

In order to be eligible for benefits, the affiliate must have a minimum of 12 (continuous or otherwise) contributions credited when his/her contract is for an indefinite term. The affiliate can make a monthly withdrawal from his/her individual account for each year or fraction of a year recorded since his affiliation in which he exceeds six contribution months. A five-transfer limit applies. If the worker has been laid off due to 'company needs' or a 'fortuitous case' or 'major force' (that is, involuntary job loss), s/he is entitled to the solidarity cessation fund that ensures minimum retirement amounts. In this case, 12 continuous credited contributions are required.

The Law requires, that before granting any benefit through the solidarity fund, the Cessation Fund Manager (AFC), the managing organization, must send the affiliate's file to the Labor Intermediation Office that corresponds to the affiliate's address. The office may offer a job or training scholarship financed by the National Training and Employment Service (SENCE). If the salary to be received in the new job is at least 50 per cent of the last salary and if the affiliate turns the offer down without justification, then the worker loses the right to an insurance payment.

III.3.4 Social Structures: the Status of the Elderly

The significant increase in the elderly population requires a new approach to respond to situations not seen before, such as quality of life, rights, integration and others. This population group claims and demands spaces in which they can interact with the rest of society. Thus, elderly organizations and movements emerge, founding unions, clubs and centers, in this way creating social organizations. At present, 20 per cent of older adults, that is some 300,000 individuals, participate in these organizations. Elderly individuals have become legitimate social actors at the community, regional and national level.

Perhaps the most significant legal modification regarding the integration of the elderly into society has been the incorporation of pensioners to the compensation savings associations. This reform took place in December 1997, through Law No. 19.539. With the exception of pensioners coming from the National Defense Savings Association and from the Carabineer Savings Association, the reforms allowed pensioners access to benefits offered by the associations, including additional and complementary benefits.

Enrollment is voluntary and affiliates must participate in system financing with contributions that can not exceed two per cent of their pension.

The benefits that pensioners can enjoy include several healthcare services (such as dental care agreements), legal advice, recreation and tourism, education, culture and economic benefits such as allowances for university registration to student pensioners and their family dependents, dependent death allowances and pensioner death allowances.

But perhaps the greatest benefit from enrollment in the system is access to social credit. This credit is granted with fewer requirements than those demanded by the financial sector and is subject to lower interest rates.

As of December 2000, more than 300,000 pensioners were affiliated to the system.

III.4 Colombia

III.4.1 Reform Origins

In 1990, Law 50 modified the labor regime and created the cessation and pension managers. Subsequently, the 'Integral Social Security System' was created in 1993 by Law 100. The government endowed the private sector with powers to offer health services, cover work-related risks and illnesses and extend the administration of economic benefits such as pensions and cessation payments. The government also promotes competition between the public and private systems.

Integral Social Security was defined as the group of institutions, guidelines and procedures available to individuals and to the community to enhance the quality of life. This is accomplished through gradual progress plans and programs that the government and society devise to provide integral contingency coverage with the purpose of improving individual welfare and community integration, in particular, plans against contingencies that affect the health and economic capacity of individuals.

Prior to the creation of the General System of Social Security on Health, Colombians had the following possibilities to access medical services:

1. Going to state hospitals and health centers.

2. Going to private clinics and centers if they had the capacity to pay for their services.

3. Going to the Social Insurance Institute (ISS) if they were dependent workers and were affiliated to social security.

4. Affiliating to a Social Security Association if they were public employees —district, department or national.

5. Paying private medical insurance.

6. Going to Family Compensation Associations if they were affiliated to them.
However, this model had serious problems.

- Each year 200,000 children were born without any medical assistance.

- More than half of the Colombian population did not have any social security

- Some individuals may be protected by all six alternatives.

- The system, composed of more than 1,000 welfare organizations, had a general financial deficit.

These, as well as other problems, were the result of a paternalistic health and charity system maintained by the government for more than a hundred years (since the 1886 Political Constitution).

The 1,040 national and territorial welfare associations existing before the reform, whose origins date back to 1945, were not self-financed. They operated with contributions from the government and public workers. These associations lacked adequate administrative management and resources to make them sustainable.

With respect to the Family Subsidy System, it is important to point out that the 1990s, when the reform took place, were a transcendental phase in its evolution. This was not only because of the issuance of the new Political Letter, which contains principles and guidelines that reaffirm the nature of social security and the public obligation to protect the family as the basic cell of society, but because the associations' range of activities was extended under new regulations, into new areas and in the presence of new population groups. It was the time in which incorporation of the associations into the social interest housing system and social security health services took place. It was also during this time that it became involved in the education system.

III.4.2 Characteristics of the Reformed System

Health social security was conceived in Law 100 as a system for regulating essential public health services and creating access conditions at all service levels. The purpose was to guarantee all individuals the right to health, to life and to social security, under a social state rule of law and based on the principles of human dignity, solidarity and priority to the general interest.

The health system is financed by national and territorial government resources (municipal, district and departmental) and by worker and employer resources. There are also ear-marked revenues (for example, chance games and different lotteries) and resources from the compensation associations.
The health social security system is divided into subsystems: the contributive, the subsidized and care to the linked population.

The contributive regime is financed through employer and worker contributions, which contribute a total of 12 per cent of the base salary. Individuals with capacity to pay belong to this regime, including self-employed workers. Each worker with payment capacity in the country must join the contributive regime through a Health Promoting Organization (EPS).

The subsidized regime is financed through resources from the nation's current revenues, resources from territorial organizations and from the compensation associations. Individuals lacking the capacity to pay belong to this regime. The subsidized regime managers (ARS) administer this system. Individuals selected by the beneficiary identification system (SISBEN) in territorial organizations enroll in the ARS.

The Subsidized Regime is ambitious. Its purpose is to cover one third of the Colombian population. It is based on obtaining new financing resources. One twelfth of the worker contribution is assigned to a solidarity fund. The State must credit a similar amount of resources from different taxes to that fund. Additional oil taxes strengthen this fund. Municipalities must devote 60 per cent of new health transfers from the federal government to insuring the poor.

Linked individuals are those who do not belong to the contributive or the subsidized regimes. They are individuals who, as a result of not having the capacity to able and while they are able to become beneficiaries of the subsidized regime, will be entitled to healthcare services offered by public institutions and by those private institutions under contract with the government.

The purpose of the general pension system is to ensure individuals protection against contingencies resulting from old age, disability and death, through pensions and economic benefits.

According to the Constitutional Court, pensions are a basic social benefit, operating as compensation for the daily labor effort of many years.

Following the implementation of Law 100, the Colombian pension subsystem is managed in two separate regimes:

- Individual Savings with Solidarity.

- Average Premium with Defined Benefit.

The Individual Savings Regime with Solidarity is the group of organizations, rules and procedures through which private and public resources designated for pensions and benefits for its affiliates are managed.

This regime is based on savings from contributions and the respective financial returns, on solidarity through a minimum pension guarantee and on contributions to the solidarity fund.

Affiliates to this regime will be entitled to payment of old age, disability and survival pensions; as well as indemnities, the amount of which will depend on the contributions from affiliates and employers and on their financial return.

Pension fund managers (AFPs), whether public or private, participate in the administration of the Individual Savings Regime with Solidarity. The AFP must contract the insurance guaranteeing the financing of their affiliates' pensions with companies operating in the welfare insurance sector.

In the Average Premium Solidarity Regime with Defined Benefit affiliates and their beneficiaries obtain an old age, disability or survival pension, or a previously defined indemnity.

It is a solidarity regime with defined benefits in which affiliate contributions and their returns constitute a common public fund that guarantees the payment of benefits to pensioners.

The Average Premium Regime with Defined Benefit is managed by government organizations; the most important being the Social Insurances Institute, the only one empowered to carry out new affiliations.

In the Family Subsidy System, family compensation associations are not-for-profit private corporations whose purpose is to manage resources designated by employers to cover the family subsidy social benefit, as well as to act as benefit and service agents in the social protection system.

The associations receive from affiliate employers a contribution of nine per cent of the total payroll.

The associations offer social recreation, sports, tourism, recreational and vacation center services, as well as culture, museum, library and theater services. They also offer credit services, programs for the integral development of children up to six years of age, as well as complementary school hours, education and training. In addition, they provide programs for the care of older adults and maternal-infant nutrition.

By mandate of special laws, the associations administer services related to the allocation and disbursement of social interest housing subsidies and they may directly manage and execute programs for the development of the subsidized health system. Additionally, the associations also offer services related to the recognition of subsidies and services to the unemployed.

III.4.3 Results of the Reform

As a result of the structural changes introduced in Colombia in 1993 by Law 100 and by the implementation of the new health social security system, there are some factual and legal elements that have caused adjustments to the system.

In fact, there has been a considerable migration of affiliates from the social insurance institutes to private insurance organizations (the health promoting organizations).

Calculations of expenditures associated with the treatment of high cost diseases have been exceeded in reality.

The financial situation of the ISS, in particular that related to the sustainability of pension and labor liabilities, coupled with the reduction in the number of affiliates to the health system and the reduction in contributions (since those with higher incomes prefer the private insurance system) calls for a review of the internal operation and organization of the Social Insurances Institute in health areas.

The financial weaknesses are more evident in the subsidized health regime. As expected, the goal of universal coverage was not accomplished.

With respect to the pension system, it has a deficit not currently financed that contributes towards increasing the nation's fiscal deficit.

In Colombia the rate of contribution is 13.5 per cent, generating a great imbalance between the benefits received by pensioners and their efforts to obtain their pension.

In order to cover the pension liabilities already generated and those created during the next 18 years the country would have to generate a cash flow equivalent to 33 per cent of the nation's fiscal deficit.

In order to cover monthly pension payments to former public employees, the country had to appropriate, in the 2001 budget, resources amounting to nearly six billion pesos, equivalent to three per cent of GDP. If this trend continues, by 2014 the fiscal deficit, on account of future pension payments, would have reached levels exceeding six per cent of GDP. Such a situation would generate fiscal problems that would be hard to handle.

Under the current system, the ISS is not sustainable since it would lack the resources to cover pension benefits by 2005.

III.4.4 Changes to Reforms

On 26 June 2003, the government issued Decree 1750, with the purpose of separating the health service functions from the Social Insurances Institute in an attempt to improve efficiency and ensure the survival of the institution.

To this end, it relocated the Health Service Offering Vice Presidency from the Institute, along with every clinic and ambulatory care center belonging to ISS, to a newly created group of state social organizations.

Following the Decree the Institute retains its social security institution functions as public pension manager, professional risk manager, health promotion agency and insurer. However, it is no longer an organization offering health services.

In addition, the government decided to present a new proposal with the objective of regulating the pension system within a global security and/or social protection framework. The proposal is aimed at solving fundamental structural problems, at creating instruments to generate employment and at ensuring a minimum income for the population.

The fiscal responsibility of the law project is contained, among others, in the following modifications:

- Increasing contributions by one per cent in 2004 and by an additional point in 2005.

- Assigning the increase in contributions to reserve capitalization. This increase is distributed as follows: one per cent for the minimum pension guarantee and another one per cent for individual savings accounts with solidarity.

- Extending the base contribution income limit to 25 monthly legal minimum wages.

- Gradually increasing the age required to obtain the old age pension. To 58 years for women and 62 for men in 2009, and to 62 for women and 65 for men in 2018.

III.5 Costa Rica

In 2000 Costa Rica had a population of 3.8 million. National expenditure on health was 7.4 per cent of Gross Domestic Product (GDP) and its main component was public expenditure on health. Life expectancy at birth was 77.7 years. National health service coverage has been increasing under the new care model based on health areas subdivided in Basic teams of Integral Healthcare (EBAIS).

III.5.1 Reform Origins

Health and pension reform was crafted in the 1980s to face an economic crisis that worsened at the end of the previous decade. The function performed by the Costa Rican government until then was redefined during the crisis, just as in other countries in the region. The reform was accompanied by the so-called 'structural adjustment programs'.

In the transformation process of the government apparatus in general, and in health and pensions in particular, there were political agreements that became laws, such as loan agreements where resources from international organizations were approved to foster the transformation required by the country.

The reform implemented respects the fundamental principles of social security, such as equity, solidarity, compulsion and universality, among others. Other principles such as service quality and expedited problem resolution were also included. Some elements of interest are coverage, gender equity, personalized treatment in services and a reduction in waiting times for specialized attention.

III.5.2 Characteristics of the Reformed System

The reforms included issues of Health Ministry management, the administrative and financial separation of the pension system of the *Caja Costarricense de Seguro Social* (CCSS — Costa Rican Social Security Association), the instrumental decentralization of CCSS hospitals and clinics and their autonomy in budget management, in administration and in human resources management.

The decentralization law created health boards as auxiliary organizations in clinic and hospital management. Board members include affiliate representatives, associations related to health and employers. A procurement commitment figure, agreed upon between the financing unit (the central level) and the unit providing the service (health area, hospital, etc.), is created as a managerial instrument. Under that commitment, the goals to be accomplished by the service provider, which are subject to periodical evaluation by the financer, are established in the agreement. There are economic incentives to the service provider units whenever they meet a specified percentage of the goals.

Regarding demographic issues, the population aged 65 and over is increasing which, coupled with a higher

life expectancy at birth, has resulted in the incorporation to the political agenda of mechanisms to ensure the financial sustainability of one of the most important regimes, as is the case of the Disability, Old Age and Death Regime (IVM) of the CCSS.

Under Law 7102 of 8 July 1992, the Pension Framework Law, those starting to work from the date of its publication can only retire under the IVM regime. The exceptions are the national magistrate, the judicial power and the presidents of the Republic. The purpose of this was to eliminate several regimes funded by the national budget, which significantly affected government finances.

As part of the Fiscal Transformation for Development Agenda, the Ministry of the Treasury presented before the Legislative Assembly a law project called the 'Law for Privileged Pension Control' (August 2002), whereby the Pension Superintendence is empowered to monitor national budget resources in that area. It also establishes that funds in the IVM regime of the CCSS may not be destined to different ends and it also prohibits the transfer of sums of money from the pension fund even if these were to be deposited into a system other than IVM

In the matter of social reform, the Worker Protection Law (No. 7983 dated 2 October 2000), which establishes mechanisms for extending the CCSS' IVM regime as the main worker solidarity system, was approved in the year 2000. It authorizes pension to manage labor capitalization funds; these operators are also in charge of managing the complementary pension fund that was created under the same law.

With the Worker Protection Law, several provisions — including the creation of the Centralized Collection Regime (SICERE) — were added to the CCSS Organic Law; a significant mandate of the law is the control of evasion, under-declaration or default by the CCSS. The latter, having previously guaranteed the individual affected respect for his/her right to due process, may administratively order the closure of establishments for a five-day period that may be extended when the reasons for which the closure was ordered persist, specifically in cases when the representative or person responsible refuses, unjustifiably and repeatedly, to provide information to the inspectors when a contribution default for two or more months exists.

The Non Contributive Regime (RNC), which comprises a pension program for people with economic needs — those over the age of 65, helpless widows, underage orphans and individuals with physical and mental disabilities that prevent them from working — and the Pensions for Acute Cerebral Palsy Program, have also been strengthened by contributions approved by the Worker Protection Law.

The General Controllership of the Republic, the Inhabitant Defense Office, the General Health Service Superintendence of the CCSS and its decentralized service controllerships, as well as internal auditing and those that were created recently by the Law 8239 dated 19 April 2002, such as the general health service audit, each in its field of competence, are all part of this organizational group that looks after public fund performance and citizen's rights. Citizen control is also exercised through the health boards, formed by community representatives and by other channels, such as the judicial power and the legislative power.

III.5.3 Reform Perspectives

Health and pension reform presents several challenges, among which the following can be mentioned:

1. The financial sustainability of the social security regime, which implies increasing the system's productive efficiency. The older population has grown and this has repercussions on the pension systems. For example, in the CCSS' IVM Regime, in 1996, the dependency coefficient was 15 pensioners for every 100 contributors, while with present trends, it is estimated that by the year 2040, it will be 36 pensioners for every 100 contributors. This means there will be increasingly less contributors to finance the regime. In the year 2002, the coefficient was 15.5 pensioners for every 100 contributors.

2. Population aging also represents a challenge for the healthcare system, since the welfare service network has to make changes to increase the capacity to care for persons suffering from chronic diseases and to implement programs contributing to the quality of life of this population. Older individuals are associated with a higher number of medical consultations.

3. Another challenge for the reform lies in the matter of service quality linked to improved service access and more humane treatment. It is required that waiting times be reduced and accreditation processes extended and strengthened. It is also necessary to develop regulatory mechanisms that bring public and private activity into line with certain requirements with respect to physical installations, personnel and quality and security measures. In the private sector, symmetry between particular economic interests and the public good has to be guaranteed. Continuing with advances in gender equity policies represents another significant challenge.

4. To make access to medicines simpler, in keeping with the recommendations of the 2002 Health Sector

Analysis, the policy allowing the utilization of generic medicines with previous therapeutic equivalence studies guaranteeing their quality and efficiency must be reinforced.

5. Technology must be assumed to be an inherent element of health service care, through a policy for organizing technological performance incorporating acquisition, utilization, accessibility and impact evaluation criteria. An equitable distribution of technology responding to demand needs must be ensured among the different work centers. Technology has to be associated with accessibility and coverage criteria.

6. In the area of human resources, personnel quantity and quality is a concern. It must be ensured that technical and university education in the area which has grown in the last years with the increase in the number of universities — respond to an integral vision rather than to a biologist one and that it is governed by duly credited quality criteria. Presently, higher employment demand is reported in areas such as medicine and nursing with respect to public job offers. For its part, the labor relationship framework is undergoing changes that it is necessary to assess.

7. Reinforcing promotion and prevention mechanisms. Health, as a consequence of multifarious elements, depends, among other factors, on a healthy environment that is free from unnecessary risks.

III.6 United States of America

Social Security and Medicare are the two largest social insurance programs in the United States. Social security provides monthly cash benefits to 47 million retirees, survivors of deceased workers, disabled workers and family members. Medicare provides health insurance to people aged 65 and over and to people who have been entitled to social security disability benefits for at least two years. Almost all of the social and most of Medicare is financed through payroll taxes.

The Social Security Administration also administers the Supplementary Security Income (SSI) Program, which provides a safety net for seven million people aged 65 and over and those with a disability who have a very low income and few assets. Five per cent of elderly Social Security beneficiaries and 20 per cent of disabled beneficiaries also receive cash benefits from the SSI. Under current law, the SSI will tend to shrink in importance compared to social security, because social security benefits keep pace with real wage growth, while SSI benefits are indexed only for inflation.

The aging of the US population makes social security and Medicare financially unsustainable in their current form. The 79 million members of the post-World War II baby boom are approaching retirement, people are living longer and birth rates are below replacement rates. In the case of Medicare, increases in the cost and use of healthcare services exacerbate the financial problem.

President Bush has placed reforming social security and Medicare among his top priorities. As part of such reform, he has consistently stated that younger workers should be offered a chance to invest in retirement accounts that they will control and own. In moving to add personal accounts to social security, the United States will benefit from the experience of other countries in the Americas that have pioneered this approach.

III.6.1 Recent Reforms in Social Security

Major Social Security legislation was enacted in 1977 and 1983, and other noteworthy changes were made in 1980, 1981 and 1999. For the most part, these reforms were intended to strengthen the financing of the program, improve the targeting of benefits and reward and encourage work by beneficiaries. Medicare has also been the subject of frequent legislation. Although these laws have improved the financial condition of social security and Medicare, further action is needed to assure their long-term sustainability.

III.6.1.a Strengthening Financing

The social security amendments of 1977 were aimed at restoring financial solvency to social security, which had been adversely affected by the sluggish economic growth of the early 1970s. The 1977 amendments corrected a technical flaw that caused benefits to be over-indexed for inflation, accelerated scheduled increases in payroll tax rates and raised the amount of earnings subject to payroll taxation.

The economic assumptions underlying the 1977 amendments proved too optimistic, however, and by the early 1980s the social security trust funds were on the brink of exhaustion. The social security amendments of 1983 improved the financing of the system through a variety of measures, including delaying cost-of-living increases, making limited payments to the trust funds from general revenues, subjecting a portion of the benefits to income taxation (and returning the revenues to the trust funds), and extending mandatory social security coverage to additional workers. Finally, they set underway an increase in the age at which a retired worker would receive full benefits. Starting in 2000, the full retirement age will be gradually increased from 65 to 67, and benefits will be actuarially reduced for retirees who choose to start drawing benefits before that age.

Medicare's Hospital Insurance (HI) trust fund faced funding problems in the 1990s. Additional revenue was provided by eliminating the limit on earnings subject to the hospital insurance payroll tax and by increasing the taxation of social security benefits (and earmarking the revenues for the HI trust fund). The growth of Medicare outlays was slowed by reducing payments to hospitals, doctors and other healthcare providers and by requiring additional cost sharing from beneficiaries.

III.6.1.b Targeting Benefits

The late 1970s and early 1980s saw a number of changes designed to improve the targeting of benefits and reduce or eliminate benefits considered of low priority. The 1977 amendments reduced the benefits of dependents receiving a pension from government employment not covered by social security, and the 1983 amendments eliminated windfall retirement and disability benefits for workers with pensions from any non-covered employment. Legislation enacted in 1981 repealed benefits for most students over the age of 18 and for parents of non-disabled children over the age of 16, eliminated the minimum benefit based on indexed earnings and limited the payment of lump-sum death benefits.

III.6.1.c Rewarding and Encouraging Work

Successive programmatic changes have been designed to reward and encourage work by retirees. Since 2000, workers who have reached the full retirement age may receive social security retirement benefits without facing any reduction on account of earnings. Also, the credit for delaying receipt of benefits beyond the full retirement age is being increased and will reach an actuarially fair level for workers who reach the age of 62 in 2005 or after.

The Disability Amendments of 1980 reduced disincentives for work in the disability insurance program. Notably, the maximum family benefit was lowered to prevent excessive replacement of pre-disability earnings. The Ticket to Work and Work Incentives Improvement Act of 1999 provided further enhancements to assist disabled beneficiaries who attempt to return to work. Most disability beneficiaries will receive a 'Ticket' that they may use to obtain vocational rehabilitation, job training or other support services from a variety of public and private providers. The act also offers expanded healthcare for beneficiaries who are no longer eligible for cash benefits due to work and makes it easier for people to return to benefits within five years if their attempt to work proves unsuccessful.

III.6.2 Challenges facing the Retirement Income System

Social Security in the US is largely a pay-as-you-go program. Most of the payroll taxes collected from today's workers are used to pay benefits to today's recipients. In 2002, the social security trust funds collected US$627 billion in revenues. Of that amount, 85 per cent came from payroll taxes and two per cent from income taxes on Social Security benefits. Interest earned on the government bonds held by the trust funds provided the remaining 13 per cent of income. Assets increased in 2002 because income exceeded expenditure for benefit payments and administrative expenditure.

The retirement of the baby-boom generation will severely tax the social security system. Not only will there be many more elderly people, but the elderly will also be living longer. Today, an average 65-year-old man may expect to live for 16.6 more years, and a 65-year-old woman may expect to live 19.6 more years. Those life expectancies are projected to increase by three years over the next half century. The ratio of workers to beneficiaries has fallen from 16.5 to 1 in 1950 to 3.4 to 1 today. By 2031, it will be just 2.1 to 1. At that ratio, there will not be enough workers to pay the scheduled benefits at current tax rates.

Despite the looming tidal wave of retirements, personal and national saving rates have remained low or even declined. After peaking at over ten per cent in 1980, the personal savings rate has fallen to about two per cent over the last three years. Along with the low rate of saving has come an increasing reliance on social security. According to the most recent data, 65 per cent of the elderly receive 50 per cent or more of their income from social security, and 33 per cent receive 90 per cent or more. In 1990, those figures were 59 per cent and 24 per cent, respectively.

Within 15 years social security will be paying more in benefits than it collects in taxes. By 2042 the trust funds will be exhausted. At that point, payroll taxes and other income will continue to flow into the fund but will be sufficient to pay only 73 per cent of program costs. That percentage will shrink to 65 per cent by 2077.

One way to illustrate the financial shortfall of the social security system is to examine the cumulative value of taxes less costs, assuming currently scheduled benefits and tax rates. In present-value terms, the shortfall over the next 75 years will be US$3.5 trillion, which is roughly equal to the total US government debt held by the public today. When measured through the infinite horizon, social security's shortfall is three times as large.

Medicare's financial difficulties will surface sooner — and are more severe — than those confronting social security. While both programs face the same demographic challenge, the rapid increase in healthcare spending per enrollee adds to the problem in Medicare. Currently, Medicare's annual costs stand at 2.6 per cent of gross domestic product (GDP), compared to social security's 4.4 per cent of GDP. By 2077, however, Medicare is projected to absorb 9.3 per cent of GDP, versus only seven per cent of GDP for Social Security. Over the next 75 years, the present value of Medicare's financial shortfall will total $13 trillion.

III.6.3 Future Directions for Reform

The choices for strengthening social security involve some combination of raising taxes, reducing promised benefits, or increasing investment returns with prefunding. The unattractiveness of relying exclusively on tax increases and benefit reductions to bring social security into balance has led many people to turn to options that would improve the rate of return on social security contributions through prefunding. The President's Commission to Strengthen Social Security, a majority of the 1994–96 Advisory Council on Social Security, and President Bush have proposed that this be accomplished through social security voluntary personal savings accounts. The higher investment income produced by personal accounts would significantly reduce or even eliminate the need for benefit reductions.

As President Bush has said, 'We must encourage for all our people the security and independence provided by savings. I want America to be an ownership society, a society where a life of work becomes a retirement of independence.' Recently, he called upon members of Congress to 'join with the Social Security Administration and other interested parties in a national dialogue about how to best strengthen and protect social security'.

The Bush administration also aims to strengthen and improve Medicare for senior citizens and people with disabilities. The administration proposes to offer all seniors the option of a subsidized prescription drug benefit as part of a modernized Medicare program. Modernized Medicare will give beneficiaries more health insurance options and provide better coverage for preventive care and serious illnesses. The administration is also working to keep down costs by strengthening the management of Medicare, updating and streamlining regulations, reducing fraud and abuse and stimulating high-quality healthcare.

III.7 Mexico

Governments in Mexico have conceived social security as a right of the people, which is essential for political stability and economic development. This has been the case since the creation of the Mexican Institute for Social Security (Instituto Mexicano del Seguro Social — IMSS) in 1943.

The Institute now provides medical, social and economic services to more than half of the country's population. It is a piece of social cohesion and essential to social security.

It is committed to comply with four great challenges:

- The epidemiological transition,
- The demographic transition,
- Sustained economic growth,
- The needs of an increasingly involved and critical society that demands better information, more alternatives and improved quality.

The constitutional mandate that guarantees the right to health and to social security has not been fulfilled. Service coverage is not universal and a significant proportion of workers are not insured.

III.7.1 Reform Origins

In Mexico, as in almost every Latin America country, the 1980s were typified, among other things, by the economic crisis that weakened the benevolent State thesis. Governments, by reducing their activities through privatization, generated radical changes in economic and social policy. The restructuring of public finances and of managerial efficiency became the new public strategy.

On 19 November 1995, an initiative for a new social security law was submitted for the consideration of the Congress of the Union. This new law proposed a radical change in order to extend coverage, since many social groups did not have the opportunity to ascribe to the benefits of social security. At that time, just 35 per cent of the working population made contributions to some social security institution.

In 1995, more than 90 per cent of the 1.5 million retirees and pensioners received no more than the minimum amount. The system was not equitable and the pension branch was in serious financial trouble.

The fee for disease and maternity insurance was not enough, in spite of its augmentation. Initially, it was six per cent to provide care only for the worker, although every member of the direct family was protected. Later it was increased to eight per cent in 1948 and to nine per cent in 1959. In 1989 it rose to 12 per cent and in July 1993 to 12.5 per cent. However, the disease and maternity branch, however, had to

be financed with resources from the disability, old age, cessation in old age and the day care branches.

III.7.2 Characteristics of the Reformed System

The retirement, cessation in advanced age and old age insurance was changed from a defined benefits system, where the pension received was calculated according to a previously determined formula, to a defined contributions system, where pensions received depend on the amount accumulated in a savings account throughout the person's entire working life.

The worker will be able to use the resources accrued in his/her individual account to acquire a cessation in advanced age or old age pension once s/he has met certain requirements: that s/he has reached the age of 60 to be pensioned for cessation or 65 for old age and has made 1,250 weeks of contributions in both cases.

Retirement fund managers (Administradoras de Fondos para el Retiro, AFORE) are specialized financial organizations created to manage individual accounts in a professional, exclusive and customary fashion. The worker can freely select the AFORE that will manage his/her retirement savings.

Under the new rules, workers unable to contribute for the 1,250 weeks required to be entitled to a pension, do not lose the resources in their accounts and can access them at the time of retirement. Moreover, if they contributed for at least 750 weeks, they are entitled to receive medical attention as of the time of their retirement and until their death, without having to make any additional contribution.

The reform confirms the public nature of social security. The purpose of making it public arises from a concern that has been widely expressed by society. This concern has been included in the new Law: the State was and continues to be the guarantor of social security since it directly affects the wellbeing of individuals.

The reform to the social security system responded to the need to keep worker benefits. Different aspects of the change to the law are outlined below:

Benefits for workers:

1. They have an individual account through which they acquire full rights over their retirement savings and that offers them access to the financial market;

2. The State increases its contribution to social security with the new social fee, which is equivalent to 5.5 per cent of one minimum wage;

3. The State guarantees the right of every worker to a minimum pension;
4. Workers who do not complete the contribution periods needed to obtain a pension, can access the funds accrued in their account;

5. Workers participate actively in all the processes;

6. They are given the opportunity to make contributions in the manner of voluntary savings.

Negative aspects of the reform:

1. The individualization of the new system further hinders the possibility of achieving universalization;

2. Workers in the informal economy, as well as rural workers, still remain without the possibility of a pension;

3. The establishment of the new system is detrimental to insured workers who are forced to contribute longer to be entitled to a pension,

4. The amount of the pension is closely linked to the performance of the national economy.

III.7.3 Results of the Reforms

Reforms to the IMSS Law have been insufficient to respond to the institute's severe financial crisis. The financial troubles are extremely complex and are intensified by budget austerity.

The 2001 institute report indicated that the number of affiliates as of 31 December of that year had amounted to 10,713,268 individuals, added to their dependants and to the 10,579,800 beneficiaries in the IMSS-Solidarity Program, would have amounted to 56,452,203 affiliates, that is, 56 per cent of the total population of Mexico.

In 2000, the total number of pensioners entitled to medical assistance was 1,938,656 people, of whom 65 per cent were over 60. According to institutional expectations, by 2030, pensioners will amount to 5,843,490 individuals, which would be equivalent to 33.52 per cent of those insured.

The IMSS has made studies that indicate a growing trend in medical expenditures for pensioners. Between 1999 and 2000, expenditure increased by 5.24 per cent, while data from a recent analysis indicates that even if the retired and pensioned population represented less than ten per cent of affiliates, medical attention to these patients would correspond to 20 per cent of service utilization.

On the other hand, coverage has been highlighted as a major problem since if it is not extended, other

efforts to improve services and promote savings among affiliates will be useless. In 2001, the IMSS reported that the economically active population amounted 39.8 million persons, of which only 17.4 million were registered for social security, while 22.4 million were outside the system.

In fact, the institute's analyses indicated that in 2001 there were around ten million workers at risk of reaching the year 2025 without the right to a pension or to medical insurance. The goal, then, for the short and medium term, was that most Mexicans be given some form of social security coverage.

Without a structural reform, within ten years the Mexican Institute of Social Security in 10 years will lose its operation capability, the director of the organization warned in September 2002 during a meeting with representatives from the Equity and Gender Commission.

He added that financial perspectives are not favorable for the institute and as a result it is in a 'delicate' condition.

He said that Mexico can and must extend social security coverage to groups that are still excluded, such as the poor, workers in the informal sector and migrants. To accomplish this, he pointed out, the concept of social security must be renewed and separated from its association with the formal work market. What is needed is a social security system made up of jointly liable, voluntary and compulsory social insurances.

The reform to the pension system in Mexico generated four fiscal costs:

1. The cost of pension payments to existing retirees;

2. The cost of pensions for transition workers who at the time of retirement choose to retire under the old PAYGO system;

3. The cost of the social fee and of government contributions of 0.425 per cent of the salary;

4. The cost of the minimum pension guarantee.

Mexican social security does not provide welfare or non-contributive pensions.

A report from the Pan-American Health Organization (PAHO) emphasizes that while in Brazil and Chile more than 60 per cent of the population over 60 years of age that live in cities have a pension, in Mexico only 22 per cent of this segment enjoys this benefit; the rest have their own business, are supported by their families or are in a state of neglect.

When it comes to the rural population, in these two South American nations 74 and 78 per cent, respectively, of older adults have a pension, while in Mexico, the figure is only eight per cent.

Additionally, the PAHO states that it is known that more than 60 per cent of third age persons consider their income to be insufficient and their medical attention to be substandard. This suggests, says the PAHO, that the problem of population aging already exists in countries like Mexico.

The accelerated population aging process that is currently taking place in Mexico results in 180,000 additional elderly people each year.

For the National Population Council (Consejo Nacional de Población, CONAPO), the calculated growth rate in the third age population, estimated at present to be 3.6 per cent per annum, has never before been seen in history. This sector will duplicate every 19 years. The organization affirms that this growth rate will increase in the years to come, until it reaches 4.6 per cent.

Reports on the health conditions of third age people indicate that, in 2002, two million presented some type of disability, a proportion that would be increased with life expectancy after 65, the minimum age to be considered in this group.

Aging is usually associated with poverty, sickness, disability and social isolation, turning this natural process into a significant social problem in that it reinforces vulnerability, indicates the organization.

According to CONAPO projections, as a result of the increase in life expectancy, it is foreseen that in the short term, having reached the age of 65, men in Mexico may live 17.8 years longer on average, while women may expect to live up to 19 years.

In Mexico, old age accentuates poverty levels. The most recent figures indicate that nearly half of the elderly population over 70 lives below the poverty line. The situation becomes more complicated for women, whose greater longevity leads them to spend their last years in increasingly bad conditions. Statistics indicate that only 16 per cent of them receive a widow's pension and in the rural areas, the figure is only four out of every 100.

III.7.4 Reform Perspectives

The political parties stated in July 2002 that there was an urgent need for the president of the Republic and the directorship of the Mexican Institute for Social Security to implement the rescue and the financial reorientation of the organization by means of a

resource allocation to relieve the 'worrisome condition' in which it finds itself.

Two problems for the IMSS' finances stand out: the medical expenditure on pensioners and the Retirement and Pension Regime (RJP) for the institute's own workers, which is not governed by national law.[1]

According to the report on the financial condition of the Institute that it presented to Congress in June 2003, the present value of the projected future deficit in the area of retiree medical expenses is equivalent to more than US$90 billion, while the present value of the IMSS' liabilities to its employees, generated by the RJP, amounts to more than US$30 billion, an amount representing 5.7 per cent of GDP for the year 2002.

Different experts agree that in Mexico there has been a lack of association between health policies and pension systems. It has not been possible to resolve this, even with the 1995 reform. Projects considering different sectors of workers rather than just IMSS contributors have not been encouraged either, i.e., the challenge represented by informal labor has not been properly addressed.

[1] As mentioned earlier, the Social Security Law, which governs Mexican private sector workers, was reformed in 1995 and became effective in 1997. The Retirement and Pension Regime for IMSS employees establishes different benefits and has not been reformed.

CHAPTER IV
THE LABOR MARKET: EFFECTS OF SOCIAL SECURITY REFORM

*Contributors**:
Argentina: Pablo Brassiolo, Hernán Rufo and Guillermo Mondino
Bolivia: José Luis Evia and Miguel Fernández
Brazil: Francisco Galrão Carneiro and Andrew Henley
Chile: Alejandra Cox-Edwards
Mexico: Nora Garro, Jorge Meléndez and Eduardo Rodríguez-Oreggia
United States and Canada: José A. Pagán

Editors:
Jorge Meléndez
Eduardo Rodríguez-Oreggia

* The original papers, with the detailed analysis of each country case study, are available upon request from the CISS.

CHAPTER IV
THE LABOR MARKET: EFFECTS OF SOCIAL SECURITY REFORM

The effect of social security on the labor market has been a permanent topic of debate. It has been maintained by many that the structure of pension schemes, for instance, distorts the choices made by workers and employers and, therefore, causes a loss of efficiency in the economy.

In more developed countries, a number of experts have questioned the social security incentives for the early retirement of workers from the labor force, or for a low work participation rate among some population groups. These incentives, it is said, may be so strong that workers make highly sub-optimal choices regarding the labor services that they supply to the economy. Since the amount of labor is an important input of production, this may have negative long-term effects on the economic potential of a country.

In less developed nations, where it is common that more than half of the population is not covered by the social security system, the main concern is precisely to design policies to increase the coverage of the scheme. In such a situation, the worry is whether the contributions rates are so high that they discourage employment in protected jobs. Additionally, if workers and firms perceive that they get a very low value in benefits in return for the resources they bring into the system, then contributions are regarded as pure taxes on formal employment, and they may seek to minimize the taxation on their wages by evasion, under-declaration or simply by operating outside the system, in the so-called informal economy.

In fact, labor market indicators have become a measure to appraise the success of government policies regarding social security regulations. At the same time, the situation of the workforce is a very important element to take into account in prospective studies regarding the evolution of social security systems.

This chapter analyzes how reforms to social security have affected the labor markets among countries of the Americas. Through several case studies that were specifically commissioned for this report, it carefully examines their impact on employment and wages, as well as on the valuation that workers assign to the benefits they receive from social security. The reality of Latin America and the Caribbean countries means that the highest importance must be given to an examination of the effect on the relative sizes of the covered and uncovered sectors of employment. The chapter also discusses the evidence on the impact of reforms on decisions regarding retirement.

IV.1 A Framework for the Analysis of Social Security Reforms and the Labor Market

This present chapter will be focused on two of the most important aspects of labor markets that are affected by the structure of the social security scheme: coverage of the system and early retirement incentives. Many other aspects of the interactions between the conditions of work and social security are better understood once a solid knowledge base is attained with regard to these two key issues.

Therefore, this section contains a brief explanation of the theoretical framework that guides an examination of the effects of social security reform on these two dimensions of the labor market.

IV.1.1 Coverage of the System

The contributions charged through the payroll to finance social security have been considered, in many cases, to be a factor that inhibits employment, particularly in jobs covered by social security.

The true impact of payroll taxes on employment depends on the level of those taxes, of course, and on two other important factors: the value that workers place on the benefits they receive from the

social security system and the extent to which those levies result in lower net wages being received by workers or in higher gross wages being paid by the employer firms (CISS, 2002).

Valuation of benefits. Suppose that a person is charged US$50 for social security and receives in exchange a voucher for US$50 to pay for services. Then, her valuation of the benefits would be 100 per cent. The worker percieves the charge to be a contribution towards the financing of something that will be returned in the form of benefits on a one-to-one basis, that is, she does not regard the contributions as taxes and, therefore, a change in the rates would have no effect on employment.

The most common situation, however, is that on the whole workers perceive a benefit of less than 100 per cent of what they contribute to social security.

For instance, in the United States it was estimated that the average social security contributor retiring in 2010 would pay a total of US$151,500 during his working life and receive a pension worth US$115,200 at the present value (Joint Committee on Taxation, 1996). This means that, if he were to make these calculations, he would discover a return of 76 cents per dollar contributed, or a valuation percentage of 76 per cent of social security contributions.

The idea is that he would then regard only 24 per cent of his contributions as a pure tax on his work. Some evidence on this valuation from selected Latin American countries will be provided below.

Therefore, the higher the valuation of social security benefits by the workers, the lower the disincentive to employment in the covered sector. That is why, in countries with low coverage, it is common that reforms attempt to establish a closer link between contributions and benefits of the systems.

Responsiveness of workers and firms to charges on wages. If the rate of contribution to social security is raised,[1] then firms will try to avoid an increase in their production costs by cutting down on labor, or at least on jobs covered by the system. This introduces a force against employment in the formal sector.

The final effect depends mainly on how important labor's share is in the costs of firms, and how easy it is to substitute the potentially displaced workers with machines or other labor without social security coverage. The easier it is for firms to cut down employment of protected workers, the larger the negative effect of the tax increase — or the positive effect if the contribution rate is decreased.

The behavior of workers also changes when there is an increase of the contribution rate. Since this would imply that their net take-home wage would be decreased, then they have an incentive to supply less labor services to the taxed or covered sector — or increase the labor supply if the contribution rate to social security falls. The importance of this effect depends on the so-called elasticity of labor supply, for which some evidence from Latin American countries will be provided below.

To summarize this section, one can say that there will be flows of workers shifting between the covered and uncovered sectors of employment depending on the level of total social security contributions and the valuation that people assign to the benefits.

Decreases in total contribution rates and increases in the valuation of benefits are expected to result in an expansion of covered employment. The magnitude of the effects depends on the absolute levels of these variables as well as on the size of the change, on the responsiveness of labor demand to wages paid by the firms and on the sensitivity of labor supply to the wages received by workers.

IV.1.2 Early Retirement from the Labor Force

Now, regarding the incentives that social security provides for early labor force retirement, Wise (2001) points out two issues: first, the rate of work participation of people aged 60 to 64 has been falling substantially in the more developed nations. In the case of the United States, for example, there was a drop from 82 to 53 per cent during the 1960-96 period. Second, it has been found that these trends are largely the result of the generous incentives for early retirement in the social security schemes.

The argument has been developed by Wise (2001), and the following discussion closely follows his line of reasoning.

Suppose that a person has reached the social security early retirement age and is considering whether to claim this benefit or work for an additional year. The point is that in most social security systems, should this benefit be delayed for one more year, the amount of the pension on retirement is not increased, or at least not proportionately.

[1] The net tax, that is, the percentage of the contribution rate that is not regarded as a benefit, as discussed above.

This means that those people who decided to keep working will receive less total benefits after retirement because they will receive the pension for fewer years. It is to their advantage to quit work and start receiving benefits as soon as possible.

One way of putting this is that the present value of social security benefits declines with an increase in retirement age, because the level of the pension does not grow with retirement age, but the number of years to receive benefits does fall. Thus, there is a tax on work (Wise, 2001).

The data on developed nations, where people can afford to retire at an early age, confirm that there is a striking correspondence between this implicit tax on work and the proportion of the elderly who have left the labor force, as has been reported by Gruber and Wise (1999).

Therefore, one possible question in evaluating social security reforms is whether they supply of work from people who would otherwise retire. The current analysis suggests that this would be the case if the legal changes to the system establish a more direct link between the level of the pension that one receives after retiring and the number of years that one postpones this decision to withdraw from the workforce.

IV.2 Changes in the Structure of Social Security in the Americas that are Relevant to the Labor Market

In this chapter the focus will be on the study of social security reforms in those countries for which there was enough information about all the variables needed to analyze the labor market effects described in the last section, as well as a previous body of research that could be reviewed. For this purpose the CISS commissioned papers on the cases of Argentina, Canada, Chile, Bolivia, Brazil, Mexico and the United States from the researchers listed at the beginning of the chapter. The remainder of the chapter summarizes their findings.

Table IV.1 displays some of the most significant changes that those countries have undergone in order to resolve the financial problems of their social security systems. It highlights policy measures that may result in significant impacts on the labor market.

As can be seen, in several of the countries the reform meant that the contributions to the pension scheme are now deposited in an individual account for the worker. In theory, this establishes a closer link between the contributions made and the benefits received. The hypothesis is that it should result in a smaller pure tax on covered labor, that is, in a higher valuation of social security contributions.

Some countries increased the total rate of contributions paid by workers and employers while others reduced it. The reduced rates were supposed to promote an extension of the system's coverage.

Additionally, in almost all cases more stringent qualifying conditions were imposed for a worker to be able to retire with full benefits. Either the retirement age was increased, or the required contribution period was extended.

IV.3 Changes in the Scope or Coverage of the System

In this section, the first part examines the valuation of benefits as a proportion of the contribution rate. There follows a discussion of the theoretically anticipated changes in coverage, given the model outlined above that incorporates the estimates of the level and change of the rates of contribution to social security and the valuation of benefits, as well as the responsiveness of the demand for labor to gross wages paid by firms and the sensitivity of labor supply to wages received by the workers. The final part examines the changes in coverage that were actually experienced in the countries under study, in general and among some particular groups.

IV.3.1 Valuation of Social Security Benefits

The fact that a substantial proportion of the labor force is not covered by social security creates the possibility of estimating the valuation of benefits by comparing the wage differential between the covered and uncovered sectors.

If social security contributions were considered as a form of deferred compensation, workers enrolled in the system would be willing to accept less take-home pay than those individuals with similar personal characteristics and in a comparable job, but who do not participate in the social security scheme.

The magnitude of the wage differential, for comparable workers and otherwise equivalent jobs, will therefore provide an estimate of the proportion of the contribution that is actually perceived as generating something valuable in return. Of course, this will also allow one to estimate the part that is regarded as a pure tax by labor market participants.

The fundamental idea is that people in the informal or uncovered sector earn slightly higher wages that those comparable workers in formal jobs, and the difference is precisely the measure of how valuable social security benefits are.

The evidence in countries for which such a valuation rate has been calculated is diverse. Chile's social security law requires individuals to make

Table IV.1
Important Changes in Social Security Schemes*, Selected Countries in the Americas

Country	Contribution	State	Other
Argentina	*Old System:* Worker: 11% to pensions, 3% to social service, 3% to health. Employer: 16% to pensions, 2% to social service, 7.5% to family subsidies, 1.5% to unemployment, 6% to health.	Use of general revenues.	Men 60 years old, women 55, with 30 years of contributions.
	New System: Worker: 11% to pensions, 3% to social service, 3% to health. Employer: 9.6% to pensions, 1.1% to social service, 4.7% to family subsidies, 0.9% to unemployment, 5% to health. Deposit to individual accounts.	Minimum pension guaranteed. Use of general revenues.	Men 65 years old, women 65, with 30 years of contributions.
Bolivia	*Old System:* Worker: 9% of wage. Employer: 5.6%	1.5% of wage	
	New System: Worker: 10% to AFP, 2% to death and disability, 0.5% as commission to AFP. Employer: 2% to disability. Deposit to individual accounts.	Social assistance	
Brazil	*Previous:* Worker: 8%. Employer: 12%.		Old: Men 53 years old, women 48, with 25 years or contributions.
	Reform: Worker 8,9,11% according to 3 wage levels. Employer: 20% of wage.	Certain taxes earmarked to finance and defray deficits.	Urban: Men 65 years old, women 60, with 35 years of contributions. Rural: Men 60 years old, women 65, and 30 years of contributions.
Canada	Contributions rates to pension plan, shared equally worker/employer, rising over 6 years from 5.85% in 1998 to 9.9%.		Reduction of unemployment insurance. Eligibility to disability subsidy rise 2 to 4 years of contributions.
Chile	*Old System:* Worker: up to 18% of wage to pensions. More than 12% for health, disability, etc. Employer: None.	Special subsidies needed to finance the program.	Minimum 10 years of contributions. Benefits not indexed to inflation.
	New System: Worker: 10% of wage to pensions, 7% to health. Employer: None. Deposit to individual accounts.	Redistribution portion funded by general revenues. Minimum pensions guaranteed.	Addition 7% by worker if they opt out of health insurance. Minimum pension if 240 months contributions. Annuities indexed.
Mexico	*Old System:* Workers 1.25% to old age and disability and death. Employers: 2.075%. Health and maternity: Employer: 8.75%. Worker: 3.125%.	Government 0.45% of wage.	65 years old and 500 weeks of contributions.
	New System: Worker 1.25% old age, 0.625% disability. Employer: 2% old age, 1.75% disability. Health and maternity: Employer 7.255%. Worker: 0.646%. Deposit to individual accounts.	Guarantee minimum pension. 10.14% of employer's contribution.	65 years old and, 1,250 weeks of contributions.

Table IV.1 (continued)
Important Changes in Social Security Schemes*, Selected Countries in the Americas

Country	Contribution	State	Other
United States			Supression of income test before retirement. Age 65 years old (62-64 with reduction) increasing to 67 over the period 2000-2007.

* Changes are emphasized. Not all social insurance branches are reported.

contributions to the retirement system — at least ten per cent of taxable wages — the health system — seven per cent — and to a mandated life insurance program — about three per cent. Total contributions for this package stand at 20 per cent of taxable wages — see Table IV.1. If they are fully valued by those who make these contributions, the observed take-home pay of contributors should be 20 per cent below that of non-contributors. Effectively, individuals who contribute to social security have a take-home pay that is almost nine per cent lower than those who do not contribute. More specifically, this result suggests that individuals consider little over one-half of their contributions to be a pure tax on covered labor.

During the period from 1991 to 2001 the wage differential in Argentina between uncovered and covered workers was about six per cent for male and 5.1 per cent for female workers. It is expected that women are willing to give up a lower share of their wages for social security benefits, as they may be more willing to move from covered to uncovered sectors. On separating the results for period before and after the reform of 1994, it is possible to note that the valuation tended to decline after the change, for both male and female workers. During the 1991–1994 period males were willing to accept a 9.7 per cent reduction in their wages in exchange for social security benefits, while for females the figure was 8.1 per cent. Considering that, as reported in table IV.1, the total contribution rate was 50 per cent, then the corresponding valuation rates of what was contributed were 19.4 and 16.2 per cent for men and women, respectively. In the period after the reform the wage differentials were 4.6 per cent among males and 4.9 per cent among females. This implies that the valuation rates had fallen to 12.0 and 12.8 per cent, respectively. This reduction could be explained by the macroeconomic conditions leading to higher unemployment and informality, among other factors. If the labor market shows a significant inflexibility for adjustment, then it is possible that informal sector wages are depressed, in this case the transition wage differential is also depressed and as consequence the valuation appears lower.

In the case of Mexico, there is mixed evidence of the level of the valuation of social security benefits and how it changed after the reform of 1997. One estimate is that it has remained at about 35 per cent of the contribution rate, before and after the policy change, because labor incomes of uncovered workers were approximately nine per cent higher than those of covered workers before 1997 and 6.9 per cent after that time. Since total contributions fell from 25.6 to 20.1 per cent with the reform, then the ratio of valuation to payroll tax stayed roughly constant at 35 per cent. Another estimate, however, is that the wage differential was 12 per cent before 1997 and 14 per cent after, in which case the conclusion would be that the valuation of benefits as a percentage of the contribution rate rose from 46.9 to 69.7 per cent with the reform.

In Brazil, the wage differential favors covered over uncovered workers. About 20 per cent of this differential is explained by the disadvantages that uncovered workers have in terms of schooling and other characteristics. Then, the covered advantage was 12.5 per cent in 1992, 7.5 per cent in 1995, and 13.5 per cent in 2001. This might be thought of as a measure of the earnings premium needed to compensate covered workers for making social security contributions to a sufficient degree to prevent them or their employers from abandoning their covered status. The contribution that the worker is required to make is eight per cent of the wage.

In Bolivia, the wage differential between uncovered and covered workers was higher in the period before the 1997 reform, but decreased afterwards, although in more recently it has grown again. It appears that the policy change increased the valuation of benefits by workers, especially with regard to long-term insurance. However, distortions introduced after the reform and the failure to find adequate alternative sources of financing for the debts incurred by the former system seem to have negatively affected the valuation of the benefits.

The wage differential in Ecuador is around 18 per cent in favor of the uncovered workers, since the benefits mandated by the law should amount to 25 per cent of the base salary, this implies that workers value their social security benefits lower than they are supposedly worth, at a rate of approximately 72 per cent (McIsaac and Rama, 1997).

From all this evidence it is possible to note, first, that valuation rates are well below 100 per cent in Latin America. If on top of this one recognizes the fact that coverage is far from universal, approaching in most cases only half of the labor force, then the conclusion is that social security systems in this region of the continent — and perhaps also among Caribbean countries — will face an extremely negative scenario if they try to meet financial shortfalls through increases in the payroll tax, as is sometimes the preferred policy in more developed countries. At the same time, the low valuation of benefits also represents an obstacle to reforms that attempt to increase the coverage of social security through measures that include decreases in the contribution rate.

IV.3.2 Theoretically Anticipated Changes in Coverage as the Result of Reform

In order to predict what might be expected from a social security reform, one can apply a very simple model of the labor market in which the impact on the system's coverage will depend on the level of, and changes to several variables: the contribution rate, the valuation of benefits, the responsiveness of employment to wages paid by firms and how workers adjust their labor supply to changes in net wages. These variables were examined for several of the countries considered in this study.

Argentina

It was estimated that given a ten per cent increase in the covered wage relative to the uncovered one, workers would increase their supply to the covered sector, resulting in an increase of the proportion of covered/uncovered male employment of 11.1 per cent before the reform, and 7.8 per cent subsequently. In the case of women, the increase in relative labor supply to the covered sector would be 10.3 per cent before and 9.3 per cent after the policy change.

For the firm's part, it was estimated that an increase of ten per cent of the relative wage of covered workers would cause a reduction in their relative employment by the firms ranging between 19 and 30 per cent. This may seem too high a response, but it suggests that workers are really not too different, and that the contractual relationship is modified according to the relative costs of the different types of labor — covered or uncovered. If relative costs change, there is substitution in production according to the contract type.

Considering that there are about 4.5 million workers in the Buenos Aires metropolitan area, of which 1.8 million are covered by social security, it is estimated that the gain in covered employment would be around 13,000 due to an increase of the valuation of benefits from 11 per cent to 21 per cent, as occurred in 1991–94. On the other hand, if there were a ten per cent reduction in the payroll tax, employment in the covered sector would increase by two per cent, which is equivalent to 10,000 jobs.

Brazil

In this country, the supply response of covered workers to changes in relative wages seems to be lower. From 1993 onwards a ten per cent rise in the uncovered/covered wage differential was found to increase the supply of uncovered workers by up to 0.3 per cent.

Regarding employment decisions by the firms, it has been found that the dynamic effects are very relevant: in the long run employment in the covered sector experiences a positive adjustment to changes in past employment, leading to further changes in the same direction in current employment in this sector. In the case of uncovered employment, the adjustment is negative. Thus, in the uncovered sector past changes in employment induce further changes in current employment in the opposite direction.

Taking all these effects into consideration, it is predicted that, in the long run, a ten per cent increase in real wages — for instance, due to an increase in social security contribution rates — lowers covered employment by 4.3 per cent and raises uncovered employment by 0.9 per cent.

Chile

It was estimated that a ten per cent reduction in the payroll tax would lead to a two per cent increase in employment. Given a labor force of 3.8 million workers, this implies the addition of 76,000 jobs. Moreover, the hypothetical ten per cent reduction in the payroll tax would lead to an expansion of 0.7 percentage points of the labor force participation rate, which is in the range of variation of this variable that has been observed since the 1960s.

Mexico

In the Mexican case, it has been estimated that in the private sector an increase of ten per cent in the wages of covered workers, relative to that of uncovered workers, would increase the labor supply to the covered sector by 7.5 per cent. That is, workers do

respond by seeking covered employment when wages rise.

The response by firms in terms of the relative employment of covered to uncovered workers given a change in the relative wage is estimated at -2.41. This implies that an increase of ten per cent in the relative wage of covered workers would result in a 24.1 per cent in their employment relative to the uncovered sector. The range of this potential response in firm employment is similar to that found in Argentina.

From all the reported estimates, it is possible to predict the impact on coverage that would be obtained with a reduction of six percentage points in the total payroll tax, similar to that observed in the reform of 1997, together with an increase in the valuation of benefits that could range between 0.0 and 48.6 per cent, as discussed earlier: the expected increase in the ratio of covered to uncovered employment would be in the range of 2.1 and 4.5 per cent.

Given that at the time of the reform there were 10.9 million workers in the social security system, out of roughly 37 million in the private sector,[2] the conclusion is that the theoretically expected increase in covered jobs would be between 200 to 300 thousand.

Colombia

In Colombia payroll taxes increased during the 1980s and 1990s, but only about a fifth of the increase was shifted on to the workers in terms of lower net salaries, perhaps due to the binding minimum wage and a weaker link between social security benefits and contributions.

Moreover, the rise in the unemployment rate experienced over the last decade in Colombia may be attributed to the high costs charged to firms after the reform in 1993, when the payroll taxes were increased by 10.5 per cent. As noted by Kugler and Kugler (2003), a ten per cent increase in the contribution rate to social security could lead to a four or five per cent reduction in employment and a two per cent reduction in wages.

The evidence reviewed in this section shows that the supply of workers to the covered sector and the demand for covered labor by firms do respond as expected. In general, it is found that increases of the contribution rates are expected to negatively affect the employment of workers in the social security system, while declines in the charge on the payroll should increase the coverage.

However, the low valuation of benefits is the main factor inhibiting large responses in the coverage of social security, even when declines in the contribution rate are substantial and there is an increase in the valuation of benefits. The theoretically predicted impacts of reforms on the labor market are small, at least at the aggregate level.

IV.3.3 Actual Changes in Coverage Observed after Reforms

As has been seen, coverage by social security is the result of incentives for workers and employers to seek a contract based on social security regulations. Strong incentives to elude the registration of workers imply a reduction in the creation of formal jobs, reducing the chances of a worker finding a job in the formal sector. A reform to the social security system creates incentives for the labor force to move between the covered and uncovered sectors, and for the firms to adjust the relative employment of these two types of labor.

But, what has been the actual evolution of social security coverage in the labor market? Does one observe the predicted impacts of reform, no matter how small the expected effects?

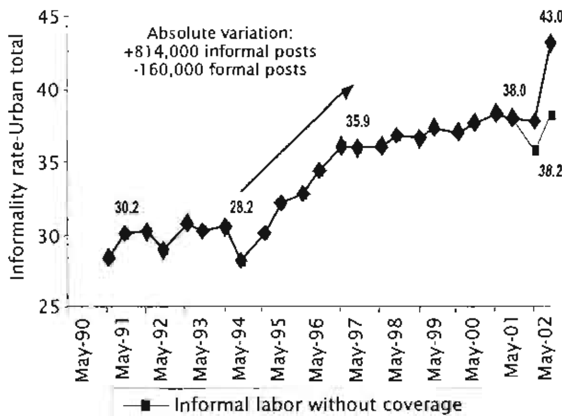
This section reviews the evidence of what really has happened in the labor markets of several countries of the continent that have reformed their systems.

Argentina

As can be seen in Figure IV.1, since 1980 total coverage has drastically decreased. In particularly, the proportion of the formally waged over total employment has fallen from two thirds to about a third, with an increasing proportion of informal workers in the total number of wage earners. In 1997 the informal sector grew by about eight percentage points, with the trend persisting until present day, and especially increasing as a consequence of the economic crisis in 2002.

[2] Public employees are covered by a different system, not the national social security institute (IMSS).

Figure IV.1
Informality in the Argentinean Labor Market



Source: IERAL based on BEL and EPH.

Figure IV.2
Social Security Coverage in Brazil

Source: Brazilian Institute of Geography and Statistics (IBGE).

In spite of the social security reform, there was a lower relative demand for formal workers by employers, due to substantial labor costs and higher taxes and also to regulations to the labor market that reduced the flexibility needed by firms. This had the effect of producing an labor supply that turned to the informal sector, widening the wage gap between formal and informal jobs in Argentina. These effects seem to be stronger than those arising from improvements in the social security system, which should have implied a greater tendency towards formality among new entrants to the labor market. It should also be stressed that in Argentina the rate of informal labor is increasing faster for less educated workers, in absolute and relative terms.

Brazil

In recent years, this country has experienced a substantial growth in the number of workers in the uncovered sector, who are identified when they are employed without the signed labor card required by the government. The growth in employment of this form has been rapid, while the numbers in covered employment have remained fairly static (Figure IV.2). Almost all of the employment growth observed in Brazil in the 1990s has been in the uncovered sector, and this development seems to be structural rather than cyclical. As the manufacturing sector has declined in relative importance so has formality in the labor market, since formal employment contracts (signed labor cards) are two to three times more likely to be offered in manufacturing than in the service sector. As a proportion of total employment, covered workers have declined from over 76 per cent of the total at the beginning of 1990 to a little over 60 per cent at the present time.

The Brazilian labor market is considered to be highly regulated. The consequence of employee benefits, combined with payroll levies for training and other social insurance, makes for substantial non-wage labor costs. In total, Amadeo et al. (1995) calculate that these added, on average, a further 87 per cent in wage costs to the payroll bill for a legally contracted employee in 1992, and showed an increasing trend through the 1990s. Higher labor costs are usually associated with lower formal sector employment, high turnover rates, low labor productivity and, therefore, low wage levels. Moreover, informal workers experienced an improved wage offer in the uncovered sector, meaning that employment in the informal sector may now be a rational choice, rather than the result of displacement. Low wages in the formal sector do in fact encourage participation in the uncovered sector.

Canada

Benefits in the Canadian Pension Program (CPP) have been reduced and the employee/employer contribution rates have been increased, as shown in Table IV.1. Pension coverage fell for men and for young women, but increased for prime-aged women during the 1980s and 1990s. Although the trends are in the expected direction, some studies attribute more of the decrease in pension coverage to falling unionization rates and to shifts in employment favorable to low-coverage industries (Morissette and Drolet, 2001). Other possible explanations include the increasing domestic and foreign competition faced by Canadian firms and the growth of administrative costs of pension plans. However, it also may be that the real average contributions to voluntary Registered Retirement Savings Plans increased over this period

and they offset the reductions in public pension plans, which are mandatory.

Chile

In Chile, the pioneering country in structural social security reforms, the old system was financed by a payroll tax with a relatively weak link between contributions and benefits (see Table IV.1). In 1973, the total contributions to the retirement plan, both by employers and employees, averaged 26 per cent of wages, and once contributions to the health systems were included, the total payroll contributions exceeded 50 per cent of wages for some workers. The new scheme implemented in 1981 reduced the overall contributions to social security to approximately 20 per cent of taxable wages and established a set of common rules for all contributors, requiring the employees to make contributions of ten per cent of wages towards pensions and seven per cent towards a health program.

Figure IV.3
Coverage of the Social Security System in Chile

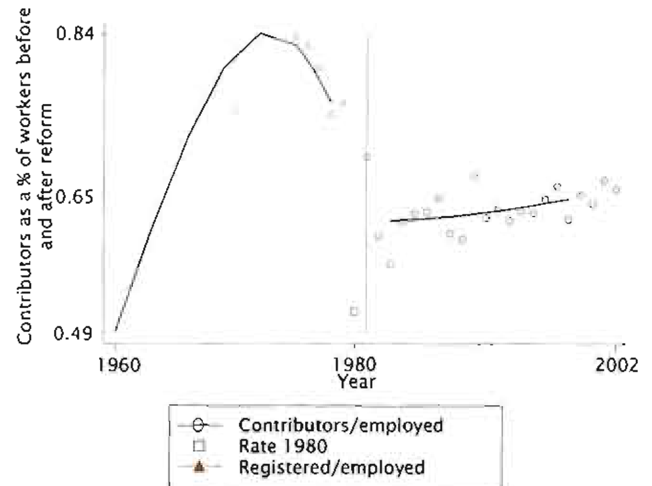


Figure IV.3 shows the evolution of the share of workers registered in the old system or contributing in the post-reform period. The share of workers registered in the pre-reform period shows an enormous cycle, with a clear trend towards decline before the reform. In the pre-reform period, contributions to social security were mandatory for all workers, but typically, the self-employed could not participate in the system. In the figure three different colors are assigned to various segments. The pre-reform estimates of coverage are in ochre. The 1980 ratio is a black square, and the post reform ratio of contributors to workers is in black. The ochre segment is not directly comparable to the black segment, as will be explained in the next paragraph. The black square and the black segment are consistently based on counts of individual contributors divided by the total number of workers in the corresponding year, and they are comparable.

There was a sharp increase in the number of contributors to the social security system from the late 1960s to the mid-1970s, a figure which then stagnated at around two million until 1979. It has been argued that the drop in the coverage rate was motivated by the high, and then rising, contribution rates from 1975 to 1980 (Cheyre, 1991). There was also a significant drop in the number of contributors in 1980, the year preceding the reform. In the pre-reform period there were several pension funds, and they maintained and reported their data independently. More importantly, while the Social Security Service maintained individual accounts, several of the other funds maintained accounts by employer, and these would typically report active and passive members together. The rate of passive to active contributors varied across employers and/or funds, making it very difficult if not impossible to estimate the actual number of contributors to the system as a whole. Between June 1978 and June 1979, however, the government prepared the social security reform transition, and in particular, cleaned up the accounts to prepare for the calculation of the Recognition Bonds for anyone who chose to transfer to the new system. This effort produced a correct aggregate of contributors to the old system in the order of 1.7 million. Therefore, this is the only observation of actual contributors to the old system and, thus, the only number that is directly comparable to the post-reform data, which is based on individual accounts. The implied coverage rate of this measure is the black square depicted in Figure IV.3.

If one takes the 1980 count of contributors to the old system as a fraction of employment as the pre-reform rate of contributors to workers, it can be argued that social security coverage increased from 50 per cent in the pre-reform year to almost 60 per cent in 1982 and about 65 per cent by the end of the 1990s. It is also interesting to note that, since the privatization reform, many self-employed workers make contributions to the scheme, even though they are not required to contribute. This freedom to choose to contribute is an important test of the system.

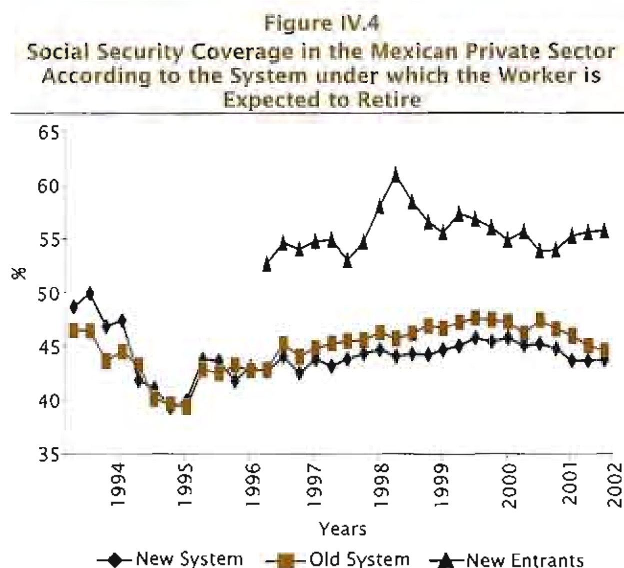
Mexico

In a context of more recent reform, like that of Mexico in 1997, workers who had contributed to the prior regime will have the option, on retirement, to choose between the pension benefits established in the old system or retiring under the rules of the reformed

scheme, in which the pension will depend on the balance in the individual account. For those entering the labor market in 1997 it was compulsory to enter the new system.

In Figure IV.4 it is possible to follow the evolution of coverage in the recent years according to cohorts that are expected to choose one option or the other.[3] The most important change is expected among new entrants and workers who are expected to retire under the new law. Although it is still too short a time to evaluate the real impact of the reform on coverage, it should be noted that there has been a slight increase of the covered sector in the expected direction. More time is needed in order to discern the real long run impact on the labor market, as an economic crisis hit the economy in 1994–95.

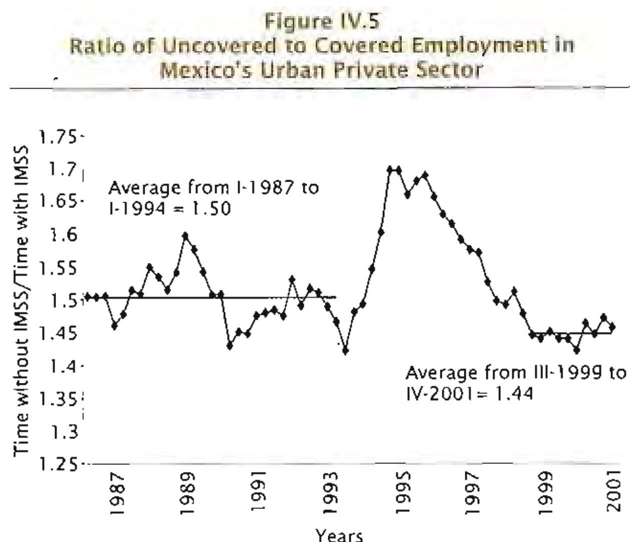
Figure IV.4
Social Security Coverage in the Mexican Private Sector According to the System under which the Worker is Expected to Retire



Source: National Urban Employment Survey.

This is an important point to note. In Figure IV.5, there is a large decline in the ratio of uncovered to covered employment from 1996 to 2000. However, it cannot be attributed to the 1997 reform — which was passed in 1995 — but rather to the recovery of the economy after the 1995 depression. After 2000, the ratio seems to stabilize at a lower level than the pre-reform average. In fact, this longer run decline seems to be of around four per cent. In any case, this would be the first estimate of the impact of reform, a relatively low figure, but in the expected direction.

Figure IV.5
Ratio of Uncovered to Covered Employment in Mexico's Urban Private Sector



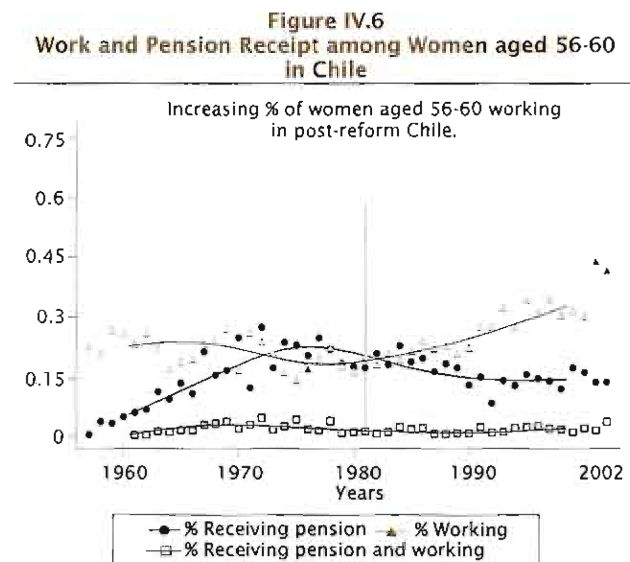
IV.4 Incidence of Retirement from the Labor Force and Social Security

Postponing retirement becomes an increasingly important means of sustaining income among older persons and maintaining financial solvency in social security, given population aging.

Traditional benefit systems encourage early retirement. In contrast, the close link between contributions and benefits in defined contributions systems is supposed to lead workers to postpone their pension age and continue working after withdrawals begin.

The experience of Chile, which has the longest period

Figure IV.6
Work and Pension Receipt among Women aged 56-60 in Chile



[3] The cohorts are formed according to the conclusions of Meléndez (2003), in which it is predicted that workers given the option will choose the new system if they were, on average, 30 years old or younger in 1997 in the case of men, and 32 years old or younger in the case of women. This age partition varies with the schooling level of the worker.

Figure IV.7
Work and Pension Receipt among Men aged 61-65 in Chile

after a structural reform, offers an opportunity to test if the change in incentives brought about by pension system reform has indeed produced the expected changes in retirement behavior. In Chile, if an older person stays in the workforce, his or her compulsory savings balance grows and, therefore, the level of the pension that they receive after retirement is increased for two reasons: the larger amount of accumulated funds and a shorter anticipated period in which to receive the benefits which raises average annual receipts.

Figures IV.6 and IV.7 show the changing patterns of transition towards retirement for male and female workers. The fraction of women in the 56-60 year old group who were working decreased between 1957 and 1980, but the trend was subsequently reversed. The percentage of those both working and receiving a pension has remained roughly constant.

The fraction of men aged 61-65 that remained in the labor force was 60 per cent in 1947, falling to 45 per cent in the early 1980s before rising again to 60 per cent by 2002. From 1947 to 1960 the fraction of men who were 61 to 65 years old and receiving pensions rose from 30 to 45 per cent, but this trend was also reversed.

In general, the downward trend towards the early retirement of both men and women in Chile from the labor force has been reversed following the social security reform, according to which the level of pensions depends upon individual savings. In the case of men, the percentage in the 61-65 age group who receive a pension but remain in the labor force has also increased after the reform.

In the United States, the impacts of social security — and its recent changes and reforms —on labor supply are wide-ranging. First, individuals are more likely to retire after reaching the age of 62 as they are then eligible for partial benefits under early retirement (Krueger and Meyer, 2002). Second, since benefits increase from the age of 62 to the age of 70, social security also has an effect on the timing of retirement. For example, some workers may elect to retire as soon as they turn 62 while others will put off retirement until the age of 70, to take advantage of increased benefits or simply because they believe that they have a relatively high life expectancy.

It should be noted that if changes in benefits due to social security reforms are not anticipated by the workers, then this wealth effect on the decision to retire could be substantial, particularly for individuals close to their retirement age. This is the case because they would have not had time to make prior adjustments to their consumption and retirement savings patterns, as would be the case if they had anticipated policy changes. Changes to the PAYGO payroll tax could also have a major, albeit uncertain net impact on the labor supply. There could also be an entitlement effect ensuing from simply knowing that one is eligible for benefits (Krueger and Meyer, 2002).

The social security means test — which reduces the benefits for those that collect benefits and work at the same time — discourages part-time or full-time employment after individuals begin to receive pension benefits. This effect has become null though for those over 65 years of age as a result of recent legislation that repealed the means test in the United States. The means test for individuals between the normal retirement age of 65 and age 70 was abolished under the Senior Citizens' Freedom to Work Act (SCFWA) of 2000 (VanZante et al., 2002). However, the SCFWA did not repeal the means test for those that choose early retirement — 62 to 65.

Social security may also have other effects on the labor supply of workers that are not traditionally considered by policy-makers. For example, there is an incentive for workers late in their employment career to move from the uncovered to the covered sector in order to qualify for full social security benefits. This is the case because workers in the United States only need to be employed in the covered sector for 40 quarters to qualify for full social security benefits.

Moreover, benefits to a spouse are half of what the primary earner would collect unless the spouse can individually qualify for higher benefits. As a result — and all other things being equal — the probability of a spouse working could be low given the economic significance of spouse-related benefits.

In Canada the public pension system discourages employment after the age of 60 because working after this age reduces income security wealth substantially (Baker, Gruber and Milligan, 2001a). There is plenty of evidence that income security programs act as an incentive to retire at around the age of 60 (Colie and Gruber, 2000; Chan and Stevens, 2001).

This evidence suggests that pension reforms may not only have a fiscal effect but that they also affect the decision with regard to the timing of retirement among workers. In fact, it has been estimated that this behavioral effect could account for half of the impact of reforms on the budget (Baker, Gruber and Milligan, 2003). Thus, a policy implication here is that behavioral changes induced by reforms to pension plans are important when it comes to assessing their expected fiscal impact.

IV.5 Diverse Considerations regarding Policy Alternatives

Policy discussions regarding how to address problems of financial solvency in the social security programs, which may also affect the labor market, center on four alternatives for reform: increasing payroll taxes, decreasing benefits, using general revenues to fund the program deficit, or instituting personal savings/ investments accounts. Perhaps the most studied nation with regard to social security issues is the United States. In July 2001, the Social Security Advisory Board (SSAB) issued a report in which they evaluate different alternatives for reform (SSAB, 2001), in which it is suggested that early reforms would be less disruptive to labor market participation, consumption and savings.

The last two rationales are particularly relevant to this study because changes in, say, social security benefits and/or taxes could have potential effects on the labor market, consumers, employees and employers. Reductions in benefits could induce workers to stay employed for longer, whereas increases in payroll taxes could affect both the quantity demanded and the quantity supplied of labor, as was shown in the last section. Employers might hire fewer workers at higher payroll tax rates and older workers might face diminished employment opportunities. Increases in payroll taxes may reduce take-home pay and, as a result, workers would consume and save less, and they would also have to work more to achieve the same standard of living.

Table IV.2 summarizes the effects of different proposals to address the problems of long-term financial solvency of social security as appraised in the SSAB Report (2001). COLA refers to the cost-of-living adjustment that is applied yearly for the calculation of benefits. It is based on the Consumer Price Index (CPI). However, the CPI is known to overstate inflation and, as such, if the cost-of-living adjustment (COLA) was permanently reduced now rather than in 2020 — which is the time frame used in the SSAB (2001) Report — then the cost of this measure would be shared by everyone receiving benefits today and in the future rather than that cost being borne by everyone only after 2020. According to the calculations, in 2020 the COLA would have to be reduced by 1.5 percentage points to achieve the same 75-year solvency of social security that could be achieved with roughly a one percentage point COLA reduction if it were to be implemented now.

Besides the analysis of the Social Security Advisory Board, other experts have also examined several options, particularly the possibility of structural reform of the system. It has been claimed that adopting individual retirement investment accounts would also be a solution to the financial problems faced by social security and to problem of incentives for early retirement (Feldstein and Ranguelova, 2001). Others have proposed augmenting the current PAYGO system with an investment-based personal retirement account (PRA) (Feldstein and Samwick, 2001). Workers would transfer part of the payroll tax (1.5 per cent of earnings) and match this with an additional out-of-pocket amount equal to 1.5 per cent of earnings. Under this plan, it is argued that increases in national savings brought by the PRA funds would lead to rising business investment and, thus, to more tax revenue. Part of that revenue could then be transferred back to the OASI Trust Fund — the pension trust fund. Feldstein and Ranguelova (2001) show that the investment risk of this strategy is relatively low and that it would generate equal or higher levels of benefits. They argue that '...an individual who saves six per cent of his earnings during his working years from 21 to 66 (with a 5.5-per cent mean log return) has a 50 per cent chance of receiving an annuity at age 67 that is at least 2.1 times the benchmark level of social security benefits (and therefore about 70 per cent of pre-retirement pre-tax wages) and only a 17 per cent chance that the annuity is less than the benchmark social security benefit. In 95 per cent of the investment experience, the annuity exceeds 61 per cent of the benchmark benefit.' (p. 1124).

IV.6 Concluding Comments

The low valuation of social security benefits by workers in many countries is the main barrier to a large positive impact of social security reform on coverage. For this reason, it is always the case that the predicted effects of changes in the contribution rates are rather small.

Actual increases in coverage are therefore very limited among some reforming countries. In others,

Table IV.2
Effects of Alternative Proposals to Address the Long-Range Financial Solvency of Social Security in the United States

Proposal	Percentage SS Payroll Deficit Resolved
Reduce the COLA by 0.5 percentage points below CPI, beginning in 2002.	40%
Reduce the COLA by 1 percentage point below CPI, beginning in 2002.	77%
Increase the number of years used to calculate benefits for retirees and survivors from 35 to 38 (phased in 2002-2006).	14%
Increase the number of years used to calculate benefits for retirees and survivors from 35 to 40 (phased in 2002-2010).	22%
Over a 31 year period, gradually reduce formula factors (i.e., 32%, 15%) in the benefit formula for middle and upper income workers, (ultimate reductions: 32% reduced to 21% and 15% reduced to 10%) for workers first eligible for benefits after 2031.	87%
Reduce benefits across the board by 3% for those newly eligible for benefits, beginning in 2002.	20%
Reduce benefits across the board by 5% for those newly eligible for benefits, beginning in 2002.	33%
Phase in the currently scheduled increase in the normal retirement age to 67 by 2016 rather than 2027.	8%
In adition to speeding up the increase to age 67, index the normal retirement age (by 1 month every 2 years) up to age 68.	23%
In adition to speeding up the increase to age 67, index the normal retirement age (by 1 month every 2 years) up to age 70.	32%
Reduce benefits by 10% beginning at a family income of $40,000 annually and by an additional 10% for each additional $10,000 (maximum reduction of 85%).	89%
Raise payroll tax rates (for employees and employers combined) by 2.0 percentage points in 2002.	100%
Raise payroll tax rates (for employees and employers combined) by 2.4 percentage points in 2020 and an additional 2.4 percentage points in 2050.	100%
Tax social security benefits in a manner similar to that of the private pension income. Phase out the lower income thresholds during the period 2002-2011.	24%
Make all earnings subject to the payroll tax (but retain the cap for benefit calculations) beginning in 2002.	100%
Make all earnings subject to the payroll tax and credit them for benefit purposes beginning in 2002.	88%
Make 90% of earnings subject to the payroll tax and credit them for benefit purposes (phased in 2002-2011).	37%
Cover newly hired state and local government employees beginning in 2002.	11%
Invest 40% of the trust funds in stocks at a 7% yield (phased in 2002-2016).	55%
Transfer money from general revenues to offset the trust fund deficit.	Impact on trust fund deficit would depend on amount transferred.
Use a portion of the payroll tax (e.g., 2 or 5 per cent) to provide mandatory individual investment accounts.	Trust fund deficit would be increased unless revenue loss is offset by benefit cuts.
Allow or require workers to contribute to individual investment accounts funded by additional amounts withheld from wages.	No direct effect on the trust fund deficit. Benefits from these accounts would enhance retirement income

Table IV.2 (continued)
Effects of Alternative Proposals to Address the Long-Range Financial Solvency of Social Security in the United States

Proposal	Percentage SS Payroll Deficit Resolved
Use de budget surplus to establish individual investment accounts.	No direct effect on the trust fund deficit. Benefits from these accounts would enhance retirement income
Return to pay-as-you-go financing and allow workers to put money saved from temporary payroll tax reduction into individual investment accounts.	Trust fund deficit would be eliminated by raising payroll taxes as needed to meet future benefit obligations.

Source: SSAB (2001).

the expected expansion of the system in the labor market is simply not observed because other factors, on occasions of a macroeconomic nature, develop in an adverse way.

Reducing labor regulations may certainly improve the coverage and would encourage an increase in formal jobs. However, reductions to the payroll tax in a context of recession would be ineffective, given the environment of high unemployment and fiscal pressure on the firms. In this sense, social security reforms should be embedded in an integral fiscal reform.

On the other hand, given that the valuation of social security benefits is influenced by complementary factors, they must also be taken into account. Thus, issues such as improvements in the health system, making individual accounts more accessible, implementation of, or improvements to unemployment insurance, among others, are crucial. It is not necessary to increase the costs or decrease the revenue of the system, but simply to improve the efficiency in terms of coverage and financing.

The evidence suggests that reforms to the systems can limit the incentives for early retirement from the labor force a more direct link is made between staying longer at work and the size of the pension received after one retires.

This result favors the financial strengthening of social security systems. However, additional problems may arise. Another issue is that the possibility that increasing the retirement age could lead to higher disability rates because some workers may choose this path for retirement at an earlier age, rather than waiting to collect benefits at the new retirement age. There is some evidence that many workers retire early because they have the financial option to do so rather than due to poor health.

Another challenge to face is that older workers are likely to encounter difficulties when it comes to securing continued or new employment, and increasing retirement ages may further exacerbate these problems. Even though the elderly are healthier now than ever before, they are more likely to use health insurance benefits than their younger counterparts and this could be costly to their employers. Training older workers might not be cost-effective for some employers because they might not be able to fully recover their training investment. Older workers could also experience age discrimination on the part of employers or customers and they face difficulties in finding transitional jobs due to recent structural changes in the labor market.

CHAPTER V
FISCAL ASPECTS OF PENSION SYSTEM REFORMS: REDISTRIBUTION AND TRANSITION COSTS

Contributions by country[*]:
Argentina: Enrique Dieulefait
Mexico and conceptual framework: Héctor Peña
Uruguay: Alvaro Forteza

Editors:
Jorge Meléndez
Héctor Peña
Fernando Ramírez

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* The original documents, including detailed discussion for each country, may be requested from the CISS.

CHAPTER V
FISCAL ASPECTS OF PENSION SYSTEM REFORMS: REDISTRIBUTION AND TRANSITION COSTS

The purpose of this chapter is to provide an assessment of some fiscal aspects of pension system reforms. Attention is given to the effects of policy changes with regard to income distribution and to the costs of transition from one regime to another, as well as to the effects brought on by the way in which authorities finance such cost. The assessment is made based on empirical evidence from the cases of Argentina, Mexico and Uruguay.

The analysis has been limited to retirement system reforms. Therefore, analyses of other types of insurance, such as disability, life and health, are not considered.

Some of the essential questions posed are:

a. Comparing legislation before and after the reform, which income groups have been benefited the most by such changes? How is the benefit/contribution relationship modified for groups with different income levels?

b. To a differing extent, before as well as after any reform, there is a flow of public funds from non-contributive sources, that is, from general fiscal revenues, to finance retirement system benefits. Taking into account the way in which these subsidies are distributed among the insured and also the way in which they are financed — for example, through general taxes — what are the effects on income distribution?

c. Each country that has implemented retirement system reforms has used a different strategy to meet the cost of transition from one system to the other — for example, through recognition bonds. There are different studies that have estimated the aforementioned transition cost. What is this cost amount to? How is the transition cost related to the design of the reform and the way it is implemented? Taking into account the way in which it is financed, how does it affect beneficiaries according to their income level?

V.1 Concepts Used in this Chapter

There are several ways of approaching these questions, as well as others that might be just as relevant. Some of the concepts that will be used in the following sections are discussed below.

One of the functions of social security systems is to provide societies with a solidarity mechanism to protect against the income and/or health loss of some of its members. In this context, to a differing extent and depending on the country, such systems have been used as powerful social redistribution tools.

In social security analysis, it is useful to distinguish between two redistribution concepts: intergenerational and intragenerational redistribution. The first concept refers to transfers of income or welfare among members of different generations, according to birth year, while the second applies to transfers among members of the same generation but in different income groups.

The tools available to study the intergenerational redistributive consequences of social security include generational accounting and dynamic general equilibrium models. These approaches will be applied later in the analysis of the cases of Mexico and Uruguay.

The goal of the generational accounting approach is to assess the fiscal burden that current generations impose on future generations, a central issue in social security financing.

The generational accounting model, introduced by Auerbach, Gokhale and Kotlikoff (1991), is based on

an accounting identity whereby the present value of current and future government expenses must, at all times, be equal to the sum of the present value of current and future tax collection to be received by the government, plus the net government wealth at the time that the calculation is made.

Therefore, the government's budget restriction at time t is expressed as $VPCG_t = RNG_t + VPVIV_t + VPFUT_t$, where $VPCG_t$, is the present value of government purchases, RNG_t is government net wealth, $VPVIV_t$ is the present value of net tax payments or the generational account of current generations and $VPFUT_t$ is the account corresponding to future generations. That is, the net present value of all taxes to be collected by the government is made up of $VPVIV_t$ and $VPFUT_t$.

Each term in the equation can be estimated with observed data, except for the generational account of future generations, of course, which is obtained as a residual.

If the present value of net taxes paid to the government during the lifetime of current generations, $VPVIV_t$, is lower than the estimated payment to be made by future generations, $VPFUT_t$, then it is said that an intergenerational imbalance exists, since in order to sustain the government's current obligations, future generations will have to bear a higher fiscal burden than current ones.

In other words, a generational imbalance means that, in order to pay for our benefits, the government will have to tax more heavily our children and grandchildren than it taxed us, while offering the same benefits to both generational groups.

In the case of intragenerational redistribution, there is no standard methodology for assessing the impacts of reforms to social security systems according to the income level of different social groups.

Some authors simply divide the population into current income groups and estimate which groups have the highest net benefit balance increases against contributions when a pension system is reformed. This is the approach used here in the discussion of the Mexican and Uruguayan cases.

Other researchers concentrate on analyzing the way in which the design of the social security system harms or benefits social groups according to different characteristics. For example, they whether a pension reform affects groups of individuals differently according to their gender, education or age. This is the type of analysis that will be made with reference to the case of Argentina, for which the possible effects of different modifications to social security system parameters are evaluated.

One important aspect of social security system reforms, particularly with regard to pensions, are the so-called 'transition costs'. These costs arise because as the pay-as-you-go system (PAYGO) is modified by the introduction of an individual savings component, the burden of financing future pensions, which was previously borne by incoming generations, is shifted to the current generation. This calls for clarity with regard to how pre-existing responsibilities, for which the State was the guarantor, are to be met.

In principle, the magnitude of such responsibilities can only be redistributed intergenerationally and among public and private agents. For example, debt may be issued to cover those responsibilities, distributing the cost among different generations. Some may in fact elude any payment, while others may bear a greater burden. However, for the economy as a whole, the amount of that liability is not reduced just by changing the way in which the pension system is financed. As a result, the social distribution of the transition costs originated by the reforms depends on their design and scope.

Transition costs, in turn, depend on multiple factors (Mesa-Lago, 2000). Some such factors are exogenous, that is, independent of the reform process, for example, the structure by population age, the seniority of the pension program and the percentage of labor force coverage.

Other factors are endogenous, that is, they are related to the design of the reform. Two of these factors are related to expenditures that the government must honor: 1) responsibilities assumed by the government during and after the transition — pensions being paid and pensions for the transition generation; and 2) conditions of rights entitlement in the public program — guaranteed minimum.

V.2 The Reform to the Pay-as-you-go System in Argentina

When Argentina reformed its social security system in 1994, a mixed system was implemented whereby the traditional PAYGO regime was maintained to provide a basic pension, while at the same time a privately managed individual account capitalization system, offering a complementary pension, was introduced.

However, workers may choose either to remain under the pre-reform conditions, that is, in a completely PAYGO system, or to enter the new mixed system.

As will be discussed in this section, the options offered between systems posed significant fiscal

problems. First the chapter will analyze the level of financial imbalance before the reform, before going on to explain how the modification of the PAYGO system parameters has significant consequences in terms of redistribution. There follows a discussion of the effects that offering two substitute options has on the financial health of the traditional PAYGO component. Finally, there will be a summary of the different calculations for the transition costs of Argentina's reform.

One recurring topic will be the fact that it is young workers who obtain greater benefits from the capitalization component in the new pension system and therefore, when they exit the traditional PAYGO system, they deprive it of an important source of contributions, undermining its financial viability.

V.2.1 Difficulties in the Pay-as-you-go System

The parameters of the PAYGO system are contributions from affiliates and employers, as well as the structure for the calculation of the 'retirement credit', a term used in Argentina to refer to pensions.

A set of parameters — contributions and retirement credit — that was capable in the past of defining a financially sustainable system, is no longer capable of funding the responsibilities in terms of pension payments under conditions of an aging population.

The contributions entering the system, as well as the retirement credits or pensions with which the system meets its responsibilities, are represented in Figure V.1.

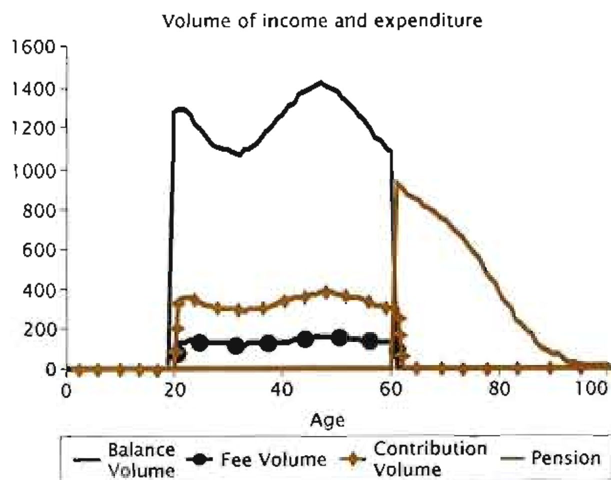
As can be observed from Figure V.1, should workers reduce their active life when affiliated, system revenues would decrease since the length of the contribution curves would be shorter. If workers were to continue making contributions for the time required to obtain PAYGO system benefits, the credit or pension amounts would be unaffected and, therefore, the whole system would have solvency problems.

Table V.1 summarizes the results of the above figure and computes the amounts of assets and liabilities as well as revenues and expenditures, showing the results as ratios. This is done for different scenarios: assuming the amount of the pension or credit is calculated by averaging the salary for the last three years before retirement or the last ten, and assuming two possible legal ages for retirement, 60 and 65 years.

Table V.1
Results for the Pay-as-you-go System in Argentina with Different Parameters

Average salary	Retirement age	Assets/Liabilities	Revenues/Expenditures
Last 3 years	60 years	3.97	0.88
Last 10 years	65 years	5.93	1.31

Figure V.1
Revenue and Expenditure of the Argentine Pension System



A 0.88 value for the revenues and expenditures ratio, obtained with parameter values that reflect the conditions in Argentina prior to the reform, indicates an unsustainable financial situation since income represents only 88 per cent of pension obligations to be paid. Therefore, the government would have to use other financing sources to meet the responsibilities of the system.

Such conditions were the determinants for the reform that took place in Argentina and in other countries in Latin America during the 1990s.[1]

However, it should be clarified that the alternative of changing the system to one of individual accounts capitalization is not the only option to resolve this financing problem.

[1] With the exception of Brazil, which carried out a reform assigning new roles and values to the parameters in the system (Vinicius Carvalho Pinheiro, 1999).

For example, instead of calculating the average salary by taking into account the last three years worked, the calculations could instead be based on the last ten; and instead of 60 years being taken the retirement age, that age could be increased to 65. By keeping constant the rest of the parameters in the system, a revenues to expenditures ratio equal to 1.31 would be obtained with these measures. That value indicates a balanced system from a financial viewpoint.

V.2.2 Social Redistribution Issues under a Pay-as-you-go System

Changing the PAYGO system parameters has significant income redistribution effects.

In the PAYGO system the average value of the salary from which the pension will be obtained plays a significant part in the determination of the retirement credit. In practice, it is calculated based on the salary recorded during the last active years.

If the number of years considered for individuals with high salaries, usually those with higher education, in the calculation of the average is small, then this calculation highly overestimates the average value for the whole active life, since for this group the salary level starts low but rises rapidly over time.

Low-salary earners, typically less educated workers and women, are not affected to the same extent since in this case the salary trajectory throughout their active life is relatively flat, that is, their salary does not increase as much and remains close to the average value.

The consequences of this corollary on the PAYGO model are stunning: if the number of years used to calculate the value of the retirement credit or pension is small, as it was in Argentina before the reform (three years), the system would become a vehicle for transferring income from those who have lower salaries to those who have higher ones.

In order to prevent such an income transfer, it is necessary to calculate the average salary with the largest possible number of years worked, projecting, should it be necessary, the initial salaries for the whole active period.

If the number of years to be considered in the calculation of the average salary is not significantly increased, the system's balance will be attained to the detriment of the retirement credits of low income workers. This is an unintended result that is not in line with the intentions of those who set the rules to determine pension levels in the PAYGO system.

V.2.3 The Options between Systems and the Difficulties with Pay-as-you-go Regimes

The new capitalization system attracted the base of the pyramid in terms of contributor age, depriving the PAYGO system of significant revenue from contributions, which caused a deficit in the PAYGO system larger than the one it was intended to correct.[2]

In addition to this problem, a series of decrees that were enacted after the reform allowed for deductions and discounts to employers, aggravating the financial condition of the system.

Thus, transition issues are perhaps the area of greatest conflict between the two systems, PAYGO and capitalization. If pension system reform is designed in such a way that it allows the affiliate to enroll in the capitalization system, using it as a substitute for PAYGO, with no age limits, both systems will suffer the consequences of such an arrangement for a period exceeding one generation.

The financial balance in the PAYGO system will deteriorate due to the absence of contributions from the youngest members of society, who will switch to the capitalization system. Contributors to the latter will suffer the consequences of a low annuity, resulting from the shorter personal contributions accumulation period, since not only will new system affiliates join the capitalization system, but also some who had previously made PAYGO contributions and are still relatively young. Finally, society as a whole will be worse off as a result of financing shortfalls that will have to be covered with resources from different fiscal sources, including debt.

But the consequences of a reform that introduced the individual capitalization system as a substitute for, rather than a complement to, the PAYGO system are far reaching.

Let us assume that all contributors under 45 years of age enroll in the capitalization system. Under such conditions, the PAYGO system would be deprived of contributions from the youngest workers.

[2] This always happens whenever the option to choose between PAYGO systems and individual account capitalization systems is offered because, since the young will contribute for many years to come, the amount accrued in their account at the time of retirement will be quite large, while in the case of older members of society, in the time remaining until retirement they will not be able to accumulate a fund with a value higher than the present value of benefits under the PAYGO system. For example, in the case of Mexico, it has been estimated that those who were between 30 and 32 years old at the time of the 1997 reform would prefer the individual account capitalization system, while those above that age would opt for the previous PAYGO system (Meléndez, 2003).

As it is evident that this situation would lead to the collapse of the PAYGO system, the reform initially maintained the employer contributions level. However, as a result of a series of decrees issued between 1994 and 2000, the amount of employer contributions was reduced up to 50 per cent of the levels in place before the reform.

In order to reflect this modification in system revenues, an additional parameter is introduced into the model to capture the age at which a contributor is indifferent when choosing between systems — 45 years.

The revenue loss corresponding to the personal contribution of the youngest workers, coupled with the reduction in employer contributions, is then introduced to the revenue and expenditure curves shown in Figure V.1 and the calculations in Table V.1 are made once again.

The result is that, in spite of modifications to the retirement age and the number of years used in the calculation of the average salary, the system once again becomes insolvent since the value of the revenue to expenditure ratio falls to 0.63, indicating a deficit whereby system revenues represent only 63 per cent of committed expenses.

What happens if one also modifies the demographic scenario and the model is assessed for a female population for which a retirement age of 60 is arbitrarily set? The resulting revenue to expenditure ratio falls to 0.36, clearly indicating an unviable situation.

V.2.4 Capitalization System Problems

In the capitalization pension system, also called the 'defined contributions' system, the parameter defined is the percentage of the salary that the affiliate contributes to his/her personal account through a retirement and pension fund manager.

The model developed for assessing the capitalization system estimates the amount capitalized throughout the contributor's active life and calculates, using the previous result, the corresponding annuities.

This model uses a set of parameters similar to the ones in the PAYGO model — salary evolution, age of entry into the system, age of retirement, initial and final salary and total contributions. However, because of the uncertainty regarding the interest rate used in the capitalization of personal contributions, the model designed is a probabilistic one.

The parameter for commission marks a difference with respect to the PAYGO system because part of the personal contribution services the corresponding operation cost, which remains implicit in the PAYGO system but becomes explicit here.

In contrast to the PAYGO system where the demographic scenario is depicted by the age pyramid of system contributors, in the capitalization system that scenario is represented by a mortality function.

The capitalization system is clearly affected by population aging. Just as a population pyramid with a large proportion of elderly individuals erodes the PAYGO system, mortality functions with high values for life expectancy at the age of retirement have a negative impact on annuities in the capitalization system. That is, population aging reflects a longer life expectancy, increasing the price pension fund managers charge for annuities, which in turn reduces the pension level.

If the parameters observed in Argentina are applied to the model, the accumulation of capitalized personal contributions ranges between three and 13 annual salaries, depending on the distribution of rates of return, with an average value of approximately eight annual salaries — to be understood as the salary for the last active year.

Thus, in its mature phase the capitalization system would offer acceptable replacement rates. Under reasonable assumptions with regard to interest rates and life expectancy at the time of retirement, retirees could obtain pensions close to 67 per cent of their final salary.

However, such figures only apply to a mature system. In order to assess the model under conditions similar to those observed during the transition period, one should ask what the results would be if contributors entered the capitalization system at the age of 45, instead of 20.

Having considerably reduced the number of contribution years, capitalized saving values that are considerably lower are now observed. The average value of capitalized savings at the time of retirement is lower than the three times the salary earned in the last active year since contributions were made over a shorter period and contributions were capitalized for a shorter number of years.

Such values imply a pension level of less than one quarter of the salary earned in the last active year. Reductions in the number of contributing years have a highly detrimental effect on the system.

This situation is typical of the period of transition from one system to another. The capitalization system requires a maturation period equivalent to the

contributor's entire working life. If this condition is not met, the system requires the aggregate of other components to provide pensions at acceptable levels. In this case, pension financing will end up being completely independent from the capitalization system.

The *Sistema Integrado de Jubilaciones y Pensiones* (Integrated Retirement and Pension System), SIJP, introduced in Argentina after the reform, anticipates such a situation and incorporates into pension receipts the aggregate of different components known as the Universal Basic Benefit and Additional Benefit for Permanence.

V.2.5 Transition Costs and the Fiscal Burden

Several projections carried out before the reform was approved showed a tendency for the pension system deficit to increase during the first years after the reform, with that tendency gradually reversing until the elimination of the deficit within fifteen years.

Projections of the Integrated Retirement and Pension System's expenditures (Bertranou et al, 2000) under the public regime that include — in addition to the benefits corresponding to the previous system — the minimum and additional benefits introduced with the reform, indicate expenditure exceeding five per cent of GDP in 1995 and 3.7 per cent by 2010.

The latter figure would have increased to 4.1 per cent of GDP had all contributors remained in the public system and to 4.4 per cent of GDP had the reform been rejected. By 2030 the public expenditure would amount to 2.3 per cent of GDP in the base scenario, but would amount 3.8 per cent of GDP if all contributors opted for the PAYGO system and to 6.7 per cent of GDP without the reform.

Projected expenditure in terms of GDP under the system in place prior to 1994 would have initially decreased, but would have later increased exponentially. In the reform base scenario, a significant deficit reduction is achieved in the long term, falling to 2.3 per cent of GDP in 2030 — a 65 per cent decrease with respect to the no reform scenario.

If the reform had only consisted of changing the parameters of the PAYGO system —the retirement age and required contribution years — and had the number of contributors evolved in the same way as without the introduction of the capitalization regime (that is, if the latter did not generate an 'incentive' effect on participation and savings), public expenditure would only have diminished by 43 per cent by 2030.

Thus, the results with reform imply a greater fiscal effort in the short term, but a lesser burden in the long term. The opposite occurs in the scenario without reform, whereby the deficit is reduced in the short term, increases in the medium term and is clearly unsustainable over the long term.

V.3 The Pension System Reform in Mexico

According to the actuarial valuation of the *Instituto Mexicano del Seguro Social* (IMSS — Mexican Social Security Institute), as of 31 December 1994, in the years prior to the pension system reform, it was estimated that in order to achieve financial balance it would be necessary to increase contributions by 9.61 per cent in 2000, by 15.10 per cent in 2010, by 23.32 per cent in 2020 and again in 2030.

The reform, which came into effect in 1997, replaced a PAYGO system with a capitalization regime.

In this way, the government significantly reduced its fiscal obligations because with the new system it only guarantees a pension equivalent to the minimum wage in 1997. If workers accumulate sufficient funds in their individual accounts to obtain a higher pension, the fiscal authority has no obligation to them. Before the reform, the government was committed to a pension level generally higher than the minimum wage.

That was not the only important measure encompassed in the reform. The change was also accompanied by modifications of some of the system's parameters. One such key modification was an increase in the number of contribution weeks required for entitlement to the minimum pension benefits provided by the government from 500 to 1,250.

Another measure with significant fiscal repercussions was the option for workers who had contributed to the previous system to retire on the benefits established in the legislation in place prior to the reform. However, it is expected that the youngest workers will opt for the individual account capitalization system. Government fiscal obligations to these people will be zero. That is, there are no recognition bonds. A worker will choose in due time the pension s/he finds more beneficial, but should s/he opt for the reformed system, the government will have no obligations to that worker.

For these reasons, the policy change represented a relief for the system's finances. Without the reform it was estimated that the system's deficit, expressed as a percentage of GDP, would be 1.61 per cent in 1997, 3.45 per cent in 2022 and 4.39 per cent in 2047. With the reform it was calculated that the deficit would be 0.77 per cent in 1997, 3.05 per cent in 2035 and 2.62 in 2047, even in an adverse scenario with low economic growth and reduced interest rates (Sales, Solís and Villagómez, 1996).

V.3.1 The Reform and Intragenerational Income Redistribution

It is widely believed that when individual account systems are established, the redistributive elements of social security are lost. However, this is not the case.

In an individual account system, a fraction of the insured worker's salary is periodically deposited in a savings account for as long as s/he continues contributing until the time of retirement. In such a system, the present value of the income flow the worker will expect to receive from his/her retirement until the time of his/her death is similar to the amount accumulated in his/her individual account.

It would be expected that any difference between the amount of benefits received during retirement and the total contributions for retirement paid by the worker and his/her employer[3] would be the result of returns obtained through pension funds, commissions paid to the managers of these funds and different subsidies and taxes. The benefit/contribution ratio (B/C), measured in present value throughout the life of any insured individual would then be close to one. For this reason, it is believed that the system would lack redistributive properties, either intragenerational or intergenerational.

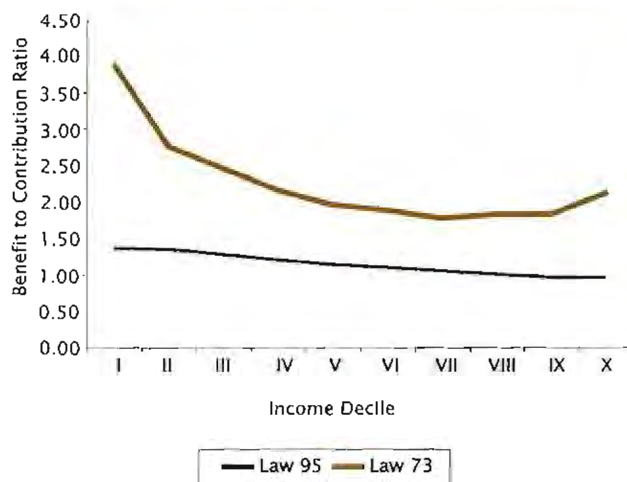
However, in every capitalization system there are government contributions and minimum benefit commitments funded through different sources of general taxes, as well as other components that introduce social redistribution elements, which ultimately allow different PAYGO system characteristics to persist.

For example, in the Mexican case, the government contributes a fixed amount to the individual account of each worker — the social contribution — which is therefore proportionately higher for individuals with low salaries. For these individuals, their accumulated retirement funds greatly exceed the amount that would be obtained only from contributions made to the system by the worker and his/her employer throughout the worker's active life. In this case, the B/C ratio would exceed one.

The B/C ratio was simulated for typical individuals from different income levels and according to two scenarios: 1) applying the legislation in place prior to the pension system reform — the1973 Law; and 2) applying the reformed legislation — the 1995 Law.

Figure V.2 shows the results. The bottom line represents the B/C ratio for workers in each income group contributing and retiring under the 1995 Law. For an individual belonging to the first income decile —the poorest ten per cent of the population — the ratio would be nearly 1.4, while the ratio for the 30 per cent of the population with the highest income — deciles VII through X — would be approximately equal to one.

Figure V.2
Redistributive Characteristics of the Pension System in Mexico



The negative slope of the bottom line indicates that the reformed pension system in the Mexican case still maintains a certain degree of fiscal progressiveness. Thus, the reformed system still redistributes income to the benefit of workers from lower income groups.

For every peso received by the system in the form of contributions, an individual in the lower income group will receive $1.40 in benefits, resulting in a 40 per cent net benefit rate. In contrast, an individual in the higher income group will receive around $1.00 for every peso paid in the form of contributions.

The B/C ratio may be higher than one if the return from the retirement savings fund, plus any subsidy from the government, exceeds the commissions paid

[3] According to the literature on social security it is common practice for contributions paid by the employer to be added to those charged to the worker and to assume that said sum totally impinges upon the worker's net salary, which would diminish. In fact, the real incidence of any tax that is proportional to the salary depends on the possible responses of offer and demand in the labor market, as explained in Chapter IV.

to fund managers. If commissions paid exceed the sum of returns and subsidies received in the individual account, then the B/C ratio will be lower than one.

In the Mexican case in particular, the existence of a minimum guaranteed pension, as well as that of direct government contributions[4] to the individual account of workers, cause the B/C ratio for lower income groups to be higher than the one.

The simulated B/C ratio on applying the legislation in place prior to the reform —1973 Law — throughout the life of workers, is represented by the top line in Figure V.2. This line has a steeper slope for any income level than the bottom line, which represents the pattern after the reform.

The steeper slope implies a higher degree of fiscal progressiveness under the previous law than under the reformed system. Thus, the old (PAYGO) system in Mexico was relatively more generous to individuals from low income groups than to those with a high income.

It should be noted that, for any income level, the B/C ratio under the 1973 Law is always higher than the one. That is, every affiliate would receive retirement benefits with net present values that would invariably be higher than the lifetime contributions paid.

This is another way of saying that the PAYGO system was, in itself, financially unsustainable, that is, without using other sources of government revenue sources. Under this system, a typical individual in the lower income group — decile I — would receive $3.90 for each peso contributed, while an individual from income decile X would receive $2.20 for each peso in contributions.

These calculations were those established by the law, but that does not mean it was possible to sustain them.

Another point to emphasize from Figure V.2 is that with the reform, the sum of benefits obtained for every peso paid in contributions was reduced from $3.90 to $1.40 for the lowest income group, while the reduction was from $2.20 to $1.00 for the highest income group. The fact that the reductions are proportionately greater for lower income groups than for higher income ones reflects the higher degree of progressiveness in the PAYGO system.

In summary, the regime prior to the reform had a higher element of redistribution, but it was financially unsustainable. The reformed system, on the other hand, maintains some degree of fiscal progressiveeness, despite the fact that it is based on individual saving accounts.

The PAYGO system prior to the reform favored low-income workers but, as shown above, it was unviable. To cover the deficit, the government could, for instance, use consumption tax revenues. Then, low income individuals would contribute to financing the imbalance in proportion to their consumption profiles. Ultimately, the benefits granted to a group through the pension system may be taken away by the government in the form of higher taxes.

The distribution of tax revenues by income deciles is shown in Table V.2

The deficit resulting from the legislation of 1973 would be distributed according to Table V.2, assuming that the tax incidence is constant across time.

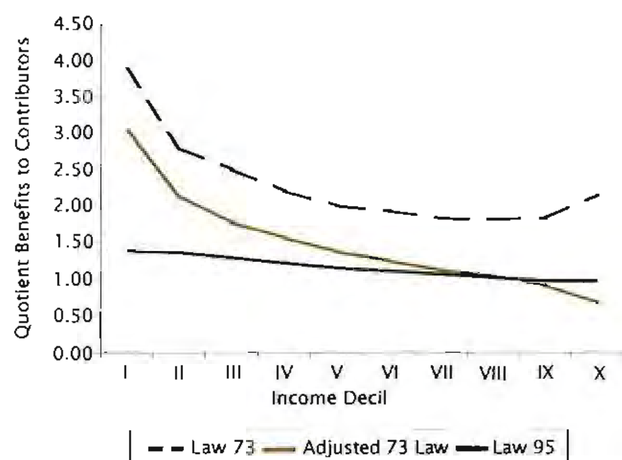
Figure V.3 shows the B/C ratio from the legislation of 1973, but adjusted for tax payments for every income decile.

Table V.2
Tax Payments Share by Decile

Income Decil	Distribution of tax Revenue	Income Decil	Distribution of tax Revenue
I	0.5%	VI	4.3%
II	0.9%	VII	6.0%
III	1.5%	VIII	9.4%
IV	2.1%	IX	17.0%
V	2.9%	X	55.3%

[4] In Mexico the federal government makes direct contributions to individual savings accounts in the form of a social fee, as has already been mentioned, besides a premium by law that is specified as a percentage of the worker's salary.

Figure V.3
Redistribution in the Mexican Pension System: Adjustment for Tax Liabilities by Decile



The figure shows that, if one considers that the fiscal deficit generated by the legislation of 1973 had to be financed by general taxes, the progressiveness of the old PAYGO system increases. Also, the B/C ratio decreases for all income deciles, but it is greater than that under the 1995 law, except in the case of the deciles IX and X, which benefited from the reform.

V.3.2 Intergenerational Redistribution in the Reformed System

In this section the calculations for Mexican generational accounts are made, according to the methodology outlined at the beginning of this chapter. The purpose of the exercise is to find out whether intergenerational equity is being balanced with the characteristics of the reformed social security system; that is, if the same net fiscal burden is imposed on current and future generations.

In the analysis, government revenue includes that generated by the social security system as well as from the collection of income tax, value added tax and excise duties. Government transfers include expenditure on education, health and social security, while government purchases take into account expenses generated during the transition period, as well as others such as the construction of physical infrastructure.

If the social security system is in deficit, then someone will have to pay for it. Since in the long run the only way to cover that deficit is through higher taxes or lower public expenditure (indebtedness only postpones the time of the adjustment), then depending on their consumption and revenue profiles, each generation will bear part of the cost.

In order to find out which generation will have to pay for social security deficits, it is necessary to calculate each generation's payments of all kinds of taxes and benefits from all possible government expenditures.

The following table summarizes the results, taking 2000 as the base year. The CONAPO scenario refers to one based on demographic projections made by this government agency, which predict a considerable decrease in younger population, while the ILO's forecast does not predict such a dramatic aging of the population pyramid.

The results show a significant intergenerational imbalance. According to the base scenario, should the current financing structure for social expenditure continue, future generations will have to bear a fiscal burden that is three times higher than that faced by those born in 2000 — the current generation. In the most optimistic scenario, future generations would pay 86 per cent more in net taxes. In the worst-case scenario, the net fiscal burden of future generations will be five times that of present generations.[5]

Table V.3
Summary of Generational Accounts in Mexico

Scenario	Demographic Scenario	Discount Rate (%)	Labor Productivity Growth Rate (%)	Intergenerational Imbalance	
				Absolute (thousands of US dollars)	Relative (%)
Base	CONAPO	5	1.5	$19.10	297.50
Optimistic	ILO	3	2	$13.10	85.80
Pesimistic	CONAPO	5	1	$20.60	403.60

[5] In previous studies for Mexico, Sales and Videgaray (1999) found a negative fiscal imbalance, that is, that present generations will pay more net taxes throughout their life than future generations. Schwartz and Torre (2002) use updated information and find a fiscal imbalance that is exactly the opposite, whereby generations born after 1995 would have to pay throughout their life 42 per cent more than those born in that year.

Although the details of all the calculations are not presented, the important point is that the main source of imbalance is the social security system. Specifically, the government has considerable obligations established by the current Social Security Law towards those individuals who were between 30 and 74 years old in the year 2000.

In the base scenario, the typical individual born after 2000 will have to pay throughout his/her life US$19,000 more than what s/he will receive in government transfers and benefits, while an individual who was 60 to 64 years old in that year will receive, in social security alone, net benefits equivalent to US$24,000.

V.3.3 Transition Costs

Regarding transition costs, the pensions currently being paid were absorbed by the federal government at the time of the reform and represented an expenditure obligation of around 0.49 per cent of GDP in 1998 (Cerda et al, 1997). After that year, that obligation will tend to decrease due to the natural disappearance of this group of retirees. In 2026, the payment of pensions originated before 1 July 1997 will amount to only 0.07 per cent of GDP. The pensions currently being paid represent the largest financial responsibility of the federal government in the years immediately following the reform.

The payment of rights acquired by the transition generation displays the opposite trend to that for pensions being currently paid. During the first years the cost is low, but that cost increases gradually as more retirees opt for the benefits established under the previous law. This increase will be controlled over time by two factors: 1) the recovery of individual accounts, which become more significant as the period of contribution to the new system elapses; and 2) savings accumulation, which will eventually encourage workers to retire under the new system. The fiscal cost of rights acquired would amount to 0.03 per cent of GDP in 1998 and to 0.27 per cent by 2026[6].

The cost of the guaranteed minimum pension is low and decreases over time due to the accumulation of resources in individual accounts and to real salary growth. In the first years after the reform, the fiscal cost of this component is around 0.03 per cent of GDP. Subsequently, this cost becomes insignificant.

Finally, the social contribution is the main component of the government contributions cost. When measured as a percentage of GDP, this cost tends to decrease in the long term as a result of GDP growth, which is higher than the expected growth in contributor population.

V.4 Pension System Reform in Uruguay

By the mid 1990s the main pension system in Uruguay, serviced at the time exclusively by the *Banco de Previsión Social* (BPS), was facing serious financial troubles as a result of an aging population and of high evasion levels.

The Congress approved a pension system reform law that introduced a system in which a new PAYGO structure and a new individual savings system coexist.

Although all workers will receive at least part of their pension from the PAYGO system, the introduction of the individual savings component caused a fundamental change in the operation of the system, since most workers now have a savings account for their retirement.

V.4.1 Intergenerational Redistribution Originated by the Reform

In order to estimate the intergenerational effects of the reform on income distribution, a projection of the generational accounts for groups of workers according to their birth year, gender and income level was constructed within the framework of a general equilibrium model. In this case, the generational account is understood as the discounted sum of the difference between contributions made and transfers received by the worker throughout his/her entire life.

An estimate of the net benefits received by the worker would be analytically incomplete if only specific social security contributions were taken into account. The reason is that revenues from public pension programs stem mainly from general taxes and, since it is possible to shift part of the financing burden to the future through public debt, the taxes to be paid do not always respond to current debt.

To take these contributions into account, this section uses the following methodology: The trajectories for the Uruguayan economy under the old and the new pension system rules are simulated. From these simulations, aggregate net transfers — contributions minus benefits — made by workers to the government and to the pension system are calculated. Variations in these net transfers as a result of the reform are also calculated. The discounted sum of transfer changes equals the change in the generational account resulting from the modification of the pension system.

[6] These calculations are those estimated by Cerda et al. (1997).

The variation in the generational accounts is then used to assess the distribution of the costs arising from the reform among different worker groups.

Table V.4 shows the distribution of the effects of the Uruguayan reform across different generations. In the calculations, an annual real interest rate of 3.8 per cent and a 1.1 per cent annual productivity growth rate were assumed. The accounts are discounted as of 1995 and are expressed as a percentage of GDP for that year.

A positive value means the worker loses with the reform since s/he transfers to the government higher net resources than before. That is, the difference between what s/he pays as taxes and contributions and what s/he receives in benefits and public services increases. A negative number, in contrast, means that the worker gains with the reform.
It can be observed from the table that the reform benefited future generations while it negatively affected current ones. In fact, the generation of those born in 1950 suffers the greatest loss.

It can also be inferred that the social security reform reduces the public debt over the medium and long term. This can be deduced from the fact that each new generation is faced with a lower net fiscal burden.

What Table V.4 shows is that the flip side to the fiscal relief for future generations is an increase in the burden borne by almost all previous generations, born from 1937 to 2032.

The model also takes into account the existence of a significant group of informal workers, in the sense that they do not make contributions but they do find a way to receive a pension. In this respect, the results indicate that social security reform in Uruguay could significantly reduce the fiscal burden of future generations without increasing the burden of current formal workers. The key to this result lies precisely in the elimination of transfers to individuals who did not contribute.

These results can be inferred from an analysis conducted for formal workers alone. The projected changes in their generational account are, on average, less pronounced than the ones presented in Table V.4. The result may be verified by observing the values in the last column of tables V.5 and V.6 for formal workers and by comparing their magnitude to those in the previous table.

V.4.2 Intragenerational Effects

The following tables show for men and for women, respectively, the variation in the fiscal account of these groups by income level and generation. Income refers in this case to earnings from work.

Just as in the previous case, a positive value means that the worker loses out as a result of reform since s/he transfers more to the government than in the old system. A negative figure means the worker is better off.

According to the tables, men gain and women lose as a result of the reform.

With respect to differences by income level, those at either end of the distribution scale tend to benefit while the middle sectors tend to be worse off, particularly in the case of women. The main beneficiaries from the reform are the high-income groups, which reduce their net transfers by significant amounts.The factors contributing to this improvement are, among others, the increase in maximum benefits, the partial substitution of the PAYGO component by one of individual savings and the reduction in employer contributions above a certain income threshold.

Low-income groups also benefit, but to a lesser extent than the high-income ones. The improvement for this group is explained by the increases in minimum benefits and by the bonuses offered to those who decide to contribute to the individual saving component.

According to previous studies, a significant part of BPS expenditure when the reform was initiated was in the form of irregular pensions, that is, granting benefits to individuals who had not contributed. The results

Table V.4
Intergenerational Distribution of the Impact of the Pension System Reform in Uruguay (Percentage of GDP)

Generation in which Born	Variation in the Generational Account	Generation in wich Born	Variation in the Generational Account
1932 and before	0.0	1970	1.2
1933	-0.4	1980	0.9
1940	1.4	1990	0.8
1950	3.3	2000	0.6
1957	1.8	2033 and after	-2.2
1960	1.6		

show that this irregular group was the most affected by the Uruguayan reform. As mentioned above, this can be verified by comparing the significance of the average presented in tables V.5 and V.6, calculated for formal workers who did contribute, with the generational accounts presented in Table V.4, which are for the labor force as a whole.

A sensitivity analysis for different retirement ages, interest rates and labor productivity growth rates, indicates the following. The reform is more beneficial to formal workers under high interest rates and less beneficial as labor productivity growth rate increases. Benefits are reduced and costs increased when retirement age is postponed.

V.4.3 Transition Costs

The Uruguayan reform introduced a mixed pension system. In terms of contributions and benefits coverage, the PAYGO structure remains the main component, even after the system matures.

As a result, the reform did not generate any kind of recognition of implicit debt to affiliates who contributed in the old system. Thus, the fiscal consequences of the reform can only be analyzed through the flow of benefits and contributions as years go by.

The projections indicate that the effect of the reform on the primary fiscal outcome —defined as the

Table V.5
Distribution of the Fiscal Impact of the Pension System Reform in Uruguay (percentage of GDP). Men

Generation in	Income Level					
Which Born	High	High-Middle	Middle	Middle-Low	Low	Average
1933	-1.6	-0.4	-0.3	-0.3	-0.3	-0.6
1940	-1.6	0.2	0.4	0.4	0.4	-0.1
1950	-0.4	0.6	-0.4	0.2	0.2	0.0
1957	-1.1	0.8	-0.8	-1.1	-0.3	-0.6
1960	-1.4	0.6	-0.6	-0.7	-0.2	-0.5
1970	-2.1	-0.1	-0.5	-0.5	-0.2	-0.7
1980	-2.2	-0.1	-0.5	-0.5	-0.2	-0.8
1990	-2.1	0.0	-0.4	-0.4	-0.2	-0.7
2000	-2.1	0.0	-0.4	-0.4	-0.2	-0.7
Average	-1.6	0.1	-0.2	-0.2	-0.1	-0.5

Table V.6
Distribution of the Fiscal Impact of the Pension System Reform in Uruguay (percentage of GDP). Women

Generation in	Income Level					
Which Born	High	High-Middle	Middle	Middle-Low	Low	Average
1933	0.0	0.0	0.0	0.0	0.0	0.0
1940	-2.0	-1.1	-0.4	-0.4	0.0	-0.7
1950	0.7	2.4	1.1	2.6	-1.0	1.7
1957	-0.2	2.4	0.4	0.3	0.1	0.6
1960	-0.5	2.2	0.7	0.7	0.0	0.8
1970	-1.7	2.2	1.4	1.4	-0.5	0.9
1980	-1.9	1.4	1.3	1.3	-0.7	0.7
1990	-1.9	1.1	1.3	1.3	-0.7	0.7
2000	-1.9	1.1	1.3	1.3	-0.7	0.7
Average	-1.3	1.1	1.1	1.2	-0.5	0.7

difference between system revenues and expenditures — is relatively independent from the trajectory of per capita GDP. In all cases, long-term reductions exceeding 2.1 per cent of GDP are obtained.

This result is achieved through reductions in the benefit expenditure corresponding to the PAYGO component of 5.7 per cent of GDP, which is partly compensated by contributions going to the capitalization system equivalent to approximately 3.5 per cent of GDP.

However, the primary deficit increases by an amount ranging between 1.6 and 1.8 per cent of GDP in the short and medium term. This is the result of the reduction in contributions to the PAYGO component, as well as of the expansion of benefit expenditure introduced by the reform.

Unlike the impact of the reform on the primary deficit, the total fiscal outcome —which includes interest payments on debt issued to finance the primary deficit — is highly sensitive to assumptions made regarding growth and interest rates. However, the effect of the reform is, in most scenarios, a contraction in the long-term deficit by amounts ranging between 0.5 and two per cent of GDP. The scenarios in which the long-term impact of the reform generates a higher total fiscal deficit are those including interest rates that exceed GDP growth and, simultaneously, per capita GDP growth significantly higher than that observed in Uruguay in the last decades.

CHAPTER VI
PENSION SYSTEM REFORM AND HOUSEHOLD SAVINGS

Contributions:
Argentina: Andrés A. Berruti
Chile: Francisco Gallego
Mexico and conceptual framework: Liliana Charles Cruz

Editor:
Liliana Charles Cruz

CHAPTER VI
PENSION SYSTEM REFORM AND HOUSEHOLD SAVINGS

This chapter analyzes the impact on household savings of pension system reforms carried out in Argentina, Chile and Mexico, the specific questions that arise are:

- Do affiliates to the new pension system save more, less or the same as non-affiliates?
- Are results stable over time?

The most important results suggest that the direct impact of the pension reform on voluntary household savings changes over time. While during the initial period of the implementation of the new system in Mexico and Chile the effect on voluntary savings was positive, the opposite was observed for Argentina. In Chile, during the consolidation period of the reformed system the effect observed was negative but lesser in magnitude than the increase in compulsory savings through the pension system.

VI.1 Introduction

Substituting PAYGO pension systems with individual capitalization schemes is a reform that has been defended because, in theory, it has a favorable impact on national savings.

However, several analytical findings suggest that the effect this reform has on national savings depends on several factors, among them the way in which the deficit amassed during the transition to the new system is financed and the efficiency gains that are likely to be made in the economy.

Perhaps one of the most important points to bear in mind is that replacing a PAYGO system with an individual capitalization system will also affect voluntary household savings.

One of the goals of pension systems is to generate compulsory savings to compensate for a lack of foresight in the individual households, in order to ensure that participants have, at the time of retirement, the resources that allow them to attain a certain consumption level. This might lead to the belief that the fundamental effects of reforms are produced through the modification of household saving-consumption decisions.

However, pension systems in general, and especially those that are fully funded, also have significant effects on other sectors, for example, on the labor market since compulsory contributions are deducted from salaries. Likewise, in mobilizing and investing large quantities of resources, pension systems affect the development and the composition of capital markets. These indirect effects are, in turn, the feedback that contribute to the individual's saving-consumption decisions.

On the other hand, the reasons for saving, on the part of workers and their families, are not only related to the accumulation of assets throughout the whole life cycle, as has traditionally been emphasized, but they are also related to the accumulation of assets to face the effects of economic cycles,[1] especially in contexts where there are financial restrictions on becoming indebted or making loans to others. Obviously, the assets that a family would like to possess to smooth out troughs in their consumption throughout the economic cycle are different from those it would require to smooth out troughs in its income throughout the whole life cycle. In particular, families would like to have relatively liquid assets in order to face movements in the economic cycle. This imperfect substitution between savings for old age — such as pension funds — and more liquid savings

[1] That is, cyclical variations in income, salaries, employment and fiscal policy, among others.

implies that a perfect compensation should not be expected between an increase in compulsory savings and a reduction in voluntary savings when a fully funded pension system is adopted.

In any case, the determinants of a country's public and private savings are so numerous that the real impact a pension system reform might ultimately have is a matter to be determined in practice, analyzing the data for each case.

To begin to answer the questions posed at the beginning of the chapter, the second section discusses the expected effects of the reform on family savings from a theoretical perspective. The third section briefly presents the characteristics of the pension systems in Argentina, Chile and Mexico, that are particularly relevant to the topic of this chapter, before and after the reform. Finally, the fourth section presents the empirical results.

VI.2 Pension System Reform and Savings

The starting point to analyze the relationship between savings and pensions is the *life cycle model* (Modigiliani, 1975), which suggests that, in general, consumption decisions at a certain point in time are related to the permanent or long-term income of households and not only to their present income. In conclusion, individuals will avoid spending their entire income during their active labor life to be able to have savings that will allow them to finance consumption during their retirement.

Pension systems in general force 'saving', which it is assumed would not be voluntarily implemented otherwise, and will therefore guarantee that individuals will be prepared to face retirement.

Thus, following the life cycle model, a compulsory saving system should help the voluntary savings of individuals who would no longer have to accumulate funds for their retirement.

However, there are certain objections to this conjecture. In the first place, there is a series of arguments that would lead one to surmise that this compensation or savings substitution is only partial since savings made through a pension system have liquidity and risk characteristics that may be different to those desired by individuals. If this is so, it may be expected that compulsory saving will not be completely substituted, or that it might even imply an increase in voluntary savings.

In the second place, the characteristics of the explicit assets maintained in the pension funds tend to be different from the characteristics of the savings that are implicitly maintained in PAYGO systems. This suggests that a reform would have a different kind of potential effects on household savings through cautionary motives, for example, or through the differences between expected returns in both systems.

Beyond the effects produced by changes in compulsory saving, the existence of a fully funded pension system may have different impacts on household decisions regarding saving and consumption. For example, Abel (2001) emphasizes that if there are high transition costs in the stock markets, the fact that pension funds benefit from important economies of scale regarding these costs simplifies small investor participation, thus increasing the liquidity and the efficiency of these markets.

Likewise, replacing a PAYGO system with a fully funded system may generate a series of different effects on voluntary household savings. First, by linking pension system contributions and benefits more directly, a fully funded system strengthens the link between compulsory and voluntary savings and, thus, substitution between the two.

In the second place, it is expected that a fully-funded system will create less distortions in the labor market than a PAYGO system, to the extent that individuals perceive contributions made to the system to be a form of saving and not a tax (Kotlikoff, 1996); this would, in turn, lead to a change in work decisions and as a result, saving would be modified too.

In the third place, the return and risk characteristics of the assets may change under different conditions. For example, a fully funded system tends to reduce — although not eliminate — political risk in the determination of the pension amount. In addition, systems tend to increase asset diversification, thereby reducing pension risk. However, especially for those who are approaching the age of retirement, a fully funded pension system may increase the volatility of pensions to be received due to investment risk.[2]

In the fourth place, in general, the transition from a PAYGO system to one that is fully-funded implies that active generations tend to finance the implicit deficit of the old system, producing an increase in the fiscal burden that may affect household saving-consumption decisions depending on the type of tax

[2] Generally associated with financial papers such as stocks or bonds, which may be more volatile, especially in the short term, than the implicit assets in PAYGO systems.

utilized and the temporary dimension in which it is applied.

Finally, several works show that the implementation of a fully-funded system tends to generate permanent growth in country revenues (Lindbeck and Persson, 2003; Schmidt-Hebbel, 1999; and Corbo and Schmidt-Hebbel, 2003), which, due to the empirical evidence regarding the relationship between the income level and the household saving rate, for developed countries (Poterba, 1999; Browning and Lusardi, 1996) as well as for developing countries (Székely, 1998; Attanasio and Székely, 1998; Butelmann and Gallego, 2001b), would have a positive effect on household saving rates, among others.

VI.3 Pension Systems: Argentina, Chile and Mexico

Before reforming their pension systems, Argentina, Chile and Mexico had relatively traditional PAYGO systems. Contribution and benefit distribution was rather arbitrary and unstable among generations, as is to be expected in PAYGO systems where the first generation of pensioners is benefited by transfers paid by subsequent generations, but there was also a high degree of variance in net benefit rates among the different sectors and income groups. Pension schemes in general suffered from poor performance, with high administrative costs, low fund returns and inadequate contribution control, among other problems.

Furthermore, there was evidence that PAYGO systems negatively affected work and capital markets, savings and economic growth.

Thus, at the beginning of the 1980s, Chile adopted a development model based on the private sector in which pension system reform was one of the main components. The inspiring principles of the pension reform in Chile were encouraging agent contribution through the creation of individual capitalization accounts, thus reducing distortions generated in the labor market, generating competition among agents in order to enhance the efficiency of the system, targeting state contributions to the pensions of most impoverished workers and separating the State's redistributive function from the function of promoting old age savings.

One decade later, other countries in Latin America, among them Argentina and Mexico, decided to adopt similar reforms.

VI.3.1 Main Characteristics of the New Pension System

The structure of the new pension system adopted in these countries includes a first pillar, which corresponds to the public support system granted by the government with the purpose of guaranteeing income in old age, and a second pillar, corresponding to the private fully-funded pension system. This pillar is based on a retirement system linked to contributions, which is actuarially fair being based on individual accounts and is operated by pension fund managers (AFP) [3].

VI.3.2 Argentina

In Argentina, a reform towards a mixed system was carried out, that is, the PAYGO scheme is not closed and continues to offer a basic pension. At the same time, the individual capitalization system was opened, offering a complementary pension. Workers may choose a totally PAYGO system or take advantage of the new mixed system, but once they have been registered there they are not allowed to return to the previous system. In this case, due to the element of choice in affiliation, the fiscal cost of the transition is uncertain, that is, the amount that the Treasury will have to pay for rights acquired by those who had contributed to the old scheme is not known.

VI.3.3 Chile and Mexico

In Mexico and in Chile the PAYGO system was totally replaced by an individual account system; that is, the reform was radical. However, in Chile, workers who were affiliated to the old PAYGO system or who had been self employed until 1983 were allowed to remain in the old scheme or to change to the new scheme.

The existing implicit incentive was significant, since while the PAYGO system had pension contribution rates of around 20 per cent and was a scheme based on benefits, that were not actuarially fair, the new system implied contribution rates that were close to 13 per cent, of which ten per cent would be accrued in a system based on contributions that was actuarially fair. This implied the existence of significant incentives for the older and the poorer contributors to remain in the old system, while the younger ones and those with a higher income changed to the new scheme. Individuals who had contributed to the PAYGO system then changed to the reformed scheme would receive a resource transfer — recognition bond — at the time of their retirement, proportional to contributions made to the old scheme. The system that was implemented has fiscal implications through the government's welfare

[3] Called AFJP in Argentina, AFP in Chile and AFORE in Mexico.

deficits. These have permanent components — associated with the first pillar and with the state guarantees in the new PAYGO system — and transition components — associated with the payment of recognition bonds and of retirement pensions to contributors who remained in the PAYGO scheme.

In the case of Mexico, the new system is established in a compulsory fashion for all workers affiliated to the Mexican Institute for Social Security (IMSS), who stopped making contributions to the PAYGO system to enter the individual capitalization scheme. For workers who had contributed to the former system there is the option, when they reach the age of retirement, of choosing between retiring on the pension they would have received under the PAYGO scheme or on the pension obtained with the funds accrued in their individual account. Thus, the fiscal implication of the reform is, as in Chile, a welfare deficit, with permanent and transitory components, whereby the way in which it is financed will have significant inter- and intra-generational effects.

VI.4. Pension System Reform and Savings: Statistical Analysis

This section discusses the main results obtained after having developed a statistical methodology to study the real influence of some theoretical determinants in household savings.

Table VI.1 presents the most significant results found for Argentina and Chile, applying a statistical analysis in which savings as a proportion of income is a linear function of several demographic aspects, income level and household assets and of an indicator determining whether the individual is affiliated to an AFP.

Since in concept saving corresponds to an economic decision whereby consumption is postponed, that is, to the substitution of present consumption by future consumption, two savings definitions are analyzed: the simple measure that takes into account movements in household wealth and the aggregate measure incorporating investments in human capital and the purchase of durable goods as part of saving.

The case of Chile offers the possibility of analyzing two different points in time (1988 and 1996–97) with different macroeconomic contexts, which allows one, besides the opportunity to obtain information on savings and its determinants, to extract information regarding the stability of the effects of the variables over time.

For its part, Table VI.2 presents results for the Mexican case, where the analysis was made estimating a linear relationship between household consumption — the opposite to savings — and several demographic variables, income and affiliation to an AFORE.

The statistical results presented in these tables are explained below.

VI.4.1 Analysis of Indirect Effects on Household Savings

In the first place, a group of interesting results associated with the effect of several variables related to savings is analyzed:

VI.4.1.a Demographic Variables

Regarding the effect of demographic variables, results found in Chile and Argentina imply that there is an increase in saving rates in old age. An explanation for this fact is that greater uncertainty regarding the duration of life and health costs (Butelmann and Gallego, 2001a) is experienced by those reaching old age.

Another demographic variable associated with savings is the size of the household. In most specifications it is observed that the larger the number of adults, the higher the savings and that the number of children has a negative effect on savings. This result is consistent with the results of different works (Browning and Lusardi, 1996; Butelmann and Gallego, 2001b) and the logic is related to the smoothing out of consumption over time by household member — in the case of children.

Higher savings are also observed for women who are the heads of household, as reported in most literature on the subject, which is explained by the higher labor uncertainty faced by women and by the fact that women who are household heads do not have the 'insurance' implied by having a spouse who could potentially work should it become necessary.[4]

VI.4.1.b Income

To analyze the effect that income has on individual savings, a decomposition of total income into transitory and permanent or long-term income is considered for Argentina and Chile, and the impact of the educational level of the head of the household is observed for savings as a whole.

The results found indicate that the effects of transitory and permanent income on savings are consistent, in the first case, with the predictions of

[4] An alternative explanation is that women tend to be more risk adverse than men (See Frank and Schulze, 2000).

Table VI.1
Household Savings: Main Determinants and the Effect of the Privatization of the Pension System: Argentina and Chile

Explicatory Variables	Chile				Argentina	
	1998		1996-1997		1996-1997	
	Simple savings	Extended savings	Simple savings	Extended savings	Simple savings	Extended savings
Age	0.0314	0.0291	-0.0222	-0.0184	0.0124	0.0143
	(0.0003)	(0.0003)	(0.0011)	(0.0009)	(3.150)	(3.320)
Age²	-0.0007	-0.0007	0.0004	0.0004	-0.0003	-0.0002
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(-3.330)	(-2.530)
Age³	5.05E-06	5.17E-06	-1.89E-06	-1.97E-06	0.0000	0.0000
	(4.48E-08)	(4.03E-08)	(1.48E-08)	(1.20E-08)	(3.490)	(2.030)
Cohort effect	-0.1173	-0.1376	-0.0146	-0.0134	NA	NA
	(0.0019)	(0.0018)	(0.0008)	(0.0061)		
Head retired	-0.0058	-0.0133	0.0237	0.0541	0.0622	0.0687
	(0.0009)	(0.0008)	(0.0026)	(0.0021)	(3.530)	(3.860)
Without instruction	-0.0108	0.0065	-0.0694	-0.1005	NA	NA
	(0.0012)	(0.0009)	(0.0035)	(0.0028)		
1 to 3 years of schooling	0.0299	0.0313	-0.0371	-0.0467	0.0403	0.0330
	(0.0100)	(0.0070)	(0.0027)	(0.0021)	(5.8700)	(4.0700)
4 to 7 years of schooling	-0.0181	-0.0266	-0.0019	0.0004	0.1175	0.1281
	(0.0008)	(0.0006)	(0.0020)	(0.0000)	(6.2900)	(4.1800)
8 to 11 years of schooling	-0.0372	-0.0216	-0.0226	-0.0491	0.1615	0.1528
	(0.0080)	(0.0050)	(0.0017)	(0.0014)	(12.0400)	(7.3300)
12 to 15 years of schooling	-0.0199	0.0292	-0.0153	-0.0288	0.3045	0.5050
	(0.0006)	(0.0004)	(0.0016)	(0.0012)	(8.1900)	(7.5900)
Spouse occupied	0.1143	0.1053	0.1320	0.1131	NA	NA
	(0.0003)	(0.0003)	(0.0011)	(0.0008)		
Adults	0.0035	0.0059	0.0170	0.0135	0.0168	0.0323
	(0.0001)	(0.0001)	(0.0005)	(0.0004)	(7.2000)	(10.3100)
Children	-0.0282	-0.0305	-0.0266	-0.0297	0.0076	0.0178
	(0.0001)	(0.0001)	(0.0004)	(0.0003)	(1.6300)	(4.2800)
Head woman	0.0082	0.0076	0.0638	0.0539	NA	NA
	(0.0004)	(0.0003)	(0.0014)	(0.0010)		
Permanent income	8.29E-07	1.22E-06	9.98E-08	1.14E-07	0.0000	-0.0002
	(4.15E-09)	(1.86E-09)	(1.47E-09)	(1.22E-09)	(-2.940)	(-5.310)
Transitory income	8.72E-07	1.33E-06	1.72E-07	1.74E-07	0.0003	0.0004
	(4.75E-09)	(1.65E-09)	(1.16E-09)	(1.18E-09)	(23.5600)	(25.5300)
Own house	0.0843	0.0612	0.0652	0.0317	-0.0464	0.0496
	(0.0003)	(0.0003)	(0.0012)	(0.0009)	(-6.420)	(7.6500)
Access to credit market	0.0426	0.0497	-0.1263	-0.0527	0.0038	-0.0570
	(0.0003)	(0.0003)	(0.0010)	(0.0008)	(0.5400)	(-14.950)
Head unemployed	-0.1389	-0.1179	-0.0738	-0.0701	-0.0646	-0.0577
	(0.0011)	(0.0009)	(0.0018)	(0.0014)	(-6.270)	(-3.080)
Belong to an AFP	0.0046	-0.0901	0.1495	0.1081	0.0068	0.0246
	(0.0023)	(0.0021)	(0.0056)	(0.0045)	(0.4400)	(1.8100)

Table VI.1 (continued)
Household Savings: Main Determinants and the Effect of the Privatization of the Pension System: Argentina and Chile

Explicatory Variables	Chile				Argentina	
	1998		1996-1997		1996-1997	
	Simple savings	Extended savings	Simple savings	Extended savings	Simple savings	Extended savings
Salary worker	0.0322	0.0070	0.0606	0.0028	0.0327	0.0331
	(0.0009)	(0.0008)	(0.0046)	(0.0039)	(2.6)	(3.27)
Belong to an AFP* salary	0.0611	0.1870	-0.1451	-0.0489	-0.0134	-0.0192
worker	(0.0024)	(0.0022)	(0.0061)	(0.0050)	(-3.190)	(-2.360)
R^2	0.1025	0.1611	0.0838	0.1346	0.3270	0.3360

Data source: Chile: Family Budget Survey (EPF) 1988 and 1996-97,

Socioeconomic Characterization Survey (CASEN) 1987 and 1996.

Argentina: National household Expenditure Survey (ENGH) 1996-97.

Notes: The dependent variable corresponds to the savings rate indicated in each column.

The standard deviation (Chile) and the t statiscal (Argentina) are shown in parenthesis.

The estimation method is OLS weighted for population expansion factors corresponding to each survey.

Variance problems are corrected with the White method.

the life cycle theory and, in the second, with previous results in all the literature on savings and its conceptual explanations. In addition, results confirm the conjecture that the propensity to save income is higher in the case of transitory income.

A significant relationship between higher education levels and higher savings is observed, which is consistent with the results of other works (Avery and Kennickell, 1991; Bernheim and Scholz, 1993; Attanasio, 1993; Browning and Lusardi, 1996; and Attanasio and Székely, 1998). In the case of Argentina and Chile, their interpretation is associated with the direct effects of education on savings since the results are obtained after having controlled through long-term household income.

Owning a house is associated with higher saving rates. This relationship is consistent with results from different studies (Denizer and Wolf, 1998, for example).

VI.4.1.c Labor Market

The labor status of the head of the household and his spouse also has systematic effects on saving rates. Both factors show the influence of the labor cycle and of participation in the labor force on saving rates. Part of the income coming from the spouse's job is probably considered transitory, in the spirit of the life cycle model, and is therefore saved.

In the study made for Chile, the rate of GDP growth observed during the year when the head of the household was 20 years old was incorporated with the purpose of measuring household reaction to the situation in the labor market at the start of the life cycle: the negative effect obtained suggests that those who start their working life in more favorable conditions tend to save less through their life cycle. This confirms the results obtained by Bernheim (1991) for the United States and it may capture savings effects due to caution or to different attitudes in the presence of risk, which are determined depending on conditions in the labor market.

VI.4.1.d Credit Access

The results for Chile in 1988 show that groups with access to credit record higher saving rates than those who have no access. However, the results for 1996–97 are the opposite. This may be explained by the fact that in 1988 the credit market for consumers was small and biased toward relatively wealthier groups, whereas in 1996–97 the consumer credit market, although it maintained the same bias, was significantly larger in size (Butelmann and Gallego, 2001b). A negative effect of credit access on the saving rate that incorporates the purchase of durable goods and investment in human capital is found in Argentina, suggesting that access to credit is closely linked to these types of savings and to the purchase of durable goods in particular.

V.4.2 Direct Effects of Participation in the New Pension System

Results for the variables measuring direct effects associated with participation in the new pension

Table VI.2
Reform of the Mexican Institute for Social Security's Pension System and its Effect on Household consumption Patterns

Explicatory Variables	Complete Sample Consumption	High Income Households Consumption	Low Income Households Consumption
Year	-0.1255	-0.1362	0.1182
	(0.0195)	(0.0321)	(0.0254)
Household size	0.0053	0.0013	0.0071
	(0.0028)	(0.0055)	(0.0033)
Family head women	-0.0846	-0.1525	-0.0494
	(0.0156)	(0.0314)	(0.0175)
Net Income	0.7805	0.8183	0.7488
	(0.0069)	(0.0182)	(0.0126)
Affiliated to the IMSS pension system* year	-0.0446	-0.1307	-0.0002
	(0.0219)	(0.0372)	(0.0278)
Affiliated to the IMSS pension system	0.0026	0.0244	-0.0119
	(0.0167)	(0.0285)	(0.0206)
Without instruction	-0.0196	-0.1388	0.0297
	(0.0174)	(0.0387)	(0.0187)
1 to 3 years of schooling	-0.0155	-0.1335	0.0287
	(0.0169)	(0.0376)	(0.0180)
4 to 7 years of schooling	0.0183	-0.1352	0.0846
	(0.0181)	(0.0395)	(0.0196)
8 to 11 years of schooling	0.0571	-0.0181	0.0503
	(0.0200)	(0.0410)	(0.0229)
12 to 15 years of schooling	0.0584	-0.0509	0.0518
	(0.0209)	(0.0405)	(0.0268)
Age^2	-0.0001	-0.0000626	-0.0002
	(0.0000)	(0.0001)	(0.0000)
Age	0.0136	0.0053876	0.0175
	(0.0027)	(0.0062)	(0.0029)
Access to capitals markets	-0.0298	-0.0655	-0.0135339
	(0.0099)	(0.0202)	(0.0109)
R^2	0.7842	0.6207	0.5397

Data source: National Household Income and Expense Survey (ENIGH) 1994, 2000.

Notes: The dependent variable corresponds to the natural consumption logarithm.

The standard deviation is shown in parenthesis.

The estimation method is OLS weighted for the population expantion factors corresponding to each survey.

Variance problems are corrected with tje White method.

system are analyzed below. However, before proceeding with this analysis, it must be emphasized that:

- Comparisons to the rest of the population correspond to the behavior of savings exclusively in households where the head of the family works in the sector that is compulsorily covered by pension fund managers. This is important because a portion of AFP affiliates work in sectors in which contributions are voluntary and this type of workers might have different unobservable characteristics associated with a preference for saving (Barr and Packard, 2001).

- Likewise, the comparison is made between the behavior of AFP affiliates and the behavior of those in the old system.[5]

It must be recalled that the reform carried out in Chile during the transition stage allowed the worker to choose whether to remain in the PAYGO system or to change to the individual capitalization system. With the purpose of capturing this fact, the methodology utilized by Butelmann and Gallego (2001b), which uses information regarding socioeconomic characteristics[6] to estimate the probability of being affiliated to the new pension system, is used in the analysis made for the case of Chile.

The results present evidence that there are important self-selection elements in affiliating to the AFP. For example, considering the results for 1987, an important effect is observed for education level, since individuals with 12 or more schooling years have a probability of belonging to an AFP that is 19 per cent higher than those with no education or with incomplete primary education,[7] and workers in the agricultural-forestry-fishing and social and community services sectors — mainly public employees — have a lower probability of being affiliated to the AFP than all the other activity sectors.

In addition, it is important to note that results change over time, probably a reflection of the fact that in 1987 there was a larger self-selection space in pension system participation and thus affiliation depended more strongly on preferences for saving.

In the case of Argentina, where the pension system operates under a mixed system, it is assumed that individuals over the age of 40 remain in the PAYGO system.[8]

The empirical methodology utilized for Argentina and Chile will not measure the effect on voluntary savings of AFP affiliation with respect to the pre-reform system but with regard to the old post-reform system.

In Mexico, in view of the fact that the replacement of the PAYGO system was carried out in the Mexican Institute for Social Security (IMSS), comparisons are made between the group of persons affiliated to that organization and affiliates of the *Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado* (ISSSTE), which is the second largest social security institution in Mexico, which has not been reformed and furthermore, its pension system is similar to the IMSS' prior to the change.

Finally, it is worth mentioning that statistically, comparing saving decisions of individuals covered under the old PAYGO system with those of affiliates to the new scheme, in the case of Argentina and Chile, empirical estimates identify the impact of being affiliated to an AFP through the interaction of the variable measuring being in the new pension system and an indicator determining whether the head of the household belongs to the sectors with compulsory contribution — that is, if the heads of households are on the payroll. For Mexico, the effect is measured with a variable that is the interaction of an indicator of IMSS and ISSSTE affiliates and another variable identifying the scenario before and after the IMSS pension system reform.[9] Therefore, estimates will measure the effect on saving-consumption patterns as a result of being affiliated to the individual capitalization system.

VI.4.2.a Results

In the case of Argentina, it is observed that the effect of being affiliated to the individual capitalization system on saving rates is negative, implying a reduction of between one and two per cent as a consequence of the pension system reform, that is,

[5] In the case of Mexico, the comparison is between IMSS and ISSSTE affiliates in scenarios before and after the IMSS pension system reform.
[6] Utilizing the Socioeconomic Characterization Survey (CASEN).
[7] It is important to emphasize that this effect is obtained after having controlled for other factors that are correlated with education: activity sector, occupation type and sex. Therefore, they may be interpreted as a measure of the direct effect of education on AFP affiliation. This same argument is applied to the other variables considered in this analysis.
[8] That is, a dichotomous variable taking the value of 1 — affiliate to the new system — if the individuals are aged 40 or under.
[9] Data from the National Household Income and Expense Survey in 1994 and 2000 are utilized. The reform to the IMSS pension system became operative in July 1997.

individuals affiliated to the new scheme substitute voluntary savings with compulsory savings through social security. One possible explanation for this effect is that the new system could have led to a reduction in the uncertainty faced by individuals regarding expected pension returns; however, it will be necessary to do research on the stability of the results over time since these results arise when analyzing available data three years after the reform was implemented, in 1997, and things may have changed further down the line.

It is observed that in Chile the effect of being affiliated to an AFP changes sign between the two scenarios analyzed. In 1998 — the period of the implementation of the new pension system — there is a positive effect of the reform on saving rates; while in 1996-97 the effect is negative, although smaller in magnitude than the increase in compulsory savings through the pension system. The explanation for this might be the interaction between two forces.

In 1988, the fact that AFP affiliation was voluntary was more significant for a large group of heads of households, and this probably captured a bias for households with a higher preference for saving being affiliated to the AFP, whereas in 1996–97 this phenomenon was less significant.

In 1996–97, the total assets accrued as well as the system's stability had been better assimilated by the population and that is why the perception of contributions to an AFP as a form of savings had been consolidated and, consequently, a substitution between savings in the pension system and voluntary savings predominated.

The result for Chile is interesting because it suggests that the substitution of voluntary savings by compulsory savings that is assumed constant in many studies utilizing macroeconomic data might not be so, that is, it may change over time.

Estimates for Mexico are presented for total individuals and for the group of high and low income workers. In general, a reduction in consumption is observed as a consequence of being affiliated to the new individual capitalization system, indicating that savings increase.

One possible explanation is that the analysis is being made three years after the implementation of the system. Thus, it is possible that the effects of the uncertainty faced by participants regarding the possible implications of the new pension scheme are being captured.

It is particularly interesting to note that the result obtained for the segment of high-income individuals is even stronger. As in the case of Argentina, it is important to once again apply the methodology presented in this section for Mexico, with data that will allow one to verify if the changes observed in savings represent a temporary effect or if they tend to stabilize at different values with the consolidation of reform.

VI.5 Conclusion

This chapter analyzes the behavior of household savings in an attempt to identify what the effect of a pension reform might be.

Results suggest that this measure tends to affect voluntary household savings in several senses:

- Those who are affiliated to the new individual account regime modify their saving rates to complement or substitute savings made through the AFP. Results suggest that in Argentina, in 1997, individuals affiliated to the reformed pension system substituted private savings with compulsory savings through the pension system; that is, the first impact of the reform was a reduction in voluntary household savings. In the case of Chile, in 1988, it was observed that households complemented their welfare contributions with voluntary savings, that is, at first the reform encouraged increased savings, whereas with the consolidation of the system households compensated a significant part of contributions to the pension system with voluntary dissaving; however, the compensation of household savings was not complete and, therefore, the total household saving rate increased. In Mexico, a reduction in consumption was observed, indicating an increase in savings during the stage of implementation of the system.

- There are indirect effects, although small, of the pension reform on the relationship between voluntary savings and certain variables that affect saving such as income, labor participation of both spouses and access to the capital markets.

From the perspective of policies associated with the pension system, results suggest certain interesting implications. In the first place, the particular characteristics of the individual capitalization system seem to have specific effects on voluntary household savings. The case of Chile is interesting in this regard. In 1988 the system had not been consolidated, it had not yet accumulated a significant asset level and pension funds were not very diversified. After close to a decade of development the scheme was much more developed in terms of the funds accrued, with a significant participation level and with assets that were much more diversified. Therefore, it does not seem uncommon that whereas in 1988 AFP affiliates complemented their compulsory savings with higher

levels of voluntary savings, in 1996–97 they compensated part of their compulsory savings with voluntary dissaving. This result suggests that individual capitalization pension systems take time to consolidate and to affect the decisions of agents in a definitive fashion.

CHAPTER VII
PENSION FUND MANAGERS IN REFORMED SYSTEMS

Authors:
Iván Marinovic
Salvador Valdés

Contributions by country:*
Bolivia, Peru and Uruguay: Flavio Marcilio Rabelo
Chile: Iván Marinovic and Salvador Valdés
Mexico: Jorge Meléndez

Editors:
Jorge Meléndez
Eduardo Rodríguez-Oreggia

* The original documents, including detailed arguments for each country, may be requested from the CISS.

CHAPTER VII
PENSION FUND MANAGERS IN REFORMED SYSTEMS

Quite possibly the area of the social security system that raises the most empassioned debate is the analysis of pension fund manager performance in reformed systems, the AFP.

This chapter assesses the performance of these managers in different Latin American countries that have adopted the individual account scheme with fund capitalization, paying particular attention to the most fundamental criticism levelled by some experts on social security.

First, this criticism is reviewed and the different basic concepts are presented, then they are applied in the analysis of certain performance indicators of managers in Latin America, and last, in the cases of Chile and Mexico, an in-depth analysis is made of service demand by account holders and the cost structure of the pension fund manager industry. This will further understanding of the degree to which criticism to capitalization systems is valid and thereby determine why at present the fees charged are not as low or the returns as high as they could be. The chapter concludes with some policy recommendations resulting from this analysis.

VII.1 The Debate regarding PAYGO and Capitalization Systems

The so-called 'privatization' of pension systems has been criticized in several senses. First, one of the typical arguments used to defend public social security schemes is based on the returns to scale in pension fund management.

As explained in CISS (2002), in general, there are increasing returns to scale when the product costs per unit —average cost— diminish as output volume increases. This makes it optimal for the company in the market to expand production, that is, to offer a very large number of services.

In this case, the industry would tend towards a monopolistic structure in which only one company or a very reduced number of companies would survive, operating on a large scale with very low costs per unit. Anyone trying to enter the industry would have to produce little and therefore with high average costs, so they would be unable to compete.

However, once the market had been monopolized, the price policy followed by a private company wielding such power would hardly correspond to what is optimal for society.

As a result, under such a situation the State could reserve the right to produce this type of goods or services to prevent them from falling into the hands of companies with lucrative purposes.

In this way, if the industry were to be divided into several pension fund managers, since each would only have a limited market participation, they would not be able to obtain the lower average costs resulting from economies of scale, and the fees charged to account holders would not be as low as the administration costs of a large state scheme operating all the accounts, even if companies did not exercise their monopolistic power.

A second criticism emerges here, since once the industry has been privatized, the tendency towards a less competitive or monopolistic situation poses a challenge in terms of market regulation that it would appear is not being surmounted since the fees charged by managers are not perceived as low.

A third criticism of the reformed pension schemes is that the risk adjusted return paid on funds in capitalization schemes are not as high as those that can be obtained in PAYGO.

There are several reasons for this. One is that, as discussed later in this chapter, account managers in capitalization schemes might not have sufficient economic incentives to negotiate good returns when funds are invested.

Another reason for high fund management fees is that account holders in a pension system do not significantly respond to differences among managers in terms of the fund returns or level of fees charged.

It has been noted that few transfers among pension fund managers have been observed in spite of the fact that some managers are markedly more expensive than others or show lower financial performance on funds invested. This is perhaps due to the fact that the comparisons necessary for a customer to make a well-informed decision are technically complex and are beyond the capabilities of most workers.

VII.2 Fundamental Concepts and Analysis Framework

'Social security' is considered in this chapter to be all that is related to old age, disability and survival pensions financed with compulsory contributions or with fiscal transfers.

'Pension managers' are defined as those lucrative or non-lucrative organizations, either public or private, offering services to social security members in their active or passive life. So insurance companies selling retirement insurance or annuities to pensioners, AFORES, AFPs, AFJPs, AFPCs or AFAPs offering services to active contributors and pensioners are included among them.[1] It also includes state organizations endowed with a legal monopoly to offer these services to a group of members.

Pension fund managers become significant actors in social security schemes as a result of two state mandates;[2] on one hand, by compelling certain worker groups to contribute a percentage of their salary to an old age, disability and survival pension; and on the other, by forcing them to acquire services from a group of organizations —an 'industry' — dedicated to pension management according to rules laid down by the State.

It is the State's obligation to ensure that the net result from benefits and burdens associated with these mandates is positive.

VII.2.1 Financial Determinants of the Quality of a Social Security Mandate

The net social benefits offered by the mandate to workers depend, among other things, on the financial parameters of the system, of which the method for assigning aggregate financial risk among account holders and different members of society stands out; the menu of available financial instruments; and the instruments in which the State actually allows the managers to invest.

VII.2.1.a Aggregate Financial Risk Allocation Mode

In a pension system demographic or economic shock may reduce the expected present value of income flows to a plan. What is to be done with this loss or gain? How is it to be distributed within society? Who wins and who loses?

The best-known methods for assigning this aggregate risk in society are the defined benefit and the defined contribution, but there is a broader option menu. The economic definitions offered by Valdés (2002) are:[3]

Defined contribution (DC): the plan's aggregate financial risk is transferred only to its account holders in proportion to the value of total individual rights to pension held by each.

Defined benefit (DB): no part of the plan's aggregate financial risk is transferred to retired members.

These definitions imply that the capitalized plans introduced in Latin America in the 1990s constitute defined contribution plans for active account holders and for passive account holders choosing variable programmed withdrawals or annuities.[4] Such a plan transfers risk in proportion to the value of total individual rights to a pension held by each account holder.

Account holders choosing the fixed annuity pension mode, in turn, take refuge in a defined benefit since they do not experience either gains or losses when

[1] Sometimes the abbreviation AFP will be used to refer in general to pension fund managers even though the correct abbreviation in each country may be any of the ones mentioned in this text.
[2] The justification for this kind of state mandate is discussed in CISS (2002).
[3] The reader is advised that these are the author's original definitions. Other attempts to define DB and DC appeared to be less satisfactory. For example, the definition offered by Bodie, Marcus and Merton (1988) leads them to assert that 'by nature, DC plans are capitalization plans' (p. 144), an assertion that has been belied by notional account systems created in Italy in 1995 and copied later in Poland, Latvia and Sweden.
[4] This mode only exists in Bolivia, which had copied it from the *variable annuities* offered by TIAA-CREF in the United States since 1954.

investment returns vary or when a demographic shock occurs. The whole risk is absorbed by the shareholder of the life insurance carrier selling the annuity.

In a defined benefit state pension plan, pensioners are also exempt from aggregate financial risk, as long as the law does not change. This risk is transferred to the taxpayer should it increase, to public expenditure beneficiaries should it be reduced, or to future generations should the public debt increase. In practice, when the aggregate financial losses to the Treasury generated by the plan are excessive, it is usual that a new law will be passed to reform the system and to reduce benefits either by increasing the legal age of retirement, by increasing the requirements for an early pension, or by reducing the indexation level of pensions currently being paid.

It must be made clear that the 'exemption' offered by a defined benefit plan to pensioners refers exclusively to aggregate financial risk, throughout the scheme. Members of a defined benefit plan are still exposed to individual risks. For example, the risk that their labor income may turn out to be low in their remaining working life implies that the pension amount may be lower than expected.

The design of the plan, also chosen by state authorities, may mitigate or increase those individual risks. For example, their impact is greater in defined benefit plans where the benefit formula uses only the last two-year salary average to determine the pension than in formulas using the average for 15 years.[5]

Another individual risk arises in the event of a worker frequently changing employers. In a system with fragmented defined benefit plans, such as employer plans in the United States, the Netherlands and Switzerland, or in the case of public employee plans in several Latin American countries, the worker loses

Table VII.1
Financial Instrument Menu in PAYGO and capitalization systems

	Instrument Name	Support Flow
1.Future labor income volume from covered workers diverted to finance pensions.	"Hidden" asset in PAYGO financed plans (pure PAYGO).	Compulsory contribution component that is a pure tax ("hidden tax"). The rest of the contribution is a regular investment.
2.Future income, including domestic housing rent guarantee.	Domestic mortgage bonds including housing guarantee. Several currencies, indexations.	Long-term mortgage fees, guaranteed by the sale or rent of the property.
3. Domestic companies's future income.	Domestic companies bonds, different terms, currencies, indexations and domestic stocks.	Domestic company operation income.
4.Future domestic government tax revenue.	State bonds, different terms, nominal, CPI indexed or in foreign currency.	Future domestic government primary fiscal surplus.
5.Future non-resident company income.	Non-resident company stocks and bonds, different terms and currencies.	Non-resident company operation income.
6.Future foreign income, guaranteed by domestic housing rent.	Asset backed domestic mortgage bonds. Different currencies and terms.	Long-term mortgage fees, guaranteed by the sale or rent of the property.
7.Future non-resident government tax revenue.	Bonds from different states in different terms, currencies, indexed to several foreign CPI's.	Future non-resident government primary fiscal surplus.

[5] This example shows that a defined benefit plan does not allow workers to diversify their future labor income risk. This contradicts Davis (1995), p. 231.

part of his pension rights each time s/he changes employer.

Of course members of a defined contribution plan are also exposed to individual risks.

VII.2.1.b The Menu of Available Financial Instruments

This refers to the ensemble of financial instruments into which contributions from covered workers could be invested. In any given country, this may include some or all of those listed in Table VII.1.

A more varied menu allows the pension plan to diversify aggregate financial risk to a greater extent, and through this, it allows for grantingthis makes it possible to grant safer pensions in exchange for smaller contributions since the expected return may be increased without assuming further risk.[6]

The first 'instrument' indicated in Table VII.1 is characteristic of PAYGO financing, where promises to pay pensions are supported by future taxes on the volume of future labor income from covered workers. This 'instrument' presents a low risk, in annual frequency, compared to other financial instruments; however, it suffers from 'political risk' because as decades go by, it is natural for States to modify contribution and replacement rates in the pension plan. This instrument is also subject to other risks, such as the demographic risk, the risk of unemployment increases and the risk of lower than expected labor productivity growth. These shocks reduce the support flow through reduced numbers of covered workers and salaries.

The possible asset menu for a capitalized plan is only made up of instruments number 2 through 7 in Table VII.1. As can be noted, this type of scheme has access to a large number of instruments in order to diversify investment risk when investing worker funds.

The earnings through international diversification — instruments 5 through 7 — are greater as opportunities available in one country are less than those in the rest of the world. Even in relatively large countries like Brazil, international diversification in decade frequency makes it possible to offer a superior quality service to workers compared to the service afforded by a limited menu, for example, instruments 2 through 4.

At present, capitalized plans do not invest in the first instrument in Table VII.1. This is inefficient in principle because it hampers diversification, but this shortcoming can be overcome through a mixed financing pension system combining pensions of two different origins, one financed through PAYGO and another financed by capitalization.

Now then, in many countries laws limit or absolutely prohibit pension plans from investing in one or more of the instrument categories indicated in Table VII.1 even though they are available in the capital markets.

Lifting restrictions on pension fund portfolios has a different impact when this is the only regulation. When many regulations of this kind exist, it is not easy to justify assertions regarding the convenience of lifting just one without having made a detailed analysis taking into account the interactions among them.

On the other hand, it is possible to assert that more advanced countries have lifted almost all of these restrictions at the same time, maintaining only those that are justified by the implicit guarantees offered by the state to deposit banks.

There are two kinds of regulation, applied exclusively to pension funds, which can be justified on the basis of empirical and theoretical evidence:

1. In practice, on many occasions there is an implicit or explicit state guarantee to rescue retirement or annuity insurance carriers selling policies to a clientele that is subject by legal mandate to acquire them. In order to protect the Treasury from the risk of having insurance companies abuse this guarantee, it is justifiable to impose solvency regulations (Shiu, 1993; Black and Skipper, 1994; Valdés, 2002).

2. There is also an implicit state guarantee in favor of active pension fund account holders. For example, should a pension fund have 60 per cent of its revenue invested in stocks and the performance observed in Japan between 1990 and 2000 should occur, where the price of stocks fell to 25 per cent of its initial value, then a complete worker cohort would see their pension fall by around 45 per cent of its expected value. Aware that through these implicit guarantees the Treasury could be forced to rescue them, certain managers and certain workers will choose to invest 60 per cent of their portfolio in stocks instead of the figure they would have chosen in the absence of this implicit state guarantee. In order to protect the Treasury from the risk of managers abusing this implicit guarantee, it is justifiable to establish a ceiling to the percentage of stocks the pension fund is allowed to maintain (Valdés, 2000).

[6] Risk is reduced if all the eggs area divided into two baskets, rather than putting them in just one basket even though it might be the strongest.

VII.2.2 Special Rules for Pension Managers

The state mandate compelling social security system affiliates to purchase services from a group of organizations dedicated to pension management, under rules established by the state, justifies the existence of AFPs.

Therefore, the idea that the State has to limit itself to applying to this industry the general rules it applies to any economic activity where demand is voluntary, is inadmissible. In effect, if an industry were to offer a low average quality service in terms of financial performance, or if it were to apply excessive pricing and fees or make inefficient promotional investments but demand were voluntary, it is likely that this industry would lose all its clients.

If the State compels individuals to acquire services from this industry, regardless of its efficiency, then it is also the State's responsibility to respond in an optimal fashion to quality and price levels observed.

To do so, the state has to consider applying special rules, additional or different to the general regulations binding economic activities where demand is voluntary.

Certainly this does not mean any form regulation would be justified. It is necessary to take efficiency and equity values into account, and even values such as economic freedom, in order to determine if a special regulation for pension fund managers is beneficial to a country.

The special regulations that are more frequently applied to pension plans in Latin America are reviewed below, along with explanations of their possible justification, although there is no discussion of whether these rules are optimal in the way that they are applied in each country.

a. *Solvency rules for Life Insurance Companies (LIC).* These are applied only when they generate *fixed* annuities for workers subject to the savings mandate.

In some countries, the State gives workers the guarantee that their annuities pension will be paid even if rhe LIC chosen should suffer from a lack of solvency. This guarantee exposes the State to the risk of LIC abuse because these are limited responsibility entities. If for any reason the LIC were to lose its capital, it would be to their benefit to gamble with investments from that time on, because should the gamble pay off, the LIC would win, and if the gamble should fail, it is the Treasury that loses because the limited responsibility clause protects LIC shareholders. For this reason, LICs generating fixed annuities should be subject to special solvency regulation.

These rules include limits on levels of indebtedness, asset appraisal regulations and liability appraisal guidelines oriented towards discouraging reinvestment risk. These companies are also forced to appraise their assets using official mortality tables and not tables chosen by themselves. As a whole, these solvency guidelines are special rules that limit the menu of instruments in which they are allowed to invest and the relative weight they are allowed to give each instrument in their portfolio.

b. Rules for fee collection. These encourage managers to collect contributions, sanctioning employers in the event of default or evasion. The rule that makes it compulsory to charge fees on the contribution flow only and not on the pension fund, is striking. This rule stimulates investment in collection and in other legal expenses that may extend coverage, since if the manager is not capable of collecting contributions, it will suffer a direct reduction in income.

c. *Rules regarding disability and survival insurance.* In every country there is a manager in charge of offering workers disability and survival insurance. In some countries, this manager has a legal monopoly, like the IMSS in Mexico. In others where the law has created a quasi-market,[7] this manager is the one chosen by each worker. One area that generates conflicts is that of disability qualification. There may be abuse on the part of the manager against the workers or the opposite may also be the case. The efficient and equitable resolution of these conflicts requires special rules issued by an impartial authority. Another problem arises when the value of the premium charged to workers is higher than the cost of offering the insurance, leaving a significant earnings margin for the manager.

d. Fee and pricing regulation. There are some countries where the law sets maximum limits on fee rates that may be charged by pension fund managers, as in Colombia and El Salvador, and others where fee rates may be freely chosen by each manager. It may also be the case that the proposed fee structure, but not the level, must be approved by the authority, as in Mexico.

In all quasi-markets, the base menu for charging fees is established by law, prohibiting any other alternative.

[7] A quasi-market is created when the law forces a group of persons to acquire services from an industry, such as the case of pension systems where the worker is compelled to hire the services of a fund manger.

Among the bases that are prohibited can be found the one that is most visible to workers and the one to which they are more sensitive: the 'entrance premium', consisting of a certain amount of money given in exchange for opening an account, paid by the manager receiving the worker.

Another special rule that affects fees in all quasi-markets is one prohibiting the manager from offering more than one price plan to account holders of the same type as defined by the law. This is usually justified with the objective of preventing the non-equitable distribution of fees among account holders. One of the main effects that this rule has is preventing workers from gathering around the employer to negotiate fees, hampering the existence of collective plans such as health plans and life insurance plans.

e. Entrance and exit regulation with initial allocation bidding. This is a special rule affecting only the quasi-markets in Bolivia and Panama, but it was also applied in Chile in the administration of a cessation account in 2001. It lies in the State calling for bids for the initial allocation of a certain group of workers and account holders, under the criterion of assigning them to the manager offering the lowest fee or commission. Workers are free to change to another manager once they have been accepted by the manager who wins the bidding.

This rule has led to extremely low fees whenever it has been utilized. The system works because managers who want to expand the number of accounts serviced eliminate marketing and promotion costs to win clients and they do not incur any changing costs when they attract account holders who have already chosen a manager. The effect is as if worker sensitivity to fee differences had increased.

f. Rules for the informed search of annuities. This is a rule about to be approved in the Chilean Congress, whereby the State dictates guidelines requiring each account holder seeking an annuity to request prices electronically and simultaneously from every Life Insurance Carrier (LIC) in operation, without any intervention from insurance agents.

g. Rules regarding financial performance of managers. Financial performance is understood in terms of the selection of investments for the pension fund.

Pension managers selling mutual fund shares or investment fund shares to contributors subject to the saving mandate, and life insurance companies generating programmed retirement pensions, variable annuities or variable monthly annuities do not guarantee the value of their benefits and pensions. They transfer the whole investment risk to account holders since they have a defined contribution design.

One of the consequences of this is that if a good financial performance increases the value of funds more than planned, a high percentage of the earnings — between 70 and 100 per cent — goes to account holders and nothing to shareholders of the pension fund manager. If poor financial performance reduces the value of funds unexpectedly, a high percentage —nearly 100 per cent — of losses are transferred to account holders and nothing to the manger's shareholders. As a result, shareholder interest in the financial performance of pension funds is relatively low.

Indirect incentives, channeled by competitors, could replace direct interest. This requires the creation of a pension 'quasi-market', that is, one in which multiple managers are allowed to exist and account holders are given the alternative of changing from one to the other. The effectiveness of this design is that the manager able to perceive a direct economic incentive for investing in financial performance, depending on whether many account holders would prefer to change to managers with improved financial performance. However, such behavior is not verified empirically, as will be explained later.

For these reasons, several countries in South America have thought it would be wise to add additional regulations with the objective of avoiding leaving a pension fund without a comparative pattern. This is a mechanism that forces managers to choose funds with comparable risk profiles. This is the function of the *relative profitability band* established by law in several countries.[8]

This regulation applies penalties to managers when a fund that is managed by them and belongs to a specific risk type records profits that are inferior to a floor determined by the average profitability of the rest of the funds in the same risk class, minus a figure established by law. The measure ensures that communication media and political authorities will be able to correctly compare the performance of different pension funds. At the same time, manager owners are also able to assess the performance of their financial executives by comparing their results to those achieved by executives from different managers.

[8] Srinivas and Yermo (1999) call these rules 'performance regulation'.

Another alternative to encourage managers to invest resources in investment management at a socially adequate scale comprises defining commissions according to relative performance by law, and charging them to the pension fund.[9] Bolivian authorities have considered including this type of commission in manager concession contracts.

VII.3 Outstanding Elements in the Evolution of Systems Adopted in Several Countries in Latin America.

This section describes the evolution of policies regulating the investment of funds managed by AFPs in some countries, as well as other data of interest.

Chile

Over time, the menu of financial assets available to investors has significantly varied in Chile. At the beginning of the 1960s, you could only invest in nominal short-term bank deposits and in local stocks. From 1976, the liberalization of bank interest rates began in Chile, allowing the bank market and the stock market to expand. Instruments indexed to the Consumer Price Index (CPI) were allowed since 1976, based on a new monetary unit bearing daily inflationary adjustment. In this manner, by the start date of the new pension system, in 1981, the menu of financial assets available to Chilean residents included domestic stocks, bank deposits, long-term CPI indexed bonds backed by mortgages and a bank guarantee, and investments abroad.

During the 1980s there was strong financial repression; however, when the law that gave autonomy to the Central Bank of Chile was enacted in 1989, companies were once again given the liberty to invest abroad, although such investment was subject to numerous regulations that would be administered by the Central Bank. During the 1990s, the lifting of restrictions on investments abroad was partially reverted twice, although the dominant features were barriers and taxes on the entrance of foreign capital. Only recently, in 1999, the Central Bank eliminated exchange regulations, thus lifting investments abroad. Thus, since 1999, the menu of financial assets available to residents in Chile has included domestic stocks, foreign stocks, bank deposits, long-term CPI indexed bonds backed by different issuers and fixed income investments abroad in several currencies.

During its initiation in 1981, the new system financed through capitalization was subject to two strong financial restrictions: the acquisition of domestic stocks was prohibited, as was investing abroad. The first restriction had the purpose of protecting emerging pension funds from the entrepreneurial insolvency crisis that authorities had detected since the end of 1980. The second represented an attempt to prevent investments abroad from intensifying the balance of payment crisis that could be seen coming.

The first restriction was timidly lifted from 1985, allowing investment of up to ten per cent of the portfolio in domestic stocks, a figure that was gradually increased up to 37 per cent of the fund by 2002. The ban on investing abroad was lifted in 1990; even though managers were only allowed to invest up to per cent of the portfolio in fixed income denominated in foreign currency; investing up to ten per cent of the fund in foreign stock was authorized in 1995 and the limit on total foreign investment was increased to 16 per cent, rising again to up to 30 per cent in 2002.

The growth in foreign investment has made it possible to increase expected profitability and investment security at the same time by taking greater advantage of international diversification. In particular, it has been possible to reduce exposure to Chile's country risk, which is substantial since it is a small country that specializes in just a few sectors of production.

The Chilean law has placed other restrictions to obtain additional goals of a more specific nature, but always in an effort to maximize profitability and security in account holder investments.

In the first place, pension funds may only be invested in those instruments that are expressly authorized, with the exception of a small percentage that is exempt from this restriction (four per cent). Authorization is only granted when the financial instrument is a public offering. In the second place, it is required for all financial instruments to be 'rated'. In the third place, there is a first group of 'limits by issuer' attempting to prevent a pension fund from acquiring control of any issuer of financial instruments. Also, the second group of 'limits by issuer' tries to avoid investment concentration in instruments of a few large companies or a few large economic groups.

Beginning in August 2002, the variety of investment portfolios available to account holders that every manager is compelled to offer was expanded from two to five, in a scheme called multi-fund.[10] This scheme allows account holders with different risk

[9] See a specific proposal in Valdés, (2002) p. 852–5.

[10] Multi-funds were initiated in May 2002 in Chile when the number of portfolios was expanded from one to two. However, until August 2002, the second portfolio (100 per cent fixed rate) was only allowed for account holders who were less than ten years away from reaching the legal pension age — 65 for men and 60 for women.

tolerances and an appetite for higher expected returns to choose the portfolio they like best, besides adopting simple dynamic rules for portfolio selection. This scheme also allows better-informed account holders to apply dynamic strategies of a speculative nature, such as acquiring more stocks when they think they are undervalued.

One problem with the multi-fund scheme is that it increases manager costs since service quality improves considerably. This higher cost is a social cost, whether it reduces above normal manager income or raises fees paid by contributors. Besides, the bulk of the cost increase is fixed and is not a function of the number of affiliates, resulting in lower business profitability for smaller AFPs and strengthening the position of larger AFPs.

Regulations on the relative financial performance of each fund have also been established through a band that is determined by average profitability, and a ceiling and a floor, respectively. The main reason for imposing the relative profitability band is to make sure that each fund belongs to a risk type for which there are rivals, preventing each fund from establishing a proprietary class where there is no comparison. The existence of comparable funds allows the manager directorates or boards of directors, as well as public opinion, to assess the financial performance of a particular fund in a fashion adjusted by risk and by the incidence of investment limits. In fact, the assessment of financial performance is simple in the presence of relative profitability bands because it is sufficient to compare it with the actual returns of the rest of the funds in the same class.

Regarding returns, these have presented two phases in real terms. Table VII.2 presents the statistics for such returns.

Table VII.2
Returns in Two Different Phases in Chile

Period 1981 - 1993		Period 1981 - 1994	
Geometric average	13.17%	Geometric average	13.52%
Standard deviation	8.80%	Standard deviation	8.54%
Period 1994 - 2002		**Period 1995 - 2002**	
Geometric average	5.71%	Geometric average	4.24%
Standard deviation	7.05%	Standard deviation	5.70%

It can be observed that the average return falls dramatically in the second phase, by a figure approaching seven or eight percentage points. The standard return deviation also falls although there the figure is close to two annual percentage points.

According to what has previously been stated, it is clear that pension funds are not capable of offering returns that are very different from those offered by the menu of available financial assets in which they are allowed to invest. In view of the above, the macroeconomic policies governing this menu, which affect the returns of the main financial instrument groups, determine most of the level and stability of pension fund returns. This link is reduced only when a significant part of pension funds is internationally diversified, a situation that had still not occurred in the period under study. This has only changed since 2003, when investments abroad have come to represent 25 per cent of the portfolio.

Peru

The law that created the private Pension System in Peru (PPS) was approved in 1992. The PPF is structured like a defined contribution scheme based on individual accounts. Each fund manager may handle only one pension fund. PPF participation is not compulsory since workers have the alternative to remain in the Government System (NPS).

There are restrictions on the ownership of AFP shares; the one that stands out among them being that financial institutions or insurance companies, the Peruvian social security system, organizations providing custody services for the AFP, risk companies, savings and loans institutions, are not allowed. It is also required for AFP to have at least five shareholders that have no relation to one another.

The PPS law sets restrictions on the allocation of pension fund portfolios managed by the AFPs. In the case of investments in securities of a particular company, these are not to exceed ten per cent of the funds or 50 per cent of the issue. There are similar limitations for stocks, mutual funds and other types of investments. Moreover, AFPs may only invest in securities rated by at least two independent rating agencies.

The size of the AFP market in Peru is limited. Of the eight managers that existed at one time, only four remain. The number of affiliates reached 2.9 million

in 2002, of which the three main AFPs accounted for 76 per cent.

AFPs are allowed to fix their fees freely, without any legal ceiling. This commission is to be applied to every affiliate in a similar manner. Fee averages since the year 2000 have been around 2.3 per cent of contributions.

PPS have to offer a minimum return. The monthly real annual rate offered by pension funds may not be lower than the lower of: the real average return of all pension funds for the last 12 months minus 2.5 percentage points, 25 per cent of the real average pension fund return for the last 12 months. If it does not achieve the minimum, then the AFP has to cover the deficit with its assets. To this end, a legal reserve equivalent to one per cent of the value of pensions calculated daily must be constituted. At the beginning of every quarter, the AFP must constitute a minimum guarantee through a bank equivalent to 0.5 per cent of the value of the pensions.

Real annual returns since 2000 have been -6.74, 11.04, 11.25 and 6.82 per cent, respectively.

Bolivia

Bolivia adopted a substitutive pension system. The law that was approved in 1996 closed the old public pension system and established a new one based on individual accounts, in addition to a social program called 'bonosol' for older adults.

The AFP industry was divided into two geographical zones and for each, the authority assigned the market to a single company through a bidding system.

It was decided that, eventually, participants would be free to transfer their accounts from one AFP to another after having remained for at least 12 continuous months with the same manager, if they changed jobs or moved to a locality where their AFP did not operate, or if the AFP were to raise its fees. However, until recently, the transfers had not been authorized so two monopolies have been created.

A commission as a percentage of funds is charged for pension management. A fee is charged for affiliation services, data processing and administration and it is discounted from contributions. Commissions on transactions and custodies that take 0.2 per cent of funds are also charged. No maximum amount has been established for fees. The average commissions over the last few years have been 0.5 per cent on contributions. However, there is also a commission charged on the premium for survival insurance that has averaged 1.8 per cent of contributions.

Return rates on funds have averaged 17 per cent during the last few years. Assets must be invested according to the legal terms that were established in 1999, when the financial system was modified and it was established that they were not to exceed ten per cent of assets in securities of the same issuer, or more than 40 per cent in the same issue. Investments in foreign assets should not exceed 50 per cent or be less than ten per cent of each fund's portfolio, as long as they are made in rated instruments.

Uruguay

The law approved in 1995 in Uruguay reformed the public pension system and established a private system. In this system, the number of existing fund managers — called AFAPs — reached six, of which only four have survived. The two largest managers cover 75 per cent of the affiliates.

There are restrictions on how to invest pension funds. Of the long list of different restrictions, one that stands out among them is that up to 60 per cent of assets may be invested in securities issued by the national government. There are also different investment prohibitions, among them one that forbids investment in other manager's funds, in securities issued by insurance companies, in securities issued by foreign companies, except intermediaries operating in Uruguay, or in any similar assets.

The system guarantees minimum returns. The fund's real rate of return may not be less that the lower, two per cent per annum or the average rate of return of the whole system minus two percentage points. In order to guarantee such returns, every AFAP has to establish a fund with excess returns. This fund may not exceed five per cent of the fund's value for more than a year. In addition, AFAPs are required to create a special reserve fund that must be equivalent to at least 0.5 per cent of the value of the resources managed, without exceeding two per cent. Should these funds be insufficient to cover the minimum guaranteed, the State will cover the difference.

Mexico

With the reform to the Social Security Law, approved in 1995 and enforced in 1997, the Mexican Institute for Social Security (IMSS) continued to collect compulsory contributions but separated itself from its functions managing retirement funds; that is, a private industry dedicated to this purpose was created.

The new regulatory framework led to the emergence of retirement fund managers (AFORES), which administer the individual accounts for retirement, cessation in advanced age and old age during the

stage of accrual. The individual account also includes SAR resources, a system that dates back to 1992 and is a reform antecedent in which individual accounts for workers were created. The SAR contribution is two per cent of the salary.

Investment funds specializing in retirement saving funds (SIEFORES) were also created; their function is to invest resources stemming from the retirement, cessation in advanced age and old age insurance as well as voluntary contributions. The SIEFORES are formed by the AFORES, which provide the capital and management. According to the law, AFORES may operate several SIEFORES covering different risks and workers have the right to choose through their AFORE how to channel resources as well as their proportion assigned among the SIEFORES, although this facet has not been developed yet and only a single investment scheme is offered for all managers.

Investment funds are in turn subdivided in two different funds, the Basic Investment Fund and the Voluntary Contribution Fund. These are regulated regarding their investments; they may invest a minimum of 51 per cent in instruments denominated in Mexican pesos for which the interest is capable of guaranteeing a return that is equal or higher to the variation in investment units or to changes in the National Consumer Price Index and up to ten per cent in instruments in foreign currency. They may also invest up to 100 per cent in instruments issued by the Mexican federal government or by the Bank of Mexico, as well as up to 100 per cent in instruments issued by private companies and/or credit institutions if they have a AAA rating, or up to 35 per cent if the rating is lower, among other regulations.

Initially, the AFORE industry had 17 companies, of which only 11 remained at the end of 2001; they all have foreign capital participation. On the other hand, most of the AFORES also belong to the most important financial groups in the country so they have synergies in terms of infrastructure, information systems, negotiations and suppliers, among other areas.

The fees charged by the AFORES may be established on the basis of the value of assets managed, the flow of fees and contributions received, investment returns, or a combination of these concepts. Since most AFORES use a mixture of the different types of possible charges, the fee structure is very complex for the workers to understand in spite of the fact that the way in which a manager charges these fees has to be authorized by the National Commission for Retirement Savings Systems (CONSAR). The equivalent commissions are approximately 2.07 per cent on flow and 1.15 per cent on the 25-year balance. Workers may transfer to a different AFORE after a one year permanence and if there are fee increases.

VII.4 Market Structure in the Pension Fund Manager Industry: the Cases of Chile and Mexico

This section first intends to confirm the level of sensitivity on the part of the account holder to differences among AFPs with respect to returns offered and fees charged. It goes on to verify the magnitude of the economies of scale in the fund manager industry and sources of cost advantage among these companies are identified. The study is based on the cases of Chile and Mexico. Before approaching the subject matter, the competitive environment and the fee level that has been observed are described.

The knowledge acquired will allow us to understand the characteristics of balance in the AFP industry and thus, to make certain policy recommendations allowing for the optimization of the system's performance with respect to commissions charged and returns offered.

VII.4.1 Description of the Competitive Environment and Fee Level

The Chilean pension system went through an impressive boom in account transfers during the first half of the 1990s. At its peak over 60 per cent of contributors changed AFP annually. That is, they only remained an average of 20 months with the same manager. These turnover levels were considered harmful by the authorities since they were mainly due to the effort of salespeople who offered premiums in kind, not in cash, to affiliates who agreed to transfer. Although the regulation demanding price uniformity among affiliates of the same AFP was not being infringed, this constituted a discount in real terms.

However, it was argued that this kind of competition was inefficient because it consumed abundant resources in promotional efforts and in the remuneration of salespeople, detracting from manager earnings and forcing them to charge high fees to cover the commercial war that they were involved in.[11] It was said that the only way to maintain a

[11] However, Valdés (2002) maintains that sometimes salespeople's efforts could be socially beneficial because it was a channel offering valuable information to affiliates. Valdés (1999) also warns that commercial messages are not always valuable. Marinovic (2000) also finds some proof in favor of the information efforts of salespeople among higher income affiliates.

constant stock of affiliates — market participation — was by reversing the exits generated by rival salespeople through entrances generated by their own promoters.

This type of competition did not seem to translate into direct benefits for affiliates, at least in terms of lower prices or higher profitability in the funds under management. On the contrary, it was argued that commercial investments made by the AFPs considered as the sum of commercial expenses and the remuneration for sales personnel — which consumed 36 per cent of fee income in 1997, was financed by high commissions, taking advantage of the apparent affiliate lack of sensitivity to fees.[12]

In spite of all this, the commercial war did indeed have an effect on AFP income. Beginning in 1996, the owners of AFPs who had suffered losses due to high rates of turnover decided to sell them to their rivals, starting a wave of mergers. Other AFPs maintained high incomes throughout the whole period.

In June 1997, the Chilean government presented to Congress a bill for the partial deregulation of regular manager fees, legalizing discounts. The goal was to force more vigorous prices competition, in the hope that lower margins would reduce the need for salespeople. Also, the greater price flexibility represented an attempt to lower entrance barriers in the AFP industry, reducing the excessive earnings obtained by some operators. Thus, deregulation meant a threat to the income continuity of certain AFPs.

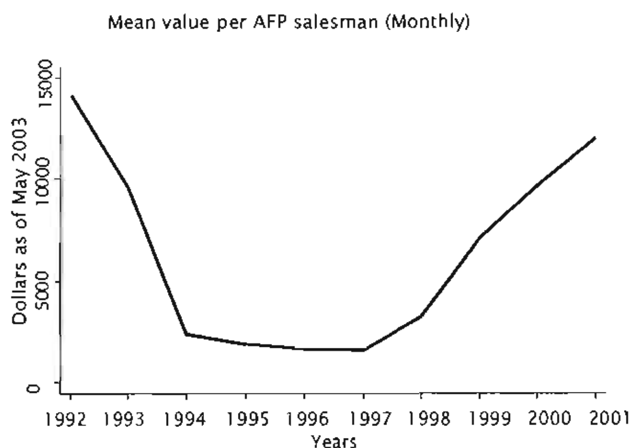
Then, a massive dismissal of salesmen occurred, even though their productivity had increased, as can be seen in Figure VII.1., which shows AFP profitability in hiring sales agents, derived from the calculation of the net mean product value by salesperson.[13]

It would seem that a monopsonistic collusion occurred among AFPs, that is, an agreement to hire less salespeople and to reduce the average remuneration paid, since hiring salespeople was a profitable activity for each manager acting separately, and they were fired in spite of this.

The hypothesis is that an eventual collusion to dismiss sales agents could be socially justified if it leads to a reduction in the commissions charged to workers in an amount that is equivalent to the reduction in sales costs.

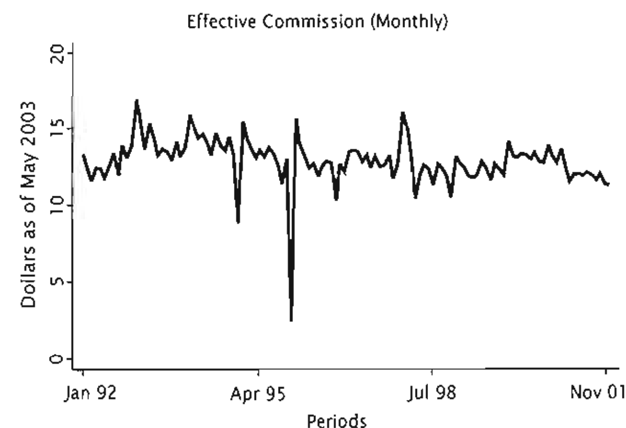
However, Figure VII.2 shows that the effective welfare cost, which takes into account the implicit discount in the premiums previously offered by salesperson,

Figure VII.1
Mean Profitability of a Salesman in Chile



Source: Own elaboration based on SAFP data.
Average Net Value = Mean Value · Mean Remuneration.

Figure VII.2
Average Effective in Chile



Source: Own elaboration, based on SAFP data.
Effective commission = Com·Premium/Permanence.

[12] Affiliate disinformation revealed by a survey made by the SAFP in 2001 was almost total. In fact, only eight per cent of those in the survey gave a reasonable answer regarding fee levels. Additionally, a little over ten per cent of those responding to the survey indicated that their AFP choice was driven by the level of regular commissions even though differences in the percentage commission of up to 40 per cent are observed for an apparently homogeneous service.

[13] The mean product value of a salesperson is defined as the difference between fee income generated by the average salesperson for the AFP, according to the average time that the new client will remain, minus the remuneration paid to the salesperson.

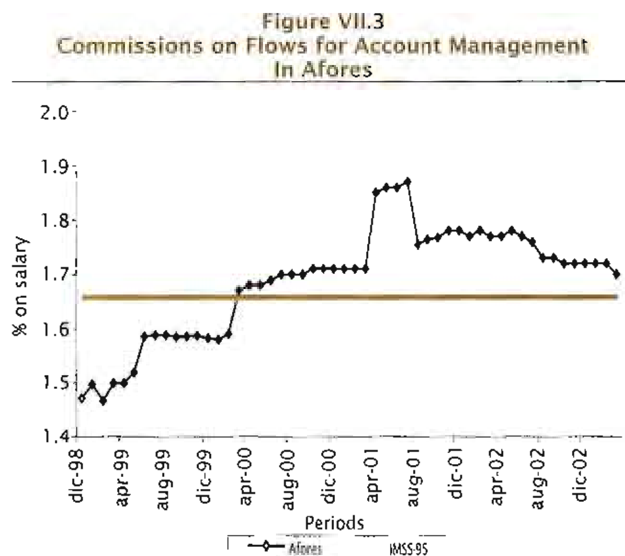
has remained relatively stable over time[14] even though the regular commission decreases. In particular, the effective commission has not fallen since November 1997.

The above figure indicates that in practice, affiliates have not been favored by regulatory changes. The effective welfare cost that was borne in 2001 by Chilean workers is very similar to the one that prevailed before the regulatory intervention in 1997–98.

The hypothesis that an eventual collusion to fire salespeople would be justified by a reduction in fees charged to workers must be discarded because this did not take place.

In the case of charges the services made by Mexican AFORES, Figure VII.3 shows that the social security system launched in 1997 began to operate with worker pension fund management costs that were lower than what it had cost the IMSS to handle pension insurance. However, beginning in the second quarter of 2000, the AFORE scheme instituted by the reform became more costly.

Figure VII.3
Commissions on Flows for Account Management In Afores



Source: Calculated with official CONSAR and IMSS information.

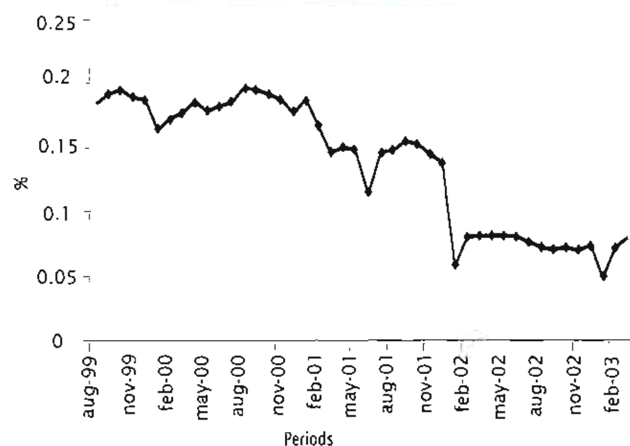
The figure shows the evolution of commissions charged by retirement fund managers, the AFORES, on the flow of deposits received in worker accounts for the future financing of their pensions. Since some of these companies charge commissions on the accrued balance, the National Commission for Retirement Savings Systems, the CONSAR, calculates the equivalent average commission on flow under the assumption that the worker will remain with the AFORE in question for five years.

It also presents the cost of the management of work risk and disability, old age, cessation in advanced age and death, insurance to the IMSS — all expenses except the amount of the pension and other benefits granted are added and they are expressed as a percentage of the total beneficiary payroll.

As can be seen, AFORE commissions started to decrease after August 2001. However, since March 2000, they have remained over what it would have cost the IMSS to handle pension insurance.

Another aspect of the industrial organization of the AFORES is the significance of promotion. In this sense, it will also be proven below that the greater the weight of the AFORE's promotion activities, the lower its costs.

Figure VII.4
Promotion Expenditure Ratio in AFORE costs*



* Promotion expenses include remunerations and benefits for promotional personnel.
Source: Calculated with official CONSAR information.

As can be see in Figure VII.4, the weight of promotion expenses was very significant in the initial stages of the new Mexican pension system. However, since the first quarter of 2001, these companies spend increasingly less on this item.

Up to the end of 2000, promotion — publicity and promoter agent activities — represented approximately 20 per cent of the retirement fund manager's (AFORES) costs. In fact, information regarding the total number of promoters presented

[14] Understood as the difference in the regular annual welfare cost, that is, the commissions charged by the AFPs and the premium/permanence ratio. This measure takes into account the implicit discount received by a new affiliate when s/he is offered an entrance premium.

by García and Rodríguez (2003) indicates that the percentage of promotion expenditure was even substantially higher than this figure during 1997 and the beginning of 1998, that is, in the first months of operation of the new system.

But from the second quarter of 2002, this item had been stabilized at a level equivalent to seven per cent of the costs of AFORES.

The Mexican system began operating with 17 AFORES, which were gradually reduced to 11 by the end of 2002 through a merger process in which the larger managers prevailed.

VII.4.2 AFP Service Demand on the Part of Workers

It is known that salespeople, and promotional activities in general, are decisive in transfers occurring among AFPs or AFORES, but here the aim is to find out if commissions and financial performance also influence these changes, and if the extent of this influence is sufficient or not to offer managers economic incentives.

As a result, this chapter presents estimates of Chilean AFP demand with monthly data for the period from January 1992 through April 2002, in order to statistically identify the variables determining the choice of AFP on the part of system affiliates. It also presents the results of a similar exercise for Mexican AFORES, with quarterly data from the first quarter of 1998 through the second quarter of 2003.

In the Chilean case, two equations are submitted: one for positive transfers and another for negative transfers. For Mexico, three are considered: besides the ones corresponding to transfers received and relinquished, one for those who are choosing AFORE for the first time.

The results in Table VII.3 indicate that transfers in the Chilean welfare system would have mainly originated from the efforts of salespeople and from the entrance premiums. On the other hand, neither profitability, nor commissions, nor commercial brand stocks[15] have an effect that is statistically clear on transfers.

The estimated results for Mexico are similar with regard to the importance of the number of salespeople and promotional activities, and with respect to the influences that are more closely related to the future value of pensions, namely, commissions and return performance; however, it is important to highlight the change that has been observed since the third quarter of 2001.

Figures VII.5 and VII.6 show that, prior to that date, just as occurred in Chile, transfers in favor did not respond to the commission charged by the AFORES,

Table VII.3
Entrance Transfer Equation for all AFP's in Chile and Separately for Cuprum

Variable	Pre Reform	Post Reform	Cuprum Pre	Cuprum Post
Entrances one year ago	0.69	0.33	0.75	0.53
	(0.00)	(0.00)	(0.00)	(0.00)
Number of salesmen	**1.27**	**1.98**	**1.33**	**1.19**
	(0.00)	(0.00)	(0.00)	(0.02)
Comercial brand stock	0.066	0.516	- 0.160	- 0.498
	(0.71)	(0.38)	(0.00)	(0.00)
Percentage commission with respect to rivals	91	85	**- 137**	**- 562**
	(0.41)	(0.77)	(0.03)	(0.07)
Fixed commission with respect to rivals	156	- 493	- 27	- 271
	(0.34)	(0.40)	(0.46)	(0.11)
Return with respect to rivals	136	2359	**176**	- 995
	(0.22)	(0.34)	(0.05)	(0.00)
Entrance premium[A] value number of salesmen	0.727	1.44	0.181	0.384
	(0.00)	(0.00)	(0.00)	(0.00)
R^2 adjusted	0.97	0.74	0.96	0.82

P values are in parenthesis. Traditionaly, the value of p must be lower than 0.5 for the coefficient to be statistically other than zero.

Relevant coefficients are in bold. Significant coefficients with a negative sign are in ochre yellow.

Ordinary Least Squares Method for a fixed effect panel.

[15] Commercial brand stock is defined as the accrued expenditure balance in promotion activities, assuming the level is depreciated monthly at a fixed rate. That is, if the AFP does not spend on promotion, its brand capital gradually erodes.

Figure VII.5
AFORE Demand: Quarterly Transfers in Favor as a Function of the Equivalent Commission on Flow Compared to Competitors Fourth Quarter of 1998 through Second Quarter of 2003

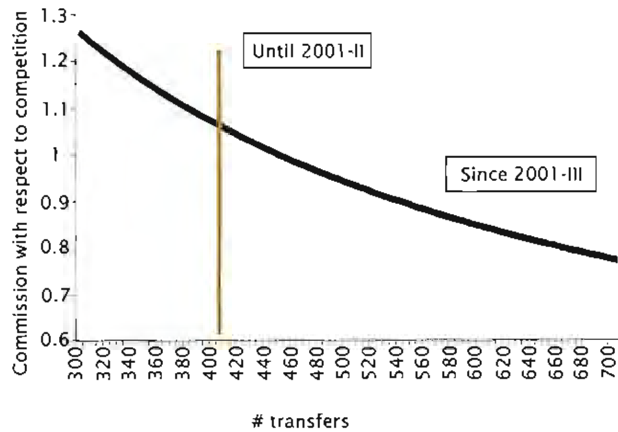


Figure VII.6
AFORE Demand: Quarterly Transfers in Favor as a Function of the Equivalent Commission on Flow Compared to Competitors Fourth Quarter of 1998 through Second Quarter of 2003

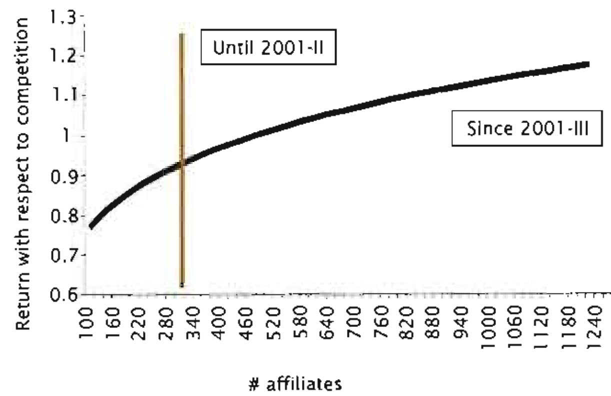


Table VII.4
Exit Transfer Equation for all AFP's iin Chile and Separately for Cuprum

Variable	Pre Reform	Post Reform	Cuprum Pre	Cuprum Post
Exits a year ago	**0.71**	**0.48**	**0.78**	**0.37**
	(0.00)	(0.00)	(0.00)	(0.00)
Number of salesmen	**0.84**	-0.80	**1.35**	**1.56**
	(0.00)	(0.11)	(0.00)	(0.07)
Commercial brand stock	- 0.008	0.009	**0.051**	**0.269**
	(0.77)	(0.90)	(0.02)	(0.03)
Percentage commission with respec to rivals	117	-193	- 44	- 362
	(0.46)	(0.49)	(0.30)	(0.33)
Fixed fee with respect to rivals	**358**	330	- 15	- 42
	(0.04)	(0.56)	(0.57)	(0.85)
Return with respect to rivals	0.0	- 2387	**- 136**	**- 1454**
	(1.00)	(0.33)	(0.03)	(0.00)
Entrance premium value* number of salesmen	**0.187**	**0.609**	**0.059**	**0.192**
	(0.00)	(0.00)	(0.00)	(0.00)
R^2 adjusted	0.97	0.77	0.95	0.73

P values are in perenthesis, significant coefficients are in bold.

Ordinary Least Squares Method for a fixed effect panel.

with respect to competitors, or to the return achieved on fund investments, compared to returns achieved by rivals.

However, since the third quarter of 2001, demand has become sensitive to the fee charged and to returns achieved by the AFORE, although the sensitivity level is not high, as can be observed in the horizontal scale of the figures, which measures the number of average quarterly transfers for the average AFORE.
What happened from that date forward? To begin with, as shown in Figure VII.3, this corresponds precisely to the inflection point in the commission trajectory, from which they began descending.

It is also important to emphasize that the accounts of all the workers who had not chosen an AFORE as of June 2001, that is, during the first four years of the reformed system, were allocated in accordance with a criterion that mainly took into account the equivalent commission on flow charged by the AFORE and the accumulated return on funds managed since the

initiation of the system. In addition, another allocation was made in 2002, including the accounts of those who had not chosen an AFORE and had entered the system after July 2001. This allocation practically only considered the criterion of which AFORES charged the lowest equivalent commissions on flow over a five year period. Since then, the new accounts of those who do not exercise their right to choose a manager are assigned every two months.

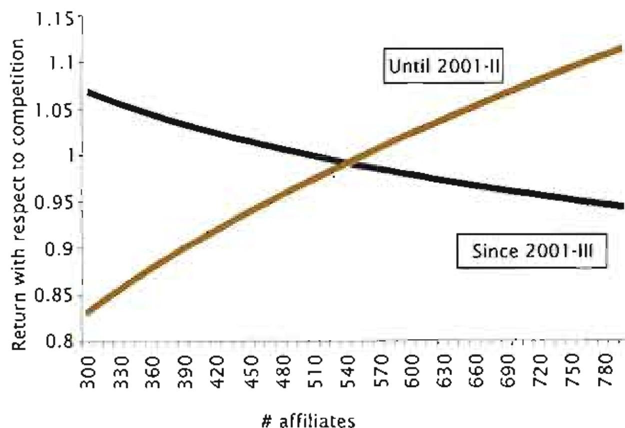
This process has given rise to a very lively public discussion on the fees charged by AFORES and the returns achieved, which seems to have influenced demand patterns.

Regarding exit transfers, in the case of Chile results are similar to entrance transfers, as can be seen in Table VII.4. Once again, one should note the strength of the parameter associated with the number of salespeople, although in this case, in the post-reform period it ceases to be significant for the panel. Commissions are not relevant. Commercial expenses and profitability were only significant in the Cuprum equation.

P values are in parenthesis. Significant coefficients are in bold. Significant coefficients with a negative sign are in red. Ordinary Least Squares Method for a fixed effect panel.

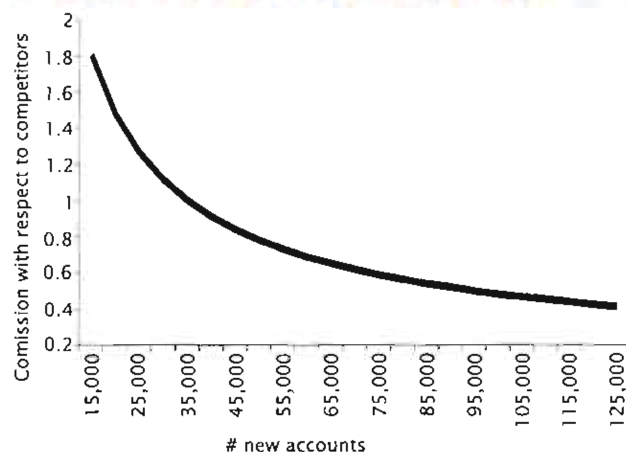
In the case of Mexico, results for relinquished transfers are very similar to the Chilean ones. They

Figure VII.7
AFORE Demand: Quarterly Relinquished transfers as a Function of Return Rate Performance with respect to Competitors Fourth Quarter of 1998 through Second Quarter of 2003



do not depend on the fees charged by AFORES, either before or after 2001. In the case of fund returns, until the second quarter of 2001 the opposite of what had been expected was actually observed, that is, the higher the returns, the greater the number of transfers experienced, while since the third quarter of 2001, a pattern that is more in accordance with the logic of service demand was identified: better financial performance makes less account holders exit the system. This is shown in Figure VII.7.

Figure VII.8
AFORE Demand: New Quarterly Accounts from Workers Choosing for the First Time as a Function of Equivalent Commission with Respect to Competitors. Fourth Quarter of 1998 to Second Quarter of 2003



Finally, in Mexico the number of new worker accounts choosing AFORE for the first time that are obtained by a manager does not respond to the return on funds managed that it offers, but negatively depends on the level of commissions that the manager charges with respect to its competitors, as shown in Figure VII.8. This relationship is the same before and after the second quarter of 2001.

Estimates of the Chilean demand for pension fund manager services strongly confirm that competition in the AFP system is generated through the efforts of the sales force. Almost all of the differences in transfer levels stem from differences in the number of salespeople. This effect would also seem to be independent of whatever may happen with respect to other variables.

Fees and financial performance would seem to have a null or at least ambiguous effects on the transfers received or relinquished by AFPs.[16] This result is compatible with the fact that extremely high differences

[16] The fact that the effects of these variables may serve to enhance or reduce salesperson productivity cannot be discarded, as discovered by Marinovic (2000) with a more complex specification and a reduced sample. In any case, the extent of the effects is small.

in percentage commissions among AFP — persistent over time — subsisted during the period, and generally explains why commissions are relatively high with respect to costs.

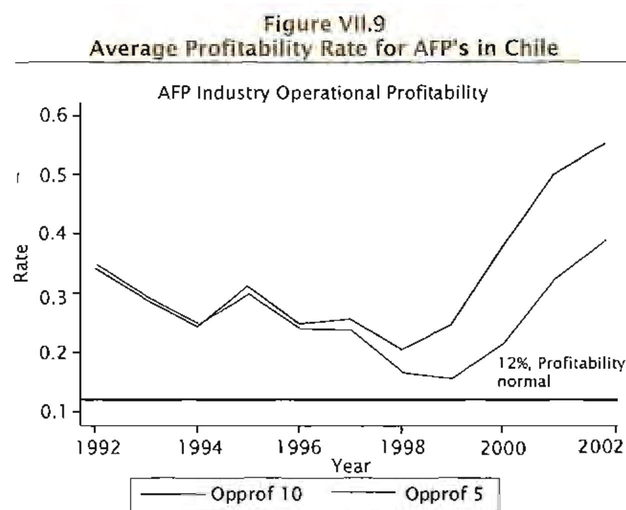
In Mexico, on the other hand, patterns regarding the importance of promotion and salesman activities are similar but, at least since the third quarter of 2001, a sensitivity to AFORE demand to changes in commissions and manager return performance is indeed noticeable.

The bidding process for the accounts of those who did not choose an AFORE, based on which managers charge less, seems to have had some effect.

VII.4.3 The Level of Economic Competition and the Cost Structure in the AFP Industry

Figure VII.9 presents the average profitability rate achieved by the Chilean AFP industry as a whole for each year in the period 1992-2002. Two possible calculations are shown: one assuming the managers' commercial brand stock depreciates ten per cent monthly and another where the depreciation is taken to be five per cent.

Figure VII.9
Average Profitability Rate for AFP's in Chile



The prefix "opprof" indicates operational profitability.
The suffixes 10 and 5 indicates de percentage rate of depreciation used to calculate de stock.
Source: Own calculations using SAFP data.

It can be see that the average operation profitability in the industry would have been at all times above what is considered normal. However, during the period of the 1993-97 commercial war, profitability would have started to decrease as a result of the huge commercial expenses that the AFPs had to incur to maintain market participation. In fact, since the war ended in November 1997, there has been a sustained increase in business operation profitability. This profitability stood in 2002 at around 50 per cent when brand stock depreciation is assumed to be ten per cent monthly and around 37 per cent when depreciation is taken to be five per cent. Such profitability ratios are considerably above the norm.[17]

Now then, a competitive industry may be compatible with excessive profitability if it were to remain in the hands of the most efficient companies and if there were any companies showing a normal earnings rate, that is, barely achieving the break even point.

This section studies this possibility and, as indicated below, it finds the level of competition in the industry to be low and, in fact, there is evidence of entrance barriers to new competitors. The AFP market is not competitive.

As demand estimates in the previous chapter indicate, in Chile the only way to attract contributors in the AFP market is through significant commercial investment and by offering costly gifts to those who agree to transfer — this is a negative price or 'entrance premium'.

However, a strong asymmetry is found: the commercial investment required by an AFP aspiring to enter the market in order to achieve or maintain a sufficiently high operating scale is higher than that required by titular AFP, that is, those that were previously in the industry. The reason is that contributors differ according to their level of loyalty towards their current AFP. 'Loyal' affiliates are those who do not respond to salesmen or their presents, while the 'disloyal' ones are those that do respond. A simple chronological examination of history reveals that titular managers have a smaller proportion of disloyal affiliates than aspiring managers.

This asymmetry in commercial costs should be interpreted as an entrance barrier for aspiring AFPs, which would refute the competitive industry hypothesis and would also prevent titular managers from competing among themselves in ways that differ from a commercial war, which implies an element of inefficiency since it requires the assumption of administrative costs and remunerations for

[17] Calculations for Mexico do not permit the same conclusion since it is estimated that the profitability rate was nine per cent on average per annum from the third quarter of 1999 through the second quarter of 2003. However, profitability shows an upward trend, at least until the middle of 2003, when it stood around 12 per cent per annum.

salespeople that could be avoided by allowing the AFPs to offer discounts and entrance premiums openly and directly.

This scenario also included certain strategic incentives. The asymmetry in commercial loyalty implies that any increase in general contributor turnover would harm aspiring AFPs to a greater extent than titular managers. It was in the interest of titular managers to invest more in salespeople during the commercial war phase since this would increase the costs of their rivals proportionately more than it would their own costs. That is, larger titular managers had incentives to investing in salespeople to ward off intruder AFPs. Thus would allow them, at the same time, to acquire these companies at a lower price.

This explanation for the lack of successful entries to the Chilean AFP industry is complemented with the recognition that there are significant economies of scale in this business, that is, that the average cost in servicing new contributors diminishes with the number of contributors serviced, leaving aspiring AFPs who are unable to rapidly obtain a large clientele at a distinct disadvantage.

In fact, no newcomer survived the 1993–97 commercial war, and this is incompatible with the hypothesis that the industry is competitive since it is unlikely that, of all AFPs that entered, not even one was modestly efficient in terms of productivity. Another empirical fact is that nobody tried to enter this industry between 1996 and 2003, in spite of the high level of profitability observed during this period.

This discussion suggests it is particularly relevant to study the industry's cost structure to determine if titular AFPs are more efficient than entering managers or if there are economies of scale that force the affiliation of a large number of contributors to avoid failure due to operating with high average costs. In fact, a cost function estimate will help us to identify this industry's minimum efficient scale, that is, the socially optimum size of an AFP, as well as in assessing the compatibility of this scale with a competitive environment.

In the case of Chile, monthly AFP data between 1992 and 2001 are utilized to estimate the cost structure. To this end, managers were grouped under two different categories. The first category distinguishes small and large managers, according to whether they had more than or fewer than 100,000 contributors. The second category divides AFPs into titular and aspirant, according to whether they entered the market before or after 1990. Calculations for before and after October 1997 are also made separately

Table VII.5 shows the estimated average cost for each category, that is, the expenses made for the AFP per contributor, as well as the marginal cost, that is, the expenses incurred by the manager for servicing one additional individual, regardless of how much the previous contributors cost.

As can be observed, in almost every case, marginal costs are lower than average costs. This implies that the average cost curve is continuously decreasing,[18] which in turn suggests that economies of scale would be verified for the whole market, that is, that the minimum efficient scale is the industry as a whole.

This result is compatible with other evidence regarding economies of scales accessed by the Social Security Administration in the United States, which, in spite of servicing over 100 million contributors, maintains decreasing average costs.

Additionally, the information proves that in Chile, small AFPs show marginal costs that are considerably reduced and quite lower than the costs of larger companies. Paradoxically, all the small managers failed to grow and achieve significant market participation.

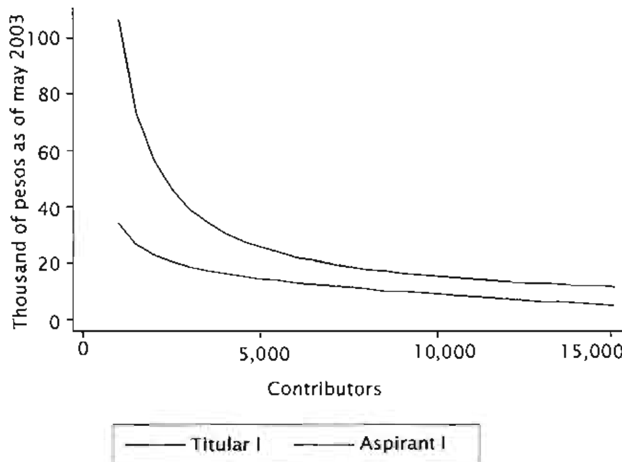
Table VII.5
Average and Marginal Costs Incurred by AFP per Contributor, in Chile

	1992 - 1997				1997 - 2001			
Cost in thousands of pesos	Large	Small	Titular	Aspirant	Large	Small	Titular	Aspirant
Marginal	3.6	1.0	4.3	10.5	2.9	1.0	3.3	21.1
Average	8.4	14.4	8.7	16.9	8.7	13.8	9.3	18.8

[18] If every new individual serviced always costs less than the average of those previously serviced, by increasing the number of clients the average will always decline.

One can also note the significant differences in the average costs of aspirant and titular managers as a result of the scale on which each actually operates. In both periods, aspirant AFPs would have supported mean costs that were twice as big as those of titular AFPs. This, however, cannot be considered as a proof of higher level of efficiency among titular managers since their lower costs may be due to their different operation scales.

Figure VII.10
AFP Cost per Contributor in Chile



To elucidate whether there is a difference in efficiency, It is appropriate to compare the mean cost curves for different scales. This is done in Figure VII.10. This demonstrates the lack of evidence for the hypothesis of higher titular manager efficiency. On the contrary, the figure would indicate that aspirant AFPs would have entered with more efficient technology than titular managers.

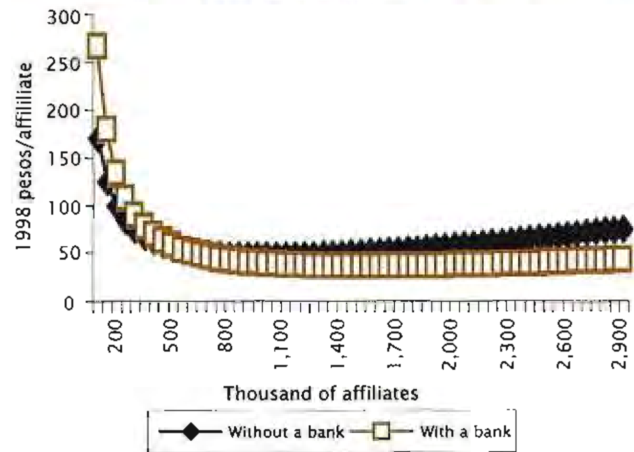
This means that if aspirants had been capable of capturing a critical mass of affiliates, they would have dramatically reduced their mean costs, and perhaps they would have been successful in entering the market.

However, contributor inertia, which is a property of demand and not of costs, would have prevented this from happening since a commercial investment that was not viable for an aspiring AFP was necessary to achieve this critical mass. This suggests that aspiring managers were well prepared to compete on prices but ill prepared to compete on commercial investment, the field where the entrance battle ultimately took place.

In the case of Mexico, there are also significant economies of scale with respect to the volume of funds managed by the AFORES and, in the case of those related to banks, also regarding the number of affiliates.

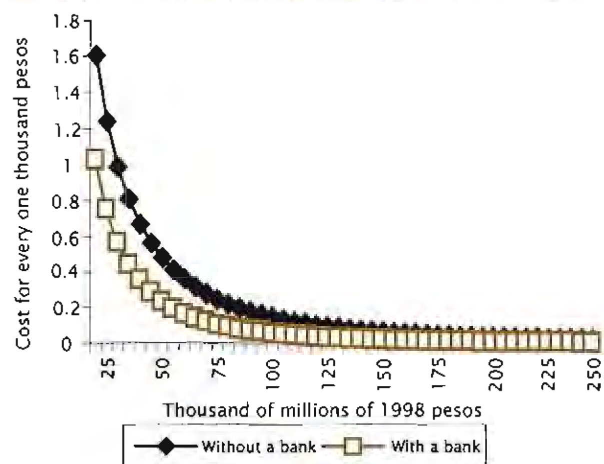
This can be verified in Figures VII.11 and VII.12, which present cost curve estimates based on quarterly information from 1998 through 2003 generated by the regulatory body of the Mexican

Figure VII.11
Average Quarterly Cost per Affiliate of a Mexican AFORE as a Function of the Number of Affiliates According to Relationship with a Bank



Note: The number of affiliates must be understood as the average for the period and not the actual level.

Figure VII.12
Average Cost of an AFORE for every 1,000 Pesos of Funds Managed as a Function of Fund Volume according to Relationship with a Bank



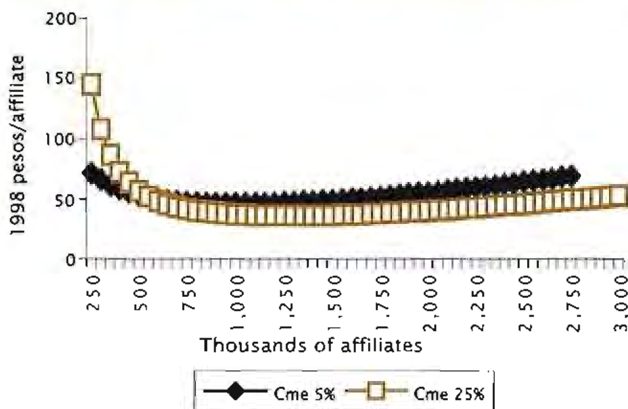
Note: The number of affiliates must be understood as the average for the period and not the actual level.

industry, the CONSAR;

beginning from approximately one million five hundred thousand accounts, the average cost per affiliate of an AFORE related to a bank remains relatively constant, while the average cost of the AFORE continuously declines as the number of funds managed increases.

The last figure looks at the cost advantages an AFORE in Mexico can achieve over competitors by spending proportionately more on promotion. It is clear that AFORES which assign greater weight to promotional activities operate with lower costs per affiliate, especially when the number of account holders is high.

Figure VII.13
Average Quarterly Cost per Affiliate of a Mexican AFORE as a Function of the Number of Affiliates According to the Relevance of Promotion Expenditure in Total Costs



Note: The number of affiliates must be understood as the average for the period and not the actual level.

This means that the threat of commercial war becomes a barrier to the entrance of new AFORES to the industry since aspirants are discouraged by the fact that large managers already in the market operate with low costs because they are taking advantage of economies of scale, and they could reduce their other non-promotional expenses further should a promotion battle break out.
In summary, the pension fund manager industry seems to exhibit significant economies of scale. This would suggest that concentration in the industry would allow an increase in the efficiency of welfare management since it would allow a few AFPs or AFORES to operate with very low average costs. In fact, estimates for Chile suggest that the minimum management cost could be achieved if only one AFP were to operate in the industry.

This fact introduces a tendency towards an industrial organization of monopolistic characteristics, that is, hardly competitive, which is reinforced by the fact that clients do not respond greatly to reductions in commissions charged by AFPs and, therefore, competition among managers occurs in terms of promotional or commercial activities, where companies that are already well established in the market have the advantage.

VII.5 Some Policy Proposals for Optimizing the Performance of AFP Industries

A general strategy to maximize efficiency in pension manager quasi-markets and achieve the lowest fees possible for a certain level of service quality can not lie in one or two specific measures; as a result, this chapter presents a group of proposals to be considered as a global plan, obviously duly taking into account each country's characteristics.

In general, it would be wise to encourage the existence of industries similar to the AFP industry so they can act as valid points of reference, since they are located in the same country and are subject to similar consumable and risk premium costs. In particular, the development of the so called third pillar in the pension system, based on voluntary old age savings encouraged through fiscal and regulatory incentives, but without any mandates, may provide a valuable point of reference.

In this sense, it is important to point out that countries such as Canada, Great Britain and the Netherlands set contribution limits for the public pension scheme in order to prevent the compulsory social security system from occupying all the available market and choking a contingent voluntary third pillar.

VII.5.1 Economies of Scale

Any proposal regarding the manager quasi-market must confront the problem of economies of scale, that is, that average costs per contributor will decrease. This implies that, if it were only about minimizing operation costs, the most efficient organization in the industry would be a monopoly.

However, it is also important to ensure that investment decisions are decentralized and to disassociate them from future political authorities. This is a requirement in order for a capitalized system to be capable of paying trustworthy pensions, that is, relatively free from political interference in the matter of investments. This demand discards proposals that include centralizing fund management in a monopoly, be it a state or a private one.

Both objectives — decentralization and low mean costs — can be achieved at the same time by allowing managers to outsource many of their operations, such as contribution collection, pension payment, the acquisition of the disability and death insurance and the updating of individual accounts, with specialized third parties.

Each AFP would maintain responsibility for investment decisions made and contact with account holders, who would choose them.

VII.5.3 Fee Liberalization

Empirical evidence shows that, at least in the case of Chile, contributors are sensitive to fees —as long as these are in the form of an entrance premium in cash — when they transfer to a particular manager.

Thus, it is proposed that reforms be adopted that allow managers to offer these premiums, possibly in exchange for a permanence commitment.

For price competition to exist, it is essential to lift the requirement for commission uniformity among every affiliate to the same manager. For this reason, it is proposed that these premiums and the commitments demanded in exchange be uniform only among those affiliates in the same 'price plan' acquired with the AFP. Each manager would have several plans at any point in time.

To prevent managers from raising the regular fee that is discounted from the salary or from the contribution to finance more entrance premiums, the establishment of a maximum legal ceiling for this regular fee is proposed, where this ceiling would be a function of the result of the biddings proposed below.

VII.5.4 Account Holder Allocation Bidding

Experience proves that international bidding in the allocation of an initial account to a holder — who would still maintain the freedom to change — is very successful in achieving low fees. However, one requirement would be for such bidding rounds not to be frequent and, in a more general fashion, for periodical encounters among the same rival bidders not to be repeated since this would facilitate collusion.

For example, contributors who have expressed no manager preference for over five years could be assigned to the AFP that won the bid. Once assigned, account holders are allowed to change to any manager they wish.

The bidding would be adjudicated to the bidder offering the lowest commission, expressed as a single percentage of the taxable salary of contributors.

Since one of the essential goals is fund management decentralization, a law is proposed to prohibit an AFP already managing funds in excess of a certain percentage of total compulsory savings from entering these bidding rounds. Any manager surpassing this limit would only be able to grow through individual affiliations, but not through bidding.

VII.5.4 Commission for Financial Performance Quality

Since many account holders are not sensitive to good financial performance, it would be appropriate to complement stimuli for this function. In order to accomplish this, the creation of a commission is proposed to favor managers achieving a relatively enhanced financial performance *in a stable fashion*. This last requirement is important because it is not appropriate to encourage AFPs to adopt risky strategies to increase the possibility of achieving a high relative performance when this also increases the possibility that this performance will revert and compensate initial success.

CHAPTER VIII
REFORMS TO THE HEALTH SOCIAL SECURITY SYSTEMS

*Contributions**:
Canada and the United States: Shelton Brown and José Pagan
Colombia and Chile: Bitrán and Associates
Mexico and Conceptual Framework: Jacqueline Arzoz

Editors:
Jacqueline Arzoz
Jorge Meléndez

* The original documents, with the detailed discussion of each country, may be requested to the CISS.

CHAPTER VIII
REFORMS TO THE HEALTH SOCIAL SECURITY SYSTEMS

In this chapter, some reforms to the health schemes of social security carried out in the American continent are analyzed. The possibility of achieving universal coverage is studied, based on the characteristics of the medical insurance and the labor market of each of the countries studied. Also, the analysis of social equity in the coverage and distribution of fiscal resources is emphasized. Moreover, the existence of problems related to market failures that justify the government's intervention, are studied. Finally, for the cases of the United States and Canada, special emphasis is given to the analysis of the result of strategic acquisition of services schemes on the control of health expenses.

It was found that the Canadian system is the only one that accomplishes universal coverage in health, and that the other Latin American countries studied will hardly achieve it with their current systems, due to the informality of their labor markets. One accomplishment, in Chile as in Colombia, is that the fiscal expenditure has been targeted towards the lower income population. This has allowed Chile to come close to achieving universal coverage, since a large proportion of its informal workers belong to low-income groups. However, it was found that benefits differ for people depending on their income. In Chile, the majority of low income people are covered by the public insurance agent, while those with high incomes are covered by private insurances. In the case of Colombia, the package of services as well as the type of insurance is different for groups with different income levels, being superior for those with higher income. In the Mexican case there is a significant inequity in the coverage and distribution of fiscal resources, which adversely affects the lower income households.

There is evidence that the systems of Chile, Colombia and Mexico present market failures. In Chile, the public insurance agency covers a group with greater risk than the one covered by private insurance companies, due in large part to the fact that the latter risk select, that is, they do not accept just anyone. In Mexico and Colombia, the social security institutions cover a group with higher risk than the population as a whole. It is suggested for this case that the problem is caused by the informality in the labor market.

Finally, the cost containment policies carried out by Canada were successful in the sense that there were no large increases in health expenditure of this country, at least when compared with the United States. It was also found that in the United States, changes in the government's form of remuneration given to the hospitals that provide attention, from per-service payment to prospective treatment payment, helped to contain health expenditure significantly. Finally, evidence that the expansion of 'Managed Care' insurance plans accomplish a reduction in health care costs is presented. In this plans, people are offered insurance packages with certain restrictions on the selection of doctors, medicines and treatments, and the insurance agent negotiates prices with his suppliers.

VIII.1 Conceptual Framework

VIII.1.1 Definition of Social Security in Health and Types of Programs

The definition of social security applied here is the amplified definition proposed in 'The Americas Social Security Report 2002' from the CISS, limiting it to the individual risks related to the medical services required for better health. Therefore, the social security 'is a scheme for insuring against individual risks, by managing the resources of society in the spirit of solidarity, through which the State assures that all its citizens will have the same economic opportunities no matter what family or group they happen to belong to, or whatever the particular twist of fate they may have to deal with' (CISS, 2002). According to the definition, social security programs,

social assistance programs, universal programs and other programs fostered by the State are included.[1]

A proper classification of the different programs that might conform a health social security system is introduced here as follows:

1. Social Assistance Programs, generally focused on a specific population group, which can be the lower income one or those that are financed with fiscal resources.

2. Social security programs, non universal, compulsory for a certain group of workers, financed through partial or total compulsory payroll taxes from workers and employers generally related to labor income. There may also be complementary financing with fiscal resources. In order to understand the recent changes to social security, programs will be differentiated according to two types:

a. The first one will be called *traditional social security*. In this type, the resources collected are channeled into collective funds that finance the benefits of the captive beneficiaries' group — the workers or the contributing workers and their family. This type of program is traditionally offered by institutes, social security funds or social welfare.

b. The second type will be called the *individual social security* program. In this case, the collected resources go to a risk 'pool' and are used to pay individual insurance premiums, which cover a package of defined benefits for all beneficiaries; in most cases, premiums are risk adjusted. As funds can 'follow' the person, people are allowed to select between different insurance agents, which may be public, private or a combination of both. In this type of insurance, the cross subsidy is kept among different age and gender groups, and if the contribution is related to income, there will also be a possible cross subsidy among different income groups. However, by allowing them to choose a private insurance agent, problems related to risk selection may be present, which will be discussed below.

3. Universal or those offered by Health Ministry programs. People have right to these for the simple fact of being citizens. In some circumstances, when they coexist with social security programs, they cover the 'residual' population, that is, the citizens who are not covered by social security. These plans are mainly financed by fiscal funds and in some cases, beneficiaries pay a small fraction of the services used. In these programs, resources may be channeled to collective funds for the acquisition of medical services or may 'follow' each citizen and acquire a health insurance which will be used to buy the medical services.

There are compulsory programs that do not fit into the social security definition, for there is not solidarity management of the common funds. This type of program will be called *Compulsory Individual Insurance*. The payroll taxes are used to pay the totality or a part of the individual insurance premium that will vary according to the characteristics of the person. The part of the premium which is not covered by the payroll taxes will be covered with the person's own resources.

VIII.1.2 Types of Health Social Security Systems

In a number of countries of the Americas the coverage is fragmented, combining social security, social assistance and universal programs, as well as others offered by the health ministries. Generally, the social security programs are considered by the population to be better than those of social assistance run by the health ministries.

The different health systems can be classified based on the functions of stewardship, financing and provision of services.[2] The Health Ministry is normally in charge of the stewardship function.

The financing function may be divided according to different considerations so as to be able to understand the defining characteristics of social security on health systems. The first consideration is constituted by the financing sources, such as fiscal funds, payroll taxes, private funds or a combination of these. The second one is the existence or non-existence of a mechanism or collective fund to accumulate risks, that is, the mechanism by which risks are grouped. It serves to cross subsidize between healthy and sick people, or between different types of risk, age and sex groups. The third consideration related to financing is the possibility that funds might 'follow' the person. Individual social security programs, this is, the ones in which funds 'follow' the people, allow to buy them a health insurance and, therefore, allow competition between insurance companies, which may be public, private or a combination of both.

[1] For other definitions of social security and definitions of what each of these programs include, see CISS (2002).

[2] For a further explanation on each function see the World Health Organization report for the year 2000. (Organización Mundial de la Salud, 2000).

Between the financing and the service provision function, the acquisition of health services is found. When there is vertical integration between the insurance agent and the service provider, the acquisition of services is not necessary. As these functions begin to separate, and more than one supplier offers the benefit, this function enters into the game. The strategic acquisition can take place using mechanisms that support cost containment, or an increase in the resources' productivity, which will be explained below.

The function of service provision may take place through public or private services, or a combination of both, and competition between providers may or may not take place.

VIII.1.3 Objective of the Health Social Security Systems

The objective of most social security systems is to improve the level and quality of the population's health, through effective universal coverage, in an equitable and efficient manner. Traditionally, universal coverage of the population is sought, but in some situation this objective is unattainable due to the system's characteristics. In other cases, the objective may be focalized coverage aimed at certain population groups, as in the United States.

VIII.1.3.1 Country Classification by Groups and a System's Necessary Characteristics to Achieve Universal Coverage

This research works with the hypothesis that the possibility of achieving universal coverage depends on the characteristics of the social security system and the labor market of each country. In order to understand the circumstances in which universal coverage can be achieved, four possible cases were put forward, which will be presented below.

The first case is the simplest one and corresponds to systems where there is a single universal coverage program, financed with fiscal resources and in which every citizen has the right to access. In this case, it would be possible to achieve universal coverage. However, not every system can really achieve this, due to a deficit of financial resources or a lack of infrastructure.

The second case is formed by systems that combine traditional social security programs, in which the insurance depends on the kind of employment, with universal coverage programs for the uninsured. The uncovered population usually includes those that work in the informal economy, or independent workers who do not have the obligation of being affiliated to the system.

In this case it is possible to achieve the universal coverage if all the labor market is formal, that is, if everyone contributes to the social security institution. When a proportion of the workers are in the informal economy, universality could only be achieved if everyone in the informal sector is totally financed with fiscal resources. This occurs because if the informal sector workers have to pay for social security with their own resources, then the system would really become a voluntary one for this group and only a few would affiliate to it.

The cost per capita for the institution covering the informal population can be extremely high, for at the beginning those with high risk, and thus greater cost, will seek to become covered, so there is a potential problem of adverse selection.[3] If the government financed all the people not covered by the social security program, the problem would be the introduction of incentives, which could distort labor supply in the formal sector and, therefore would affect the finances of the social security institution.

The third case is made up by those systems that include individual social security and/or compulsory individual insurance programs. The insurance agents are a public-private combination and coverage depends on the kind of employment. On some occasions, the Health Ministry provides services to the population not covered by any insurance.

In the third case as in the second one, since insurance depends on work, if all the economy is formal, it is possible to achieve universal coverage. but when this is not the case, it will only be achieved if everyone in the informal sector is financed with fiscal resources.

However, for this case the aforementioned conditions are necessary but not sufficient. When funds 'follow' the people, that is, in an individual insurance system, and one can choose between different insurance companies, in order to attain universal coverage a last resort insurer is required. By last resort insurer, we refer to an insurer who covers the high-risk cases that were not covered by the private system, as could be the case of people with pre-existing conditions or some older adults. The latter supposes that the risk selection problem, which will be explained below, cannot be totally eliminated.

[3] A problem of adverse selection arises when only those who get sick or know that they have a high risk seek to get affiliated to social security. This is explained in detail below.

Finally, the fourth case is made up of systems in which coverage focuses on certain groups of the population, with finance from fiscal resources and payroll taxes. It is clear that in this situation, universal coverage will not be achieved.

It must be pointed out that the aforementioned characteristics are necessary to achieve universal coverage; however they are not sufficient, the availability of fiscal resources is also required to cover the entire population, as is access to health services.[4]

When speaking about universal coverage it is not always clear what is being covered. Sometimes the package can be explicit and contain some or several interventions. On many occasions health services are covered only up to the resources' limit, making impossible to talk about what a specific package covers. For instance, in several countries where medicines are supposedly covered, they really are not, for there is not enough supply and therefore, people have to pay for them with their own resources. The size of the acquired package depends on the level of available funds, but also on the efficiency with which the resources are utilized.

Based on the four previously presented cases, a number of American countries were grouped. The results are shown on Table VIII.1, which also includes a small section on financial sources and coverage for each country.

It is important to stress that the programs considered are compulsory. In each of the groups a parallel private volunteer insurance exists, on a greater or lesser scale.

The first group includes countries with systems in which the Health Ministry at a central or regional level guarantees health services provision to the entire population. In most cases health services are financed with general taxes and are provided in clinics and public hospitals; nevertheless, on some occasions the provision can also take place through private health services. For most of the included countries, there is no reliable information on the real coverage levels of the sector. The two countries that achieve universal coverage are Canada and Cuba. Of the two, the Canadian system was chosen as a case study. In this country, financial transfers are made from the central government to the provinces, according to the number of people to be covered. The provinces control the regulation and acquisition of services, which are mainly private and highly regulated. This case is interesting, and besides being one of the few that has achieved universal coverage, it has introduced several cost control mechanisms that have been effective in the sense that health expenditure has not suffered significant increases.

The second group is formed of countries in which different programs are combined and corresponds to the second case, as explained above. As can be seen, none of the countries achieves universal coverage and this may vary from six per cent in the case of Nicaragua up to 90 per cent in the case of Costa Rica.[5] Mexico, which will be studied below, is found in this group. The study of Mexico provides insight into, among other things, the inequity in coverage and distribution of fiscal resources that may result in the case of coexistence of fragmented systems. It also offers the opportunity to analyze the possible existence of an adverse selection phenomena, since the country has a large informal economy.

The third group is made up of countries with systems that correspond to the third case. The health system of these countries is a result of significant reforms in the areas of finance and service provision, transforming from fragmented systems with traditional social security into individual social security programs, in the case of Colombia, and into a mixture of individual social security programs and compulsory individual insurance as in the case of Chile. An analysis of these two countries will be made, including a study of coverage and equity in coverage and financing. As these two systems have a combination of public and private insurance companies, an analysis is made of the existence of possible market failures related to this mixture in insurance.

The last group is the fourth case described above and only includes the United States, where it is clearly recognized that there is no universal coverage and that only some vulnerable groups are covered, such as older adults and low income people. In the case of the United States, the analysis will focus on mechanisms to reduce costs and to improve the system's productivity.

[4] Alternatively it can be thought to provide the necessary economic means to cover the appropriate transport of people to the place in which services are opportunely offered.

[5] For a more detailed description of the recent reforms to the health sector in Costa Rica, the Martinez and Mesa-Lago (2003) study can be consulted

Table VIII.1
Health Social Security Systems

I) The Ministry of Health at a Central or Regional Level Provides Health Services for the Entire Population.

Country	Financing	Coverage
Anguilla	Consolidated fund, with 14.1% of recurrent budget (year:2000).	NI
Antigua and Barbuda	General tax funds administered by the Public Treasury Department.	NI
Barbados	Tax funds and assignations of global budgets.	NI
Belize	Funds from central government and through the recovery of costs, via direct payments.	NI
Brazil	Unique Health System: tax revenues of the three government levels, internal government transfers (federal and state) and social contributions.	Unique Health System: 76% Supplementary Medical Care: 24%. (year: 1998).
Canada	Federal transfers based on the province population and province's funds.	National Medical Insurance System: 100%
Cuba	Public funds.	Cuban National Health System: 100%
Dominica	Public funds.	NI
Grenada, Curaçao & Petite Martinique	General tax, through the consolidated fund of the Finance Department.	NI
Guyana	Central government through tax collections, donations and other contributions.	NI
Haiti	Internal financing (15.4%). External financing (28.4%). NGO's (20.5%) Household financing for private services (35.7%). (year: 1997).	NI
Jamaica	Consolidated fund of the Finance and Planning Department (90%). Extra-budgetary projects with help from international organizations (7%) for operational expenses.	Sanitary Assistance of the Health Department: 90%
Saint Lucia	Funds from internal sources, particularly from the consolidated fund of the government's treasury. External organizations.	NI
Trinidad and Tobago	An overcharge for health General income taxes.	NI

Table VIII.1 (continued)
Health Social Security Systems

II) Social Security Institutions with Compulsory Insurance for Public and Private Sector Employees. The Ministry of Health Provides Services for Uninsured.

Country	Financing	Coverage
Bolivia	*Public Sector:* 74% government; 1% firms, 5% households and 20% external cooperation. *Social Security:* 100% firms. *Private Sector:* 6% firms; 89% household and 5% external cooperation.	National Health Fund: 31%. Public Sector: 50%. Private Sector: 1%. NGO's: 18%.
Costa Rica	*Public Sector:* Health Department (8%), Treasury funds (6%), of their own funds (2%). *Social Security:* Contributions of affiliates (55%), selling of goods and services (5%), capital income (2%). *Private Sector:* Through the NGO's (3%) and household financing (27%).	Costa Rican Social Security Fund (CCSS): 90% 10% can be used only on emergency services.
Ecuador	*Public Sector:* Ecuadorian Institute of Social Security (IESS) and other public insurances: contributions from the state's general budget and from employers, and from the selling of services. *Private Sector:* Direct expense of the households.	IESS:18%. Public Health Department: 30%. Not for profit private institutions: 12%. Armed Forces and Police and other for profit private institutions: 10%. Did not receive medical care in a regular manner: 30%.
El Salvador	*Public Sector:* Government contributions (76.1%), external cooperation (19.1%) and funds from health establishments (Patronages and Funds for Special Activities) (4.8%). *Private Sector:* Household financing. (year: 1994).	Social Security covers 15% of the population (public or private workers or their beneficiaries). Health Department: 80% of the population. Private Insurance: 5% of the population. (year: 1998).
Guatemala	*Public Sector:* Government's general taxes (27.3%); payroll taxes (companies 22%). *Private Sector:* Out of pocket payments for medical care of the household (42.9%) and external cooperation (donor institutions 7.8%).	Social Security System (IGSS): 17%. National Health System (MPSAS): 54%. Private Sector: 5%.
Honduras	*Public Sector:* Public treasury, international assistance and charges on workers.	Honduran Social Security Institute (IHSS): 11%. Health Department: 52%. (year: 2000).
Mexico	Mexican Social Security Institute (IMSS) and other public insurances: employee-employer payroll taxes and fiscal resources. Ministry of Health and IMSS-Solidarity: Fiscal resources.	IMSS (private sector employees and their families): 32%. Other public insurances (employees and families): 9%. Ministry of Health and IMSS-Solidarity: rest of the population.

Table VIII.1 (continued)
Health Social Security Systems

II) Social Security Institutions with Compulsory Insurance for Public and Private Sector Employees. The Ministry of Health Provides Services for Uninsured.(continued)

Country	Financing	Coverage
Nicaragua	*Public Sector:* Treasury funds, own and external, workers payroll taxes (household and firms).	Social Security: 6%. Health Department: 60%. Population not covered was estimated at 34%. (year: 2000).
Panama	*Public Sector:* Nation's general budget. *Social Security Fund (CSS):* Payroll taxes of workers and employers affiliated to the system.	CSS: 25% Health Department: 15% CSS and Health Department: 40% Private Insurances: 15%. Population not covered: 5% (year: 1996).
Paraguay	*Public Sector:* Ministry of Health Public and Social Welfare (MSPyBS) and other public institutions: Public treasury resources, co-payments, contributions collected from the worker's income, nation's general budget. *Private Sector:* contributions by foundations and premiums.	Social Welfare Institute: 20%. Private Sector: 10%. 30% has no access to health services. The MSPyBS covers the rest of the population.
Peru	*Public Sector:* 25% of government, 38% of households. *Private Sector:* 35% of the firms. (year: 1998).	Social Security: 23.5%. (National Survey on Life Levels of 1997)
Dominican Republic	*Public Sector:* Treasury funds (20%) Social Security: Dominican Institute of Social Security (IDSS) (7%); 1% from the Social Security Institute of the Armed Forces and National Police (ISSFAPOL). *Private Sector:* Non-government organizations (NGO's) (14%) and household contributions (54%). (year: 1996).	IDSS: 7.1%. Other compulsory insurances: 5%. Ministry of Health: 75.9% Private insurances: 12%.
Uruguay	*Public Sector:* Payment of fees to the Collective Medical Care Institutions (IAMC) and from the partial insurances with 42%, 31.8% from prices, 25.3% from general taxes and 0.9% from sales. *Private Sector:* Household contributions. (year: 1998).	IAMAC: 46.6%. Health Department: 33.7%. Other public Insurances: 3%. Without coverage: 12.6%.
Venezuela	*Public Sector:* Resources from the Venezuelan Social Security Institute (IVSS) and other public insurances (27%). Central government: 32%. *Private Sector:* 39%. (year: 1999).	IVSS (Social Insurance tax payer and beneficiaries): 57%.

Table VIII.1 (continued)
Health Social Security Systems

III) Compulsory Public Private Healt Social Security Choice. The Ministry of Health Provides Services for the Uninsured.

Country	Financing	Coverage
Argentina	*Public Sector:* Public funds. *Obras Sociales:* employee-employer payroll taxes and government contributions. *Private Sector:* Direct payments.	Obras Sociales' plans cover 50% of the population. Mutual and/or pre-payed 8%. Obras Sociales and pre-payed (double coverage) 4%. Public sector covered 38% of the population. (year: 2001).
Chile	National Health Fund (FONASA): Fiscal resources, worker's compulsory payroll taxes and co-payments depending on the income level. Previsional Health Institution (ISAPRES): compulsory worker's payroll taxes and co-payment.	FONASA: 73%(low income workers and their families). ISAPRES: 20% (high income workers and their families). FFAA: 3%. Without coverage: 4%.
Colombia	Subsidized Regime (RS): Fiscal resources, worker's payroll taxes. Contributive Regime (RC): Worker's payroll taxes. Ministry of Health: Fiscal Resources.	RC: 30% formal workers and their families. RS: 25% informal workers and households without capacity to pay. Ministry of Health: Rest of Population.

IV) Social Security on Health only for Vulnerable Groups.

Country	Financing	Coverage
United States of America	Medicare: Worker's compulsory payroll taxes (PAYGO system) Medicaid: State and federal funds.	Medicare: 12% (older than 65 years, disabled and people with renal disease in the last stage). Medicaid: 9% (low income group, older than 65 years, blind, disabled, women and children).

Source: (1) Pan American Health Organization. Health Sector Reform: Base Line for the Follow-up and Evaluation of the Sector Reform. May 1998. (2) Pan American Health Organization. Health Systems and Services Profile. Program on Organization and Management of Health Systems and Services. Division of Health Systems and Services Development, 2003. (3) Regional Reform Initiative of the Health Sector in Latin America and the Caribbean (LACRSS). http://www.americas.health-sector-reform.org , 2003. (4) Pan American Health Organization. Special Program on Health Analysis, 2003. (5) Study Cases Mexico, Canada, USA, Colombia and Chile.

*NI: There is no reliable information on the levels of coverage of the health sector.

VIII.1.4 Possible Problems caused by the Mixture of Public and Private Insurance and by the Inability to Accomplish the Compulsory Coverage Requirement.

For the study of the different systems of social security in health in which there is a mixture of public and private insurance, and a lack of accomplishment of the compulsory coverage requirement, the economic efficiency and equity arguments that justify the state intervention are first analyzed. Several studies have analyzed such arguments, among them the following: CISS (2002); Diamond (1977); Feldstein and Liebman (2001); Mulligan and Sala-i-Martin (1999); Myers (1993); and Rosen (1999).

Public intervention could be justified in terms of an increase in efficiency, this is, a greater number of goods and services for a given amount of resources, or in terms of a more equitable distribution of resources. Government intervention has also been justified from the political point of view.

In traditional social security systems there was no preoccupation about market failures, since with public insurance it was expected that the State would not exclude people for their risk level. However, when there is a mixture of public and private insurance companies, this problem can emerge. Some theories that justify the existence of social security as a public and compulsory institution are presented below. We concentrate on reasons of economic efficiency — market failures — and social equity.

i. Economic efficiency. In the health sector there are a series of information and production scale problems that may lead to market failures. Among the most important are:

- *Adverse selection:* Adverse selection consists of persons being included or excluded from a voluntary health insurance depending on their individual risk situation. As the insurer has no information about the risk level of a particular individual, and as people with a higher risk level will seek to buy more comprehensive insurance policies, a market failure will arise. In this case, it is expected that two types of policies will be offered: one with an extended coverage at high prices which will be bought only by high risk people and a second one with a low coverage which will be bought by low risk people, and therefore comprehensive policies will not be offered to lower risk people. (Rothschild and Stiglitz, 1976). The insurance obligation by the government, in the case of health insurance is effective to facilitate an efficient risk 'pool' which opens the way to a more complete insurance, covering both low-risk and high-risk population. (Pauly, 1974).

A hypothesis of this chapter is that, in systems with a informal economy, in which social security is linked to employment, people can choose whether they have coverage. Therefore, traditional social security programs in economies with a large informal sector end up being voluntary for part of the population. This may cause adverse selection problems.

- *Risk selection:* normally, the insurance companies do not know which persons have a higher risk. To avoid high-risk people, they insure people based on their expected risk — which is estimated based on age and gender. This is known as risk selection, creating in that way a market failure in which private insurance companies seek to exclude people with higher expected risk. This is also known as 'cream skimming'. When the insurer is a government institution, it is expected that people will not be excluded for their expected risk level. In the systems in which the insured person can choose to be insured by private institutions, risk selection problems may exist, as it is the case of Chile, in which older adults and people with declared pre-existing conditions are concentrated in the public health system.

- *Moral Risk.* Moral risk consists of the possibility that the insured person might affect the size or probability of the loss. It emerges in the presence of incentives, so that agents act in a certain way to produce costs for not assuming a responsibility. In the health market it is very common for people to over-use services as, once they find themselves insured, they do not have to pay the market prices of services. This constitutes a market failure because more health resources are consumed than would be efficient. Nevertheless, the latter may occur in private insurance schemes as well as in public ones, and thus the existence per se of moral hazard does not justify social security on health. To reduce this problem, supply or demand mechanisms that make the system more efficient should be sought. On the demand side, these include co-payments, deductibles, linking benefits to payroll taxes, and so on. On the supply side, authorities may seek to improve the doctors' role as primary care agent in the initial contact of the insured person with the system — known as "gatekeeping".

- *Economies of scale.* Economies of scale means that the cost per unit of a product diminishes as the production volume increases. Economies of scale exist in health insurance, as well as tax collection and the administration and supervision of the process. If a private agent obtained monopoly power due to economies of scale, it would certainly cause problems.

- *Myopia.* Individuals can only see short term results and forsee that in the future they could face acute health expenses, in which case they will fall into

the social assistance web. Social security would then seek to prevent this lack of foresight.

ii. Social Equity. Even if a solution to the aforementioned problems was found, there are certain age and social groups for whom the cost of acquiring health insurance in the private market is beyond their economical possibilities. Government intervention is justified due to the importance of the most disfavored people being guaranteed a minimum level of benefit. In some cases, in spite of government intervention, the inequity prevails in terms of the type of coverage and fiscal resources destined to different income groups.

The existence of medical insurance means that people may be covered against the possibility of income loss due to the risk dispersion that may be achieved. In contrast to the market, social security in the field of health permits authorities to offer medical insurance to the population groups with the greatest expected risk.

In summary, the compulsory nature of the social security system of any country is justified as a solution to the problem of adverse selection on the part of individuals. However, as was noted before, if there is a large informal sector and the compulsory element is linked to the source of employment, the problem remains.

Insurance by the public sector is also presented as a solution to the risk selection by the insurance companies. Nevertheless, reduction in risk selection could also be achieved through the regulation of the private insurance market, as was carried out in Colombia. This regulation includes a compulsory package of services for the whole population, and premiums risk adjustment by age, gender and regions. However, it is difficult to guarantee such benefits since the insurance companies may use different strategies to avoid the regulation. Another option is illustrated by the Chilean case, in which the problem of risks selection is not necessarily avoided, but there is a public insurer of last resort that absorbs the riskiest cases, allowing the coverage of those who need it most.

The compulsory aspect of the insurance also prevents that in the long term, one has to cover through assistance programs to those persons who only considered the short term, and therefore were not interested in buying health insurance.

Finally, in order to make the system more efficient, mechanisms must be devised to prevent the moral hazard problem and to help to contain costs or to increase productivity. It is important to stress the role of social security as a solidarity instrument among persons with and without economic resources, in order to achieve a minimum level of wellbeing for all.

VIII.2 Financing and Performance of the Different Systems

In order to compare the performance of the health systems of the different countries of Americas, Table VIII 2 presents health expenditure per capita, health expenditure as a percentage of the GDP and an indicator of the global achievement of the sector's goals.

The latter was developed by the World Health Organization (WHO, 2000), and is based on the achievement of objectives of a health system as stated by that organization. The objectives are: to improve the health of the population they serve; to respond to the people's expectations and to grant financial protection against the costs of bad health. The indicator allows us to compare the situation of different countries in the year 1997.[6]

Countries were grouped according to their position, that is, the one with the best performance was given an indicator value of one, with the value increasing according to the reduction in performance. The country with the value of 191 is the one that has the worst performance in the goals corresponding to the index. Unfortunately, these indexes were calculated only for one or two periods in time, and this does not allow one to assess the reforms based on the objectives as stated by the WHO. However, it allows one to know the country's situation compared with others in a given time.

The aforementioned indicators are presented by organizing the countries in the four groups previously developed in Table VIII .1.

In group 1, the country with the highest overall achievement is Canada, but it is also the one that spends the most on health, in a per capita basis, in that group. The difference in terms of positions for overall achievement is very large, and from that, one may infer that the amount of the resources spent on health and the way of internally organizing the system may have a big effect on performance.

[6] The global achievement of the goals is built from five indexes. These are: health level, distribution of health, level of the response capacity, distribution of the response capacity, and the equity index of the financial contribution.

In group II, there are also large differences. Costa Rica, Uruguay and Mexico are the countries with highest performance, while El Salvador and Honduras have the poorest results in the overall achievement of goals. It should be noted that coverage in the three countries with higher achievement, ranges between 41 and 90 per cent, while El Salvador and Honduras coverage is only 15 and 11 per cent of their population, respectively.

The countries in group III rank high in terms of their achievement of goals, among the first 49 countries out of 191. This suggests that, according to the WHO indicators, this kind of system does not necessarily have negative overall effects.

Finally, the United States is the only country in group IV, and has a high position at the world level, number 15. However, its expenditure on health is very high.

In relation to our case studies, if one compares the United States with Canada, the latter ranks above the former in terms of goal achievement and spends half of the resources per capita that the United States spends. In the case of Chile, Colombia and Mexico, the greatest overall achievement of goals corresponds to the highest health expenditure per capita and to the highest coverage.

VIII.3 Reasons for the Reforms

Several countries had reformed or had stated their intention to reform their social security system in the field of health. The main reasons for these reforms are the financial difficulties of the systems and/or political pressures to achieve universal coverage. Some of the main reasons behind these pressures include:

1. A reduction in the funds available to pay for the health social security. In some Latin American countries, when there was no concern for creating financial reserves for the pension branch, part of the surplus funds were used to finance the deficit in health insurance. Once the problem of financial sustainability in the pension systems was identified, several countries made changes to funded retirement systems. In some countries this was done simply by separating the accounts of each insurance branch or changing from a PAYGO system to one of individual accounts. For this reason, these countries no longer use the surplus resources to pay for the deficit in medical insurance, creating a very strong financial pressure on the system.

2. An increase in the cost of healthcare caused by the following facts:

a) The demand for health services has increased due to demographic transition processes from one stage with high fecundity and mortality rates to another with low rates in both cases, and a substantial increase in life expectancy. This situation causes an increase in the number of people aged 65 and over — elder adults. They consume, on average, a larger amount of medical services per capita. The estimations on how much more they consume vary according to the sources and countries involved. It is estimated that for the OECD countries, elder adults use on average four times more medical services than people below the age of 65 (Oxley and MacFarlan, 1994), and in the case of the United States, it is estimated that elder adults consume 165 per cent more than adults between 19 and 64 years old (Cutler, 1997, quoting Fisher [1980][7]). In the case of Mexico, hospital healthcare costs of a 65–69 year old man, at the Mexican Social Security Institute, are three times higher than those of a 40-44 year-old man, while for a 90–94 year-old man the cost is of around nine times that of the reference group (Peña et al, 2003).

b) The epidemiological profile has transformed and is dominated by diseases that cost more to take care of, including cardiovascular disease, cancer, kidney problems and others, such as diabetes and AIDS.

c) There has been a strong increase in prices in the prescription drugs and medical treatments sector. These are improving constantly, due to technological advances, but are also much more expensive. Therefore, it is not clear now, if the medical superiority of the new treatments justifies the excessive increase in their costs. In Mexico, for example, the price index of prescription drugs has increased by twice the average for the consumer price index since 1995 (IMSS, 2002).

Other facts that have influenced the increase in the health expenditure for the case of the United Status are the following (Cutler, 1997): an increase in the population's income that has not translated into a higher demand for services; an increase in the coverage and access to health insurance that has stepped up the service demand as a result of the phenomenon of moral hazard; an increase in the administrative costs and demand, induced by the physicians.

7 Charles R. Fisher (1980) 'Differences by Age Groups in Health Care Spending,' *Health Care Financing Review*, vol. 2, pp. 65–89.

Table VIII.2
Resources invested on the Health Sector (2000) and Global Achievement Goal Indicator (1997)

Group I

Country	National Health Expenditure as a proportion of GDP	Per capita National Health Expenditure (current US$)	Global Achievement of Goals
Canada	9.1%	2,354	7
Barbados	6.4%	915	38
Cuba	6.8%	186	40
Dominica	6.1%	340	42
Trinidad and Tobago	5.2%	468	56
Jamaica	5.5%	208	63
Grenada	4.8%	351	68
Antigua and Barbuda	5.5%	629	71
Saint Lucia	4.3%	272	87
Belize	4.6%	273	104
Guayana	5.1%	197	116
Brazil	8.3%	631	125
Haiti	4.9%	54	145
Anguilla	4.9%*	382*	181

Group II

Country	National Health Expenditure as a proportion of GDP	Per capita National Health Expenditure (current US$)	Global Achievement of Goals
Costa Rica	6.4%	481	45
Uruguay	10.9%	1,005	50
Mexico	5.4%	483	51
Venezuela	4.7%	280	65
Dominican Republic	6.3%	357	66
Panama	7.6%	464	70
Paraguay	7.9%	323	73
Nicaragua	4.4%	108	101
Ecuador	2.4%	78	107
Guatemala	4.7%	192	113
Peru	4.8%	238	115
Bolivia	6.7%	158	117
El Salvador	8.8%	388	122
Honduras	6.8%	165	129

Group III

Country	National Health Expenditure as a proportion of GDP	Per capita National Health Expenditure (current US$)	Global Achievement of Goals
Chile	7.2%	697	33
Colombia	9.6%	616	41
Argentina	8.6%	1,091	49

Table VIII.2 (continued)
Resources invested on the Health Sector (2000) and Global Achievement Goal Indicator (1997)

Group IV

Country	National Health Expenditure as a proportion of GDP	Per capita National Health Expenditure (current US$)	Global Achievement of Goals
United States of America	13.1%	4,499	15

Source: Using data from the World Health Organization. Report on Health in the World. Improving the Performance of Health Systems, Geneva, Switzerland, 2000; and Pan American Health Organization, 2003.

*Data from: 1998.

3. The political pressure for universal coverage, that is more equitable and with more choice of health service providers. As the countries have experienced political development, the lack of universal coverage has come to be considered unacceptable. This also means more financial difficulties for the systems. And even more, there is political pressure to have more choice of hospital and physicians, and this is costlier for the system.

VIII.4 Reforms of the Health Social Security Systems

Reforms differ among the countries, but in general, all of them try to achieve the health system objectives mentioned above. Namely these are: improving the level and quality of health services available to the population through effective universal coverage, in an equitable and efficient manner. In some cases, they have also tried to give the beneficiaries more freedom to choose health service providers.

Reforms may include substantial changes to the system, such as a move from a public insurance to allow the choice of public or private plans, or from a private to a public coverage system. However, there are also cases in which the system is not drastically modified, and only minimal changes are incorporated in the existing schemes, monitoring the same objectives. Most reforms include one or several of the following components (World Bank, 1993; Oxley and MacFarlan, 1994; and Jack, 2000).

a. Eligibility and coverage extension

Some countries have carried out reforms to expand the eligibility of the poorest members of the population to be covered by the health national health system, or by a health social security scheme. In the cases of Canada, Colombia, Ireland, Netherlands and Spain, serious efforts were made to increase coverage.

The coverage increase could be also be obtained with changes in the existing systems, through a reduction in the evasion of affiliation to the system. To raise coverage, policies can also be introduced that augment the perception of the value of the health social insurance. These policies are mainly linked to improvements in the quality of the services, and to guaranteeing the existence of resources to provide the package of benefits. One example of a policy to increase the value of services for the individuals would be the availability of prescription drugs so that persons may buy them after the medical consultation, thus reducing their out-of-pocket expenditure; another example is to increase the capacity to choose physicians or hospitals within the existing network of providers, and achieve a reduction in waiting times.

b. Increase efficiency through initiatives for cost containment

Some countries have introduced cost containment policies, that is to say reforms that affect the supply of health services. Cost containment can be achieved both in inpatient and outpatient services, and in the expenditure on prescription drugs. The control of costs is easier if there is monopsonistic power, that is, if there is only one buyer of services and prescription drugs, who may force negotiations with suppliers.

In the case of hospital services, some costs control techniques include:

1. Global ceilings on the hospital budget, as in the case of Canada.

2. Control over the number of new hospitals and costly medical equipment, also used in Canada.

3. Prospective budget, that is, a fixed amount is paid according to the diagnosis, and not a payment for service, as in the case of Medicare in the United States.

The cost control in outpatient services includes: negotiation of fees for outpatient services at the central level; ceilings to the budgets of physicians and other health professionals; and the adjustment of relative prices of medical services.

Finally, the cost containment of pharmaceutical products is achieved through the establishment of limits in the prescription drugs to pay for, using positive and negative lists, the control of prices and of the sector's profits, and an increase in the incentives for using cheaper generic products.

c. Increasing the productivity of resources

The increase in the productivity of resources has been sought in several forms. Some countries such as Colombia and Chile have changed from a public insurance to a public- private combination. which stresses the freedom of choice that the consumer makes regarding the insurance company that will cover him/her. This freedom of choice tries to increase productivity through a regulated competition among insurance companies — managed competition.

There have been other types of reforms that aim at increasing productivity by creating competition among providers, with policies of freedom of choice, such as in Sweden, Great Britain and other European countries, which introduced reforms with different forms of 'social markets', establishing a division between buyers and providers. The political control is restricted to buyers, among whom there is no competition. Most providers — hospitals and physicians — stayed public, but there is now competition among providers because the patients can freely choose their physicians and hospitals. There are contracts between local buyers and the providers, but the patients may choose any provider, regardless of the contract he agreed upon with the buyer. There is a strong priority given to free choice (Diderichsen, 1995).

There are many studies about health systems reforms (Cutler, 1997; Harvard School of Public Health, 1996; Jimenez and Bossert, 1995; Oyarzo, 2000; WHO, 2000; Oxley and MacFarlan, 1994; PAHO, 1998 (a); PAHO, 1998 (b); PAHO, 2000; Phelps, 1997; Rosen, 1999; Yepes and Sánchez, 2000; Frenk et al., 1994; Frenk, 1995; Frenk, González et al., 1999); however, they do not present a general framework of health social security that includes all the possibilities of organization applicable to the countries of the continent, such as the one stated in this section.

VIII.5 Case Studies of Reforms to the Health Social Security Systems

This report includes the analysis of the reforms in five countries of the continent that were considered relevant for the study of social security in health care. The cases of Chile and Colombia are interesting because their reforms introduce an element of freedom of choice and competition between public and private insurers and providers. Chile's case is perhaps one of the most well-known. It includes a compulsory medical insurance where families may choose between private insurance companies (ISAPRES) and the public insurance fund (FONASA). As the government is not the only insurer, there is an analysis for the Chilean case. regarding the existence of the "market failures" explained above, such as adverse selection by the insured, and risk selection by the insurance companies. These problems are investigated in this report, and have also been studied before (Sapelly and Torche, 1998; and Sapelly and Vial, 2001). The study also includes whether there is equity in the financing of the system (Bitrán et al, 2000). The other case of study is the Colombian health system reform, where one of the goals was to achieve universal coverage through public and private insurance. A series of regulations were introduced to reduce the problems found in the Chilean system related to adverse selection and risk selection, which includes a compulsory insurance for the whole population, the obligation for the insurance companies to sell insurance to anyone who requests it, a unique premium with risks adjustment for each system — subsidized and compulsory — that covers a minimum service package, which may be extended. Another objective was greater equity in the financing of the system.

Before the reforms to the health social security systems in the United States and Canada, most of the insurance was provided through private health plans, offered by employers. The reform in the United States is focused on the coverage of certain population groups. Medicare covers the elderly population and Medicaid, which is a welfare program, covers certain low income population groups. The main problem faced by this country is that its health expenditure increased considerably between 1960 and 1990, from 5.1 to 12.2 per cent of its GDP (Cutler, 1997). For this reason, the changes in these programs have been directed towards containing cost inflation. In addition to understanding the particular case of the United States, by studying its problems one may gain insight into the effect of different-cost containment mechanisms that could be applied in other countries.

Another interesting study case is that of Canada, where there is universal coverage. The health insurance is organized by the provinces and is financed through general taxes. The costs of the Canadian system have not increased as much as in the case of the United States, because they have used global budget caps as cost containment mechanisms. It is interesting to analyze how these global budgets work, what type of policies are implemented to contain cost inflation,

and what effects these have on the service quality as perceived by Canadians.

Mexico's situation will be also analyzed. Although this country has not carried out a structural reform of its health system, changes have been made to separate the health insurance financing — sickness and maternity — from others, as well as modifications of the proportion of the payroll taxes paid by workers, employers and the government. The Mexican case presents a series of effects that could be present in other countries of the Americas, where insurance is compulsory but linked to employment in the formal economy, such as the existence of adverse selection, because the employees may choose whether to enter a job covered by social security or not, that is, to be in the formal or informal economy. The second point to analyze is equity in coverage and the financing of the system. Recent studies show that the financing of the Mexican health scheme is inequitable, both horizontally and vertically (Arzoz and Knaul, 2003).

VIII.5.1 United States

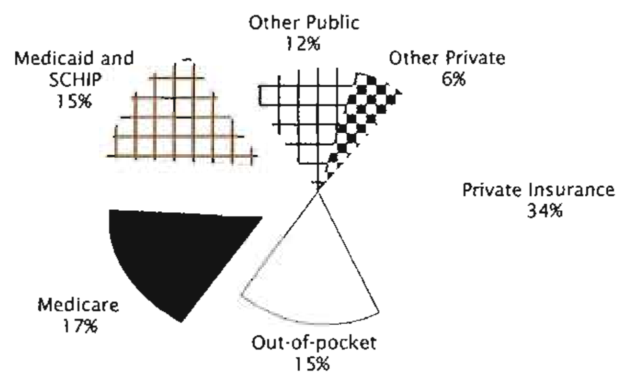
The US healthcare system is a mixed one. Approximately one-third of the Americans are covered by private insurance, mainly purchased through the workplace. Social insurance coverage is targeted at specific population groups and it is provided through Medicaid, SCHIP and Medicare programs. Medicaid and SCHIP are state-run, partially federally funded, health insurance programs for the needy (CMS, 2002). Medicare, which the federal government provides to everyone over 65 years of age is financed through payroll taxes. Approximately 14.2 per cent of the US population is uninsured. The uninsured includes undocumented immigrants, the working poor who earns too much to be eligible for Medicaid and middle class people who choose not to buy health insurance. These individuals rely on free or subsidized public services as well as emergency room care. As is shown in Figure VIII.1, health expenditure in Medicaid, SCHIP and Medicare was over 30 per cent of the total health spending of the country on the year 2000.

While the international perception is that the US system is mainly for-profit, it is actually a mixed system. Only 18.1 percent of US hospitals are for-profit (AHA, 2000). The majority (53.3 percent) are private non-profit and the rest are public. More than half of health insurance coverage is provided by the government.

VIII.5.1.a Recent Trends in Healthcare costs in the USA

Over the 1960-90 period, US healthcare expenditure increased dramatically from 5.1 per cent of GDP in 1960 to 12.0 per cent of GDP in 1990. As a result of

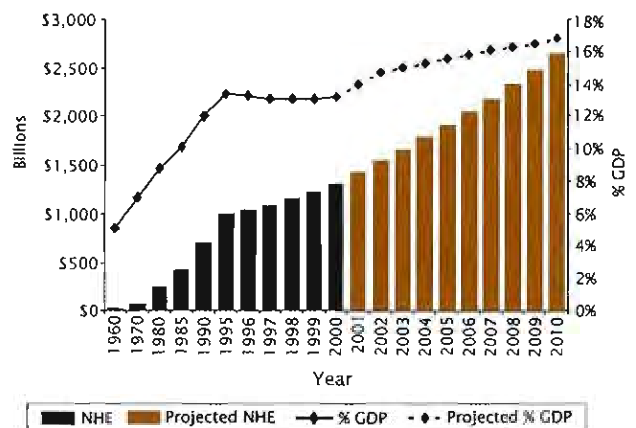
Figure VIII.1
US Health Spending (2000) by Category (Total Health Spending = $1.3 trillion)



Source: CMS (2002).

the reforms undertaken on the 90s, medical cost inflation was low by historical standards. For most of the 1990s, however, annual health expenditures as a percentage of GDP actually fell or remained constant at around 13.0 per cent of GDP (Henderson, 2002; see Figure VIII.2). The latter corresponded to a huge rise in managed care in the USA.

Figure VIII.2
US National Health Expenditure in billions as GDP Share



Source: CMS (2003).

There are three rationales that have been put forward to explain the slowdown in health care costs during the 1990s (Glied, 2003). First, unlike in the past, most technological changes during the 1990s occurred in the pharmaceutical industry rather than in medical care. Second, the insurance market during this period was characterized by intense competition and relatively low health insurance premiums. Third, managed care became more prevalent and health

maintenance organizations were able to keep healthcare costs down by, for example, reducing the prices paid for services and by negotiating discounted prices with suppliers of health services.

Given that most health economists believe that rapid medical technology diffusion is the main cause of medical inflation, it may be that managed care limited the use, or overuse, of medical technology (Glied, 2003). At its core, managed care is a market innovation where markets imitate governments.

Prior to the 1990s, American consumers and their doctors made these decisions in the USA, only restricted by the co-payments set by fee-for-service insurance contracts.[8] In response to the resulting medical cost inflation, managed care developed, negotiating prices, administering decisions about levels of care, and capping costs.

Managed Care has mechanisms that could theoretically limit technological growth. The latter could be explained by a theoretical model developed by Baumgardner (1991). In general, patients covered by a health insurance over-use health services because they do not face the full market price of these services, this is the previously explained moral hazard problem. The introduction of technical boundaries for treatments, a feature of managed care, limits this excess use of medical services.

Managed care has the potential to limit this inefficient health expenditure and medical cost inflation through three mechanisms. These mechanisms also have the danger of inhibiting technological growth in healthcare. First, consider the steering mechanism, where managed care firms selectively contract with providers. Those providers not willing to offer low prices may be excluded from contracts. Thus, new technologies may not be a good investment in the short-term, which may stem the long-run cost increases. Second, consider the capitation mechanism, where consumers pay for all medical costs with a fixed fee, thus shifting much of the risk to providers. This may also dampen expected returns on medical technology investments. Third, management and/or gatekeepers may limit the amount of care that consumers receive. In some cases, the manager may not itself make technological investments. In other cases, the manager may not allow another provider to use the expensive technology.

Over the period of 1993–1997, which corresponds to the period of lower inflation growth, managed care grew by almost 70 per cent, until it served 72 per cent of all those insured (Glied, 2003; Health Insurance Association of America, 2002). There are many incentives and limits use in these plans.

VIII.5.1.b Medicare program cost control

Many of the proposals to control the costs of medical care in the USA focus on government programs because they represent roughly half of total national medical care expenditure. In 1983, the US government changed the way in which it reimbursed hospitals for Medicare expenditures from a cost-plus basis to a prospective payment system. Under the old scheme, hospitals would provide services to those eligible and the hospital would be reimbursed for the cost of providing the actual service. This system spiralled out of control since — by design — it led to increases in the volume of services provided. Moreover, hospitals became inefficient due to excessive capital investments to handle the increasing volume of services.

In response, the US government developed a prospective payment scheme by which hospitals would be reimbursed a given amount based on the diagnosis of the patient rather than on a per-service basis. Under this system, charges are reimbursed based on diagnosis-related groups (per-case basis). The main goal of this approach was to create incentives to reduce costs. Indeed, research on the Medicare prospective payment system suggests that the scheme led to substantial reductions in Medicare hospital expenditures — in the order of 20 per cent from the projected figures — through lower hospital admissions and shorter hospital stays (Russell and Manning, 1989; see also Meltzer, Chung and Basu, 2002).

VIII.5.1.c Medicaid Managed Care

Felt-Lisk and Yang (1997) report that by 1996, 23 per cent of all Medicaid patients were under *fully-capitated* managed care plans. The growth between 1993 and 1996 was, incredibly, 196 per cent. By 2002, the percentage of Medicaid patients in managed care (including non-capitated) was 58 per cent (Hurley and Somers, 2003). Felt-Lisk and Yang (1997) also show that 63 per cent of plans that began serving Medicaid patients were new plans, as opposed to adding Medicaid patients to plans that existed before they began attending to Medicaid patients. Eighty-one percent of those plans were exclusively Medicaid. However, Draper et al. (2002) report that as of 2002, Medicaid Health Maintenance Organization (HMO) plans are being discontinued at high rates.

[8] Some have argued that supplier-induced demand also contributed to high medical inflation. We do not dispute the point, but without a low co-payment, suppliers would not be able to induce demand substantially.

VIII.5.1.d Spillovers

The three pillars of the US system, Medicaid, Medicare and private insurance, all underwent different reforms in the 1990s. However, all three experienced similar declines in inflation over that period. Clearly, the three systems are linked.

If limiting technology is the key to arresting the inflation during the 1990s then there are two possible explanations. Consumers in the three systems often use the same hospitals and the same doctors (this is less true in the Medicaid case). Therefore, it may be that provider practice patterns change with reforms in one of the three parts of the system. Another explanation may be demand-related. If consumers with private insurance demand services, this demand may spill over into Medicare and Medicaid.

VIII.5.1.e Managed Care and Technology: the Empirical Evidence

As described above, Baumgardner (1991) argues that managed care mechanisms can decelerate the spread of medical technology. We have argued that technology spread is the prime cause of medical cost inflation. We have also seen that medical costs and managed care penetration rates nationwide are negatively correlated. But, what is the evidence empirically of direct effects of managed care on medical technology.

Baker (2001) also looked at hospital adoption of medical technology, magnetic resonance imaging (MRI) and managed care penetration from 1983 to1993. His calculations indicate that there were over 20 per cent less MRIs purchased because of HMO pressure. Cutler and Sheiner (1998) show that managed care penetration at the state level is negatively associated with medical technology diffusion.

However, the evidence on managed care and technical diffusion is not without ambiguity. Hill and Wolfe (1997) compare the proportions of area hospitals with CT scanners, MRIs, single position emission computerized tomography machines, lithotripers and megavoltage radiation in six cities. Madison — which had a formal program promoting HMO for state employees — had similar proportions of hospitals offering those services as cities without such programs. However, Hill and Wolfe (1997) did not statistically model the diffusion process.

VIII.5.1.f Managed Care and Costs: the Empirical Evidence

Managed care probably reduced technology diffusion. However, managed care brought other pressures to bear on medical markets. Miller and Luft (1994) survey the literature on the effects of managed care on various measures of health costs. Five studies show an inverse relationship between health costs/ utilization and managed care penetration, three studies show a positive relationship and three were ambiguous. Feldman, Dowd and Gifford (1993) show that firms which offer HMO coverage face increases in average premiums *within the firm* in comparison to firms where only fee-for-service is offered. Gaskin and Hadley (1997) show that hospital costs decline in areas with managed care penetration. Most studies of health service utilization confirm the results from the RAND experiment, where utilization declines for holders of managed care insurance.

Although the findings from the empirical literature on managed care and costs appear to be mixed, Brown (2003) notes that premiums could be higher than expected given medical cost reductions due to local competitiveness in insurance markets. Therefore, costs could be declining, but the inverse relationship between *premium* costs and managed care might not be observed.

VIII.5.1.g Changes in Managed Care and Health Costs

We have seen that the deceleration of medical cost inflation was contemporaneous with the increase in managed care. We have also seen that there is good evidence — although mixed at times — that technology and health costs grew more slowly or declined in areas with more managed care. However, medical cost inflation appears to be returning. Struck and Ginsberg (2003) have shown that private healthcare spending grew by 9.6 percent in 2002. In 2001, the growth was ten per cent, as noted earlier. The culprits appear to be a return to hospital inpatient and outpatient spending as well as physician spending. Hospital prices are increasing. Prescription drug spending is not increasing as much as are hospital and physician spending. Thus, are these spending increases due to changes in managed care practices and/or provider responses to those practices?

Robinson (2001) notes the 'return of consumerism' in healthcare, where managed care is 'retreat[ing]' in making decisions about healthcare while consumers are returning to their central place. Mainly, it is the less restrictive preferred provider organization-type limitations that are surviving, and even that is less contentious.

Draper et al. (2002) surveyed 220 managed care plans for 50 firms in 12 markets. Almost all of the managed care firms are developing plans that offer enhanced consumer choice over both choice of providers *and* use of services. Managed care firms also report the desire to ease price negotiations with healthcare

providers. Finally, risk sharing through capitation is less popular than before among managed care firms. Some plans are starting to increase co-payments, the traditional fee-for-service mechanism to limit moral hazard.

There are several factors that can explain the projected increases in healthcare costs in the near future. First, technological changes are no longer limited to the pharmaceutical sector but they are now taking place in areas such as hospital inpatient and outpatient sectors (Struck, Ginsberg and Gabel, 2002). Second, insurance companies are no longer interested in increasing market share by reducing premiums but rather they are increasing premiums aggressively to stay in the most profitable areas of business. Third, cost reduction strategies — such as reducing prices paid to providers and monitoring service provision — are becoming more difficult to implement and sustain due to a lack of support from consumers and service providers.

Other factors that are important in explaining expected increases in healthcare costs include the demographic transition resulting from population aging and the epidemiological transition towards illnesses that are more costly to treat such as heart disease, cancer and diabetes.

During the President Clinton's administration there was a strong debate in the United States centered on whether the government should intervene more in the US health system. On one hand, there are the critics who believe that the private sector is developing effective cost containment mechanisms such as the Health Maintenance Organization (HMOs), and on the other hand there are those who think that the State's intervention is imperative to reduce the number of uninsured (Rosen, 1999).

The main debate was based on a regulated competition scheme as a possible reform. This system proposal included the following characteristics: A cooperative that would be created to organize the buying of healthcare within each region. The cooperative would establish standards for the health plan of the zone and would contract this basic package with eligible providers. There will be an annual affiliation period. Universal coverage through public subsidies for those that otherwise would not be covered, so that they might buy the package.

VIII.5.2 Canada

The Canadian approach to health care delivery is based on a national health insurance system. Under the 1984 Canada Health Act, each province administers and delivers health services, which are mostly provided free of charge. Service providers are paid on a fee-for-service basis. Most of this system evolved out of the need to provide adequate healthcare services in a country characterized by provinces with a large low-income rural population. The system provides complete health insurance coverage and there are no limits on the benefits that individuals can receive during their lifetime (Santerre and Neun, 2004).

Although the cost of the Canadian healthcare system was originally shared by the provincial and federal governments, the system was replaced with population-based grants to the provinces in the late 1970s. The effect of this funding mechanism change has been that the federal cost share of the health care system has fallen substantially over the last two decades. The federal cost share has decreased from half in the 1970s to roughly one-fifth in the second half of the 1990s (Naylor, 1999).

To cope with recent cost increases, provinces have been forced to reduce public healthcare spending and some of these expenditures now take place in the private sector. Moreover, provinces have reduced physician fee schedules and they have adopted limits to the amount that healthcare practitioners can bill within a given time period (Henderson, 2002).

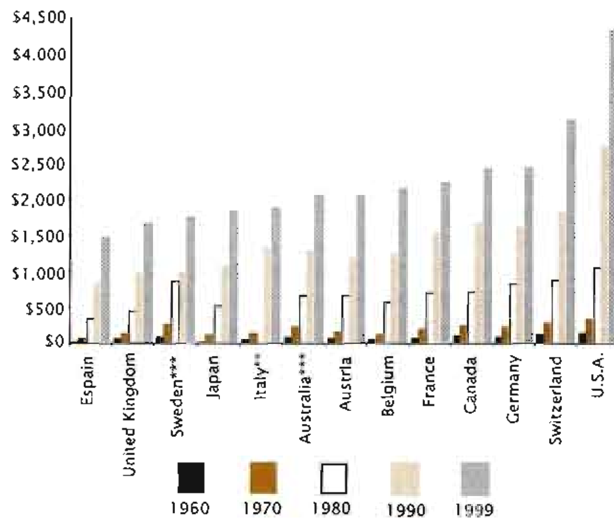
VIII.5.2.a Trends in Healthcare costs in Canada

Healthcare spending as a percentage of GDP has grown much more slowly in Canada than in the USA. In 1970, healthcare spending represented 7.2 per cent of GDP in Canada and 7.4 per cent of GDP in the USA (see Figure VIII.3). By 1987, spending had increased to 8.6 per cent in Canada and 11.2 per cent in the USA. Healthcare spending per capita in Canada increased from US$710 in 1980 to US$2,428 in 1999. In the USA, per capita spending increased from US$1,058 to US$4,373 during this same period (CMS, 2003).

Canada has been able to control healthcare costs by regionalizing services. Health-related resources are allocated by the government, which in turn takes decisions on issues such as the level of capital investment in hospitals, the regional location of doctors and specialists and where costly high-tech services should be adopted and used. The end result is that medical technology is less extensive in Canada than in the U.S. (Harriman, McArthur and Zelder, 1999).

It is possible that the USA just has excess capacity in high-tech services compared to Canada. However, waiting lists for many diagnostic and surgical procedures are very common in Canada, which suggests that there are shortages in many service areas, particularly those dependent on expensive medical technology. Long waiting times have a

Figure VIII.3
Per capita Health Care Expenditare, OECD: 1960-1999



Source: CMS (2003).

detrimental effect on the elderly because they do not have the necessary financial resources to have medical procedures conducted by private physicians.

Another measure that has contributed to the slowdown in healthcare expenditure growth includes global budgeting. For example, hospitals are provided with a given budget to serve a certain population. In this scheme, resources are allocated at the hospital level, which reduces costs but could lead to scarcity in the provision of services (Henderson, 2002).

Still, the availability of health services at little or no cost to the consumer results in a relatively high quantity demanded of health services. This will inevitably lead to expenditure increases or to long waiting times.

VIII.5.2.b Concluding Remarks

From 1960 to 1990, US healthcare expenditure grew tremendously but then remained constant throughout most of the 1990s due primarily to the advent of managed care. Health care costs are expected to increase as a result of technological changes in hospital services, increased insurance premiums, difficulties expected in reducing the prices paid to providers and in monitoring service provision, population aging and the epidemiological transition towards conditions that are relatively costly.

Managed care seems to be the most promising way of containing increasing healthcare costs. The system accomplishes cost reductions by allowing for selective contracting with providers, reducing the adoption of new technology and by reducing the level of care received. In the last few years, it appears that providers have shifted managed care off a major part of their mission: controlling costs. It remains to be seen whether these measures are effective in the control of healthcare costs in the USA.

VIII.5.3 Chile

VIII.5.3.1 Social Security Health Reforms

The reforms were initiated in 1979, during the military period, with the creation of the National Health Fund (FONASA). The health ministry, which had historically been the basic provider of services in the country, has been progressively maintaining only a guiding and regulating role; the FONASA performs insurance and financing functions; and the regional health services handle the supply of services. The 28 health services offer medical and health assistance to the population in a specific geographical zone through its establishments and care units.

The existence of Welfare Health Institutions (ISAPRES) was authorized in 1982, allowing private companies to participate in the management of the compulsory health contributions, but it was not until 1986 that the system went into operation. Since then, there have been two types of insurance: one public, the FONASA, which covers the indigents and low-wage earners, and a private one, formed by the ISAPRES, covering high-income contributors.

On the other hand, in the area of regulations, and with the purpose of enhancing the performance of the private system, the control of these institutions, initially exercised by FONASA, since 1990 has been carried out by the Superintendence of ISAPRES, an organization of a technical nature in charge of monitoring and checking that regulations are observed.

The new policies proposed the decentralization of medical service benefits and encouraging the private sector to collaborate in this service, guaranteeing free choice for users, ending the differentiation between blue-collar workers and employees, intensifying preventive measures and expanding coverage, controlling and regulating private practice in hospitals, and applying the 'subsidiary State' principle, subsidizing medical attention only in those cases where the individual cannot afford it. The rest should pay according to their income.

VIII.5.3.2 Public Health System (FONASA)

The FONASA is financed with a premium that is equivalent to the legal compulsory health payroll tax — seven per cent of remunerations — and with fiscal

resources. FONASA does not apply risk evaluations before admitting a beneficiary, so any person with a pre-existing illness, or who is not able to access an ISAPRE because of his age, may freely affiliate to the public system. FONASA compensates, either totally or partially, the health services offered by professionals and institutions in the public and private sector with which it has an agreement.

The FONASA operates through two care modes:

- *Institutional mode:* care restricted to the physician and hospital public network, where each individual pays a percentage of a pre-defined fee, according to his/her income — the lowest payment is zero.

- *Free choice mode:* a mode through which individuals may choose private health providers from a list of those registered in the system, paying for each service an amount that is determined according to a fee that is fixed annually by the Health Ministry.

Ambulatory and hospital services are offered in both modes.

Those insured in the public system for institutional attention — in public establishments — are classified in four groups, A, G, C and D, according to their income level -where lower income individuals belong to A. The percentage of the value of the services or co-payment to be paid by the user is determined for each group.

In the institutional mode, users classified in groups A and B receive free care, those in C make a co-payment of ten per cent of the value of the services, and those in D pay 20 per cent, except in the primary care level, where they also receive free services and are able to receive services through the whole National Health Service System network, that is, in public hospitals, primary care, rural centers and emergency services. In the free choice mode, it is estimated that users pay approximately 50 per cent of ambulatory care and around 90 per cent in cases of hospitalization.

VIII.5.3.3 Private Health System (ISAPRES)

The ISAPRES offer multiple health plans to their beneficiaries and each person selects his/hers according to income availability or preferences; it is possible to make additional contributions to one's legal health payroll taxes to enhance coverage.

Health plans offer ambulatory and hospital coverage that is generally associated with the free choice of service providers. It is important to point out, however, that there is no legal restriction on establishing plans limited to certain providers, either independently or in agreement with the ISAPRE. In fact, the most valued trend is offering health plans including a total free choice alternative and an option based on the selection of providers defined by the ISAPRE as 'preferred providers'.

Service coverage for each health plan sold is established as a reimbursement percentage and a maximum amount per service. The ISAPRE coverage level allows co-payments to be between 30 and 40 per cent of total service costs. However, if the preferred provider network is utilized, co-payments may even amount to zero. Starting in 2000, an insurance against catastrophic diseases was introduced, through which maximum co-payment for any illness may not exceed an amount equivalent to two salaries — 30 contributions — in a two-year period.

VIII.5.3.4 Comparison of the Public and Private Systems

The public sector has a coverage plan that is easy to understand, while the private sector has complex plans that are more opaque. An undefined contract with no price or benefit modifications is made in the public sector and its cost is equal for everyone — seven per cent of income. In the private sector on the other hand, the premium depends on observable risk characteristics, age and gender, and contracts are subject to an annual review, both of prices as well as of benefits. Another advantage of the public sector is that it has good national coverage.

The characteristics of the public sector make it a last resort insurer. This allows individuals who are not covered by the private sector, due to a lack of resources to pay for the premium or because of pre-existing medical conditions, to use the public system where there is no risk evaluation. The problem, of course, is that the public system becomes more costly by receiving a higher risk group.

With respect to the private sector, its advantages include the fact that individuals enjoy free choice and that co-payment disbursements made by individuals are protected by th catastrophic expense insurance, which are features that the public sector does not possess. Another advantage is that it has good medical and administrative management, unlike the public sector, where resources have increased significantly without the corresponding improvement in productivity. Finally, another advantage of the private sector is that it does not have waiting lists, as is the case in the public sector. Currently, according to the figures in *Altura Management's* 2002 study, there were 50,000 persons in the public sector whose care had been postponed up to a year.

VIII.5.3.5 Coverage

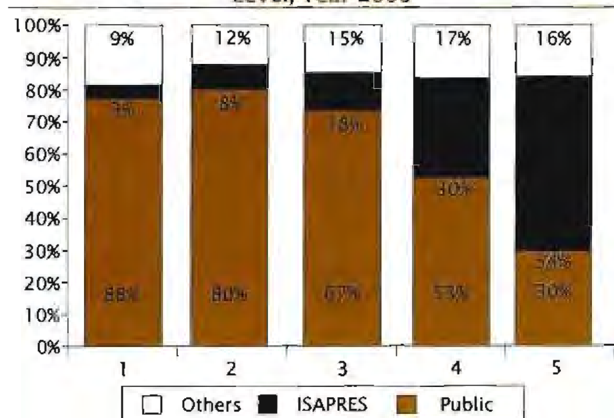
Around 1979, the health system, including the Armed Forces' (FFAA) health service, covered 90 per cent of the Chilean population. The rest were serviced by the private sector. This implies that even during those early years, the coverage of the health scheme was quite extensive, so directing policies at this issue is therefore not fundamental.

By the year 2000, the population had been distributed among the different welfare systems taking advantage of affiliation freedom. Thus, 66 per cent was in the public system, 20 per cent in the ISAPRES, three per cent in the FFAA system and the remaining 11 per cent was declared as having no coverage. However, it should be considered that the uncovered population in 60 per cent of the low income strata belongs to the public system, since in situations of need it will be able to access this network without being rejected — 6.2 per cent of the population. Under this consideration, actually only four per cent of the population is not insured and 73 per cent is under FONASA.

Due to the design of the health system, the population that is able to transfer to the ISAPRES corresponds to that with the ability to pay for the value of its plan, either through their legal contribution — seven per cent on income — or with an additional fee to the payroll tax. This mechanism translates into the fact that the ISAPRE system, by having high premiums, attracts a population with a high socioeconomic level more easily, as shown in Figure VIII.4. Here one can observe that in the year 2000, the population covered by the ISAPRES was only three per cent for the first income quintile — the most impoverished 20 per cent — while for the fifth quintile — the wealthiest 20 per cent — it was 54 per cent. The opposite is true in the public system of FONASA, which covered 88 per cent of individuals in the first income quintile and only 30 per cent of those in the fifth quintile.

Before studying insurance evolution by sector, one must keep in mind that healthcare has expanded since the 1970s. In fact, the consultation rate observed in 1960 was 1.03 per inhabitant per year. According to the last available figures, in the ISAPRE system alone that rate in the year 2000 reached more than 3.6 annual consultations per person. In this sense, it may be considered that the evolution of the Chilean health system has been remarkable with respect to service access, reaching international health service demand levels, with high participation from the private sector as insurer and provider.

Figure VIII.4
Population by Welfare Institution According to Income Level, Year 2000



Source: With data from the Socioeconomic Characterization Survey (CASEN) 2000. Ministry of Planning and Development (MIDEPLAN).

Table VIII.3
Participation of the Public and Private Insurance Sectors, by Income Quintile

Year	Quintile I		Quintile II		Quintile III		Quintile IV		Quintile V	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
1990	85%	3%	79%	7%	70%	11%	58%	22%	37%	41%
1992	83%	5%	74%	12%	64%	17%	50%	29%	30%	46%
1994	85%	6%	76%	13%	65%	22%	50%	34%	30%	53%
1996	84%	6%	71%	14%	60%	23%	45%	35%	35%	56%
1998	86%	4%	74%	13%	62%	21%	47%	33%	26%	55%
2000	87%	3%	80%	8%	67%	18%	53%	30%	30%	54%

Source: With data from the Socioeconomic Characterization Survey (CASEN) 2000. Ministry of Planning and Development (MIDEPLAN).

As can be observed in Table VIII.3, from 1990 — when the private system was already consolidated as an alternative to welfare health in Chile — until the year 2000, insurance has shown a similar trend in each income quintile with regard to public and private insurance (a quintile being a group including 20 per cent of individuals); in the table, level I corresponds to those with the lowest income and V to the highest. One aspect that it is important to point out is that even when private sector participation in low income levels has not been very frequent, it has been capable of attaining levels close to 15 per cent — year 1996, quintile II —, showing until that period a sustained participation increase in every level. However, beginning in the year 1996, it has started showing a sustained decrease in every income quintile, with the exception of the fifth.

The most significant changes in participation are observed in quintiles II and III, corresponding to middle class levels, which are very sensitive to price. These people entered the system during the massification period prior to 1997 and must abandon it when prices increase to levels they are not able to pay. For them, the public system is an alternative, so at a certain benefit/price relationship level they will opt for the public scheme alternative.

The future tendency will basically depend on the legal reforms introduced, on the evolution of the economic situation and on the level of employment, since this determines the universe of contributors and their distribution between the FONASA and the ISAPRES.

VIII.5.3.6 Access to Health Systems

First, it is necessary to emphasize that in Chile, because of the geographical coverage of the health network, general access to ambulatory care is adequate and, furthermore, the care offered by hospitals is perceived by its users as adequate. The main problem that has been detected with respect to healthcare is in the area of hospitalization, where long waiting lists were registered in the public system.

On average, 72 per cent of the population who have experienced an illness or accident received medical attention for the said event. It must be remembered that an important part of the remaining 28 per cent of the population may have not requested care because it was considered unnecessary for such an ailment.

Table VIII.4 indicates that the level of satisfaction over the attention received is adequate for every income quintile, and for both systems. The percentage of the population perceiving the attention received as very good and good is slightly higher among those people covered by private insurance.

VIII.5.3.7 Adverse Selection and Risk Selection

Based on the conceptual framework developed at the beginning of the chapter, this section focuses on whether the Chilean case presents adverse selection and risk selection problems. In traditional social security systems there was no concern regarding their emergence since public insurance existed, and it was expected that the state would not exclude any person because of their risk level. However, when there is a combination of public and private insurance organizations in the system, this problem may arise.

Risk Selection

This occurs because it is not possible for insurance companies to be aware of the clinical history of individuals and thus it is not possible for them to know which have higher risks. They aim to exclude them according to their expected risk. This is estimated through variables such as age and gender, and in addition, those people with pre-existing illnesses may be directly excluded.

For the analysis, the so-called income effect, which implies that an important part of the Chilean population to have a contribution that is insufficient to purchase a health plan in an ISAPRE, was isolated from the analysis. This is necessary because it is possible to establish that the distribution of insured individuals between the public and private systems is not fortuitous. To this end, only the population in income quintiles III, IV and V was included since they represent 90 per cent of the population of these private institutions.

Thus, the profile by sex and age of the different health systems for the Chilean population located in the

Table VIII.4

Percentage of Population Perceiving Health Care Services Provision as Good or Very Good, by Income Level

QUINTILE	I	II	III	IV	V	TOTAL
Public	78.5	81.5	83.0	82.8	84.6	81.2
Private	93.2	92.0	95.0	94.5	95.0	94.4

Source: Data from the Socioeconomic Characterization Survey (CASEN) 2000 data. Ministry of Planning and Development (MIDEPLAN).

three higher income quintiles was analyzed. It was found that traditionally high-risk groups, made up of people over 60, are mostly concentrated outside the ISAPRE system. This phenomenon can be observed, although to a lesser extent, at ages starting even at 50. This suggests that there is a risk selection problem on the part of private insurance companies. This problem is magnified by the charge structure of the public sector, since here the charge is not made by risk differentiation and people with pre-existing medical conditions excluded from the private sector are accepted. The phenomenon affects the public insurance organization, which ends up receiving a high-risk group.

In order to quantify the size of the problem, an estimate of the risk factors based on premiums charged by the ISAPRES for different age and sex groups was made, and it is shown in Table VIII.5. The risk factor indicated in the table expresses the relative price difference —and expected costs — that should be paid by each individual. For example, a 25 year-old male contributor in a value 1 plan must pay one fifth of the amount paid by a 65 year-old man. It is important to point out that the table shows a third price discrimination factor referring to the type of person insured — contributor, spouse and other —, however, this differentiation is not originated based on the expected health risk level, but aims to show the difference in expected costs that is generated between the female spouse and the female contributor or worker due to the effect of the cost of medical leave that must be assumed in the case of the female contributor.

A relative risk factor in the population affiliated to the public sector and to the private sector by age and gender group was estimated with the purpose of measuring the effect of induced selection on the public sector.

As above, for the purpose of isolating the income factor, only the national population in income quintiles 3, 4 and 5 is compared to the population affiliated to the ISAPRES, since it is at these levels that 90 per cent of the population in private institutions is concentrated. Otherwise, the comparison would not only reflect risk differences by sex and age, but also the economic inability to enter the ISAPRE system due to insufficient resources.

The results obtained indicate that the average risk factor, based on the age and gender distribution of the quintiles of the whole national population selected, is 2.02. It was found that the average risk factor for the ISAPRES is lower than the one for the population as a whole, 1.74, and that the risk factor for the public sector is much higher, 2.57.

From these results, the higher expected health risk level is equivalent to the difference between the average national risk factor and the average risk factor prevailing in the public sector: 2.57/2.02, that is, 27 per cent.

If one were to assume that the average risk factor is a predictor of the expected health service demand level and, consequently, of the health cost in each age and gender group, it should be expected that the public sector will spend 27 per cent more on resolving the health problems of its covered population than if this were distributed as the total population.

Table VIII.5
Risk Factors

	Social Insurance Tax Payer		Spouse	Others	
Age (years)	Men	Women	Women	Men	Women
0-11 Months	1.00	3.40	2.50	2.00	2.00
1-17	1.00	3.40	2.50	0.80	0.80
18-24	1.00	3.40	2.50	0.90	2.50
25-35	1.00	3.40	2.50	1.00	2.50
36-40	1.00	2.90	1.90	1.00	2.50
41-45	1.30	2.60	1.80	1.30	2.30
46-55	1.60	2.60	2.40	1.60	2.60
56-60	2.60	2.80	2.80	2.60	2.80
61,65	3.00	3.00	3.00	3.00	3.00
Over 65	5.00	5.00	5.00	5.00	5.00

Source: Author's elaboration based on the different risk tables used by the different ISAPRES in the market.

Adverse Selection in Some Types of Insurance

Adverse selection results from persons including or excluding themselves from a voluntary health insurance depending on their individual risk situation, that is, their personal clinical history that is not known by the insurance company. In this case, when speaking of an adverse selection problem, given that the Chilean system is indeed compulsory, one is rather thinking of an adverse selection problem on the part of individuals towards the private or public system, according to what is more convenient.

The only way for the ISAPRE to determine the risk level of a potential client is through a health statement, which is assessed by the ISAPRE to determine whether that client should be admitted or rejected. However, only information regarding past pathologies is voluntarily included in the statement, omitting the family's clinical history or the intention of future pregnancy, which may be a significant predictor of the future risk level. For these reasons, the health statement as a containment measure for the adverse selection problem is relatively vulnerable.

With respect to pre-existing undeclared pathologies, the ISAPRE has a certain safeguard in that it may request past medical records during the first five-year term of the contract and may end that contract if it perceives wilful misconduct in the omission of information provided in the initial health statement. However, this investigation is complex. With respect to the topic of maternity, there is no possible safeguard because complete maternity coverage must be granted after nine months in the life of the contract.

With regard to the 'private information' effect as a determinant of a bias in selecting a health system, there is empirical evidence that this factor has an effect on the profile of the population in the ISAPRE sector. In fact, studies made by Sapelli and Torche in 1997 suggest that people with private information regarding their health condition — which does not affect the price of the insurance — are capable of generating an adverse selection problem in the Chilean private health system. Even among individuals that are comparable in age and family group composition, the persons who have more health problems end up in the private system.

Another clear indicator pointing in the same direction is the fact that, as has been observed, the group of fertile women is relatively more concentrated in the private sector. This can clearly be associated with the 'private information regarding pregnancy intentions' factor, which the ISAPRE is not permitted to determine when a female client is admitted. The birth rate for every 1,000 inhabitants in the private sector is higher than in the public sector. According to recent information for the year 2002, this rate was 18.44 in the private sector, compared to 16.82 in the public sector.

In fact, it can be observed that the ISAPRE population, despite being relatively less risky than the population in the public sector in terms of sex and age at comparable income levels, shows higher utilization frequencies for most of the benefits, due to the influence of the adverse selection bias and to the fact that, in general, those insured to the ISAPRE system face a lower relative final payment level for service consumed, causing the volume demanded to increase. This situation was analyzed and studied by Sapelli and Vial (2001) in a work showing that at the ISAPRE level, higher utilization frequencies are observed with respect to a population with an income level that is similar to the public sector's population.

In consequence, there seems to be a selection problem according to health conditions against the ISAPRE system, and at the same time a selection problem of the population according to age and gender against the public sector. But with the information presented, one can go further and suggest that, in fact, the ISAPRE's internalize the adverse selection problem on the part of the users and transfer it to prices. Actually, if this were not the case, it would not be possible for them to stay in the market. People actually choose between public and private insurers according to the prices charged by each, so as a consequence of the high premiums charged to those with a higher expected risk, they end up in the public sector. This allows one to conclude that FONASA is a last resort insurer, which is not necessarily undesirable, since, as mentioned in the conceptual framework, this allows an almost universal coverage to be observed in spite of the fact that a combination of public and private insurance is allowed. This also allows the system to remain as a social security system with cross subsidies from the healthy to the sick. This subsidy is paid for through general taxes and corresponds approximately to the above-mentioned 27 per cent. That is, the fact that FONASA is a last resort insurer costs contributors approximately 27 per cent of the budget.

VIII.5.3.8 Financial Analysis

Fund sources and uses for the whole health system are described below, detailing for each system the magnitudes involved in order to assess the relative financial sizes of these systems and the differences between revenues and overall expenses.
In addition, a mechanism for subsidizing demand that operated in Chile until 1999, allowing low income individuals to opt for any ISAPRE, is briefly described.

VIII.5.3.8.1 Global Financial Analysis

The structure of the national accounts in the health sector is shown in Table VIII.6, where total expenditure is divided into fiscal contributions, worker contributions — to the private (ISAPRES) as well as to the public system — and out of pocket expenses, which include direct expenses, prescriptions and co-payments.
Table VIII.7 indicates that the public system represents 44 per cent of the system's total expenditure — 38 per cent on public services and six per cent on the central administration — followed by the ISAPRES with 34 per cent and then the population that is called 'private', the sector that asserts that it finances its own health and claims that it does not utilize any welfare system, with 12 per cent of expenditure. Last, the Mutual Funds and the FFAA representing six and three per cent, respectively, of total health expenditure.

The fiscal contribution indicated in Table VIII.7 is utilized almost completely by the public system, of which 25 per cent is used to finance the central administration, 70 per cent to support public service expenditure, two per cent for the benefits of ISAPRE affiliates — vaccination and complementary food programs — and three per cent for the FFAA. This shows that the health fiscal subsidy is channeled towards the public system.

Regarding contributions, 37 per cent are distributed in the public system, 59 per cent[9] in the private system and four per cent in the FFAA. It must be remembered

Table VIII.6
Structure of National Accounts in the Chilean Health Sector, Year 2000 (millions of $CH)

	Total Expenditure	Fiscal Contribution	Payroll Taxes	Companies	Out of pocket Expenses
Central administration and public goods	152,129	152,129	0		
Public Services*	954,903	433,489	398,906	5,341	117,167
ISAPRES System	870,632	11,898	642,279	15,539	200,916
Private	311,662			163,429	311,662
Mutual System	163,429	0	0		0
F.A.A. System	73,411	18,348	46,031	0	9,032
Total	2,526,166	615,864	1,087,216	184,309	638,777

Source: Data from the National Accounts of the Ministry of the Treasury (2000).

* "Public Services" indicates services granted by public establishments and those delivered by the free choice mode of the FONASA.

Table VIII.7
Percentage Structure of the National Accounts of the Chilean Health Sector, Year 2000 (millions of $CH)

	Total Expenditure	Fiscal Contribution	Payroll Taxes	Companies	Out of pocket Expenses
Central administration and public goods	6%	25%	0%	0%	0%
Public Services*	38%	70%	37%	3%	18%
ISAPRES System	34%	2%	59%	8%	31%
Private	12%	0%	0%	0%	49%
Mutual System	6%	0%	0%	89%	0%
F.A.A. System	3%	3%	4%	0%	1%
Total	100%	100%	10%	100%	100%

Source: Data from the National Accounts of the Ministry of the Trasury (2000).

* "Public Services" indicates services granted by public establishments and those delivered by the free choice mode of the FONASA.

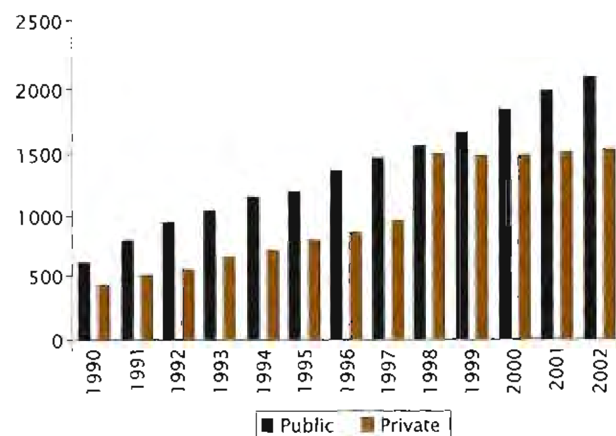
[9] This 59 per cent comprises 47 per cent as a legal contribution and 12 per cent as an additional voluntary contribution

that the private system may receive voluntary contributions but not the public system, which combined with the different socioeconomic levels of the population, increases the difference in the amount received by each system.

Table VIII.7 also indicates that almost half, of out of pocket expenses originate from payments made by individuals, 31 per cent by ISAPRE beneficiaries, 18 per cent public system beneficiaries and one per cent by FFAA beneficiaries. The previous table does not consider ambulatory pharmacy expenses not covered by welfare systems. In Chile, these expenses are generally directly financed by individuals.

The previous tables reflect the situation in the year 2000; however, this is the result of significant changes in this sector's financing. Figure VIII.5 illustrates the evolution of public expenditure in the 1990s compared to expenditure in ISAPRES. In this figure it can be observed that public expenditure increased more rapidly than private expenditure between 1990 and the year 2000.

Figure VIII.5
Health Expenditure by Sector (millions of US$)



Source: Data from the Superintendence of Welfare Health Institutions (SISP).

In addition, Table VIII.8 shows that public expenditure per capita increased from US$64 in the year 1990 to US$204 in 2002; however, this increase

Table VIII.8
Per Capita Evolution of Public and Private Expenditure (millions of US$ 2002)

Year	Public Expenditure	Average Population	Per capita* Expenditure	Private Expenditure	Average Population	Per capita* Expenditure
1990	622	9,729,020	64	406	1,932,239	210
1991	727	9,571,591	76	478	2,337,226	205
1992	889	9,101,490	98	569	2,783,104	205
1993	1,044	8,638,416	121	663	3,215,803	206
1994	1,149	8,518,697	135	743	3,550,709	209
1995	1,169	8,526,512	137	819	3,716,762	220
1996	1,350	8,505,114	159	884	3,788,817	233
1997	1,458	8,531,832	171	956	3,847,978	249
1998	1,565	8,132,287	192	992	3,781,204	262
1999	1,652	9,025,415	183	977	3,501,604	279
2000	1,793	9,499,589	189	978	3,207,784	305
2001	1,962	9,984,524	196	1,004	3,016,495	333
2002	2,077	10,200,000	204	1,041	2,828,228	368

Source: Author's elaboration based on the National Budget Ministry of the Treasury and information of the SISP.

* US$ per person/year.

Table VIII.8 shows that by 1990, private expenditure per capita was 228 per cent higher than that registered for the public sector, but the growth in the ISAPRE system significantly changed this situation average. Average expenditure per capita of each system recorded a difference of just 36 per cent for the year 1998. After the year 1998, the difference has increased by the reduction in the portfolio of lower socioeconomic segments of the ISAPRES.

was used mainly for staff expenses and not in production. Effectively, a study made by the CEPAL[10] shows that between 1992 and 1999, public sector expenditure increased 97 per cent and service production only by 19 per cent, implying a 40 per cent fall in productivity in this period.

The increase in the average expenditure of the ISAPRES is due to the fact that low-income contributors have had to transfer to the public sector

10 Results and Returns of Expenditure in the Public Health Sector and Chile 1990-1999,' CEPAL, 2000.

as a result of the country's economic situation, the elimination of demand subsidies on and the increase in health costs.

VIII.5.3.9 Household Health Expenditure

In the case of Chile, only four percent of the population is not covered by medical insurance, as mentioned earlier. Insurance guarantees that most households are covered against catastrophic expenses. Household health expenditure includes seven percent of worker income used to purchase health insurance, plus the additional amount used to purchase private insurance. Out of pocket expenses amassed by families in the event of illness correspond mainly to co-payments in the public, as well as in the private, system. Direct payment of medicines and medical services that are not covered is also added to the previous expenditure.

VIII.5.3.9.1 Co-payment Expenditure in the Public System

In the public system, co-payments will depend on each person's income and on the care mode. Co-payments for ambulatory and hospital care are shown in Tables VIII.9 and VIII.10, respectively. As can be observed, under the freedom of choice mode the percentage paid by the affiliate is quite high. This is explained because in hospital care the provider is authorized to establish a free price, but FONASA reimburses only up to a pre-established amount according to each type of service and the beneficiary has to pay the difference. This is what determines low coverage and consequently, the high out of pocket expenses verified in this attention mode. Medicines administered as part of ambulatory care are only covered by the public system when the service is made under the institutional mode, so most medication expenses are paid directly by the beneficiary.

Table VIII.11 shows the public sector budget in 2000. 'Operating income' corresponds to the amount of service sales made by public establishments to third parties that are not beneficiaries of this sector and out of pocket expenses made by beneficiaries for care received in these establishments.

Table VIII.9
Co-payments for Ambulatory Care

	Public System		Private System	
Group	Free Choice	Institutional	Average	Preferred Option
A	Not authorized	0	38%	10%
B	App 50%	0	38%	10%
C	App 50%	10%	38%	10%
D	App 50%	20%	38%	10%

Source: Author's elaboration. Public System Base: Current regulation describing co-pays; Private System Base: SISP average; Preferred Option: Estimate according to ISAPRE plan coverage.

Table VIII.10
Co-payments for Hospital Care

	Public System		Private System	
Group	Free Choice	Institutional	Average	Preferred Option
A	Not authorized	0	25%	0%
B	App 90%	0	25%	0%
C	App 90%	10%	25%	0%
D	App 90%	20%	25%	0%

Source: Author's elaboration. Public System Base: Current regulation describing co-pays; Private System Base: SISP average; Preferred Option: Estimate according to ISAPRE plan coverage.

Table VIII.11
Public Sector Budget for the Year 2000

Total Revenue	Millions of US$ 2,024
Fiscal Contributions	993
Payroll Taxes	664
Operating Income	159
Co-payments	153
Other	55

Source: Data from the Ministry of the Treasury, National Budget.

According to a study carried out by the University of Chile regarding the freedom of choice mode, hospitalization coverage was ten per cent, resulting in a 90 per cent co-payment (CIADE; University of Chile, 1997).

For the ISAPRE system, results of actual reimbursements are delivered by the Superintendence based on registered data. Table VIII.12 shows the percentage reimbursed by service type. In the case of ambulatory care, the ISAPRES paid 62 per cent of the total invoice and users the remaining 38 per cent. For hospital care, the ISAPRES paid for 75 per cent of the total invoice so users paid on average 25 per cent. The reimbursement for hospital care includes medicines.

In the ISAPRES, a mechanism called 'additional coverage for catastrophic illnesses' (CAEC) started operating in the year 2000. In practice, it guarantees beneficiaries that the maximum co-payment for any illness may not exceed an amount equivalent to two salaries — 30 contributions — over a two-year period. Over the two salary co-payment deductible, the ISAPRE covers 100 per cent of service costs, but services must be received in a provider network pre-determined by each ISAPRE.

In summary, financial protection for people covered by the public sector is high in terms of institutional attention, that is, in public establishments. There is even a mechanism for accessing credits to support co-payment financing. However, the problem in this sector is service expediency, not only for catastrophic illnesses but for frequent pathologies too —example: colecistectomy — resulting in delays for service. In the private sector, once the catastrophic coverage had been created, there are no further problems in financial protection.

VIII.5.3.9.2 Public Expenditure on Health

In 1969, public expenditure on health amounted US$272 million (1995 US$). The health system then was totally public, so in theory, the whole population had access to it. There was US$31 per person annually available to grant the corresponding services.

As shown in table VIII.13, between the years 1969 and 2000, the beneficiary population of the public system grew only 25 per cent. Total available resources for public health increased 766 per cent during this period and annual resources per person increased 492 per cent; this, even though Chile is a country that has given prioritize to maintaining its macroeconomic balances. This is the result of a prioritize by the State with regard to the health sector since the health component[11] went from 6.7 per cent to 12 per cent of total public expenditure. During this period, a significant proportion of the population opted for the private system, releasing the public scheme from this responsibility and allowing it to concentrate the higher resources available in a smaller population, thus increasing the per capita public system resources.

In short, records show that reforms aiming to deliver higher responsibility levels to the private sector have

Table VIII.12
Percentages Reimbursed by the ISAPRES in Ambulatory and Hospital Care, 2002

Service Type	Invoice amount (mill $)	Amount Reimbursed (mill $)	Reimbursement Percentage
Ambulatory	165,302	102,414	62%
Hospitalization	117,535	88,134	75%
Total	282,837	190,548	67.4%

Source: Superintendence of the ISAPRES.

Table VIII.13
Per Capita Health Expenditure 1969-2000

	1969	2000	Variation
Population (millions)	8.71	10.92	25%
Health Expenditure (Millions of 1995 US$)	272	2,358	766%
Expenditure per capita (1995 US$)	31	185	492%

Source: CIEPLAN Document N° 41, National Health Fund, Alfredo Román Marchant, International Workshop National Health Accounts: OPS/OMS FONASA, October 2001.

[11] CIEPLAN Document N° 41, National Health Fund, Alfredo Román Marchant, International Workshop National Health Accounts: OPS / OMS FONASA, October 2001.

allowed the public system to focus on those with lower-income levels and on high-risk age groups, so this population has now a larger amount of per person resources per person available to them than before the reform. However, since the public sector is financed with significant fiscal subsidies, and since the lower income population is not able to opt for the private system, there is no competition to promote productivity enhancements in the public scheme and this is why a significant proportion of the increase in resources was not transformed into benefits.

VIII.5.3.10 Demand subsidy in the Chilean system

A demand subsidy existed in Chile until 1999. It was a benefit based on income and on the number of family members and could amount up to two per cent of the taxable salary -compared to seven per cent in compulsory contributions. The purpose of the subsidy was to make it easier for middle to low income level families to opt for the ISAPRE private system, lessening the burden on the public system. This percentage could reach up to 2/9 of the total contribution, that is, 22 per cent.

The subsidy was an additional contribution charged to the Treasury that, upon the worker's request, the employer had the obligation to pay to the ISAPRE they were affiliated to.

The employer had the right to a tax deductible fiscal credit equal to the amount of the contribution aforementioned.

In 1997, even though the subsidy only amounted US$30 million per year, representing only 1.6 per cent of the public budget, it favored 1,100,000 beneficiaries, concentrating its contributions on workers with an income lower than US$500 per month — 72 per cent of the population received the benefit.

This subsidy was eliminated in 1999, which partly explains the transfer of beneficiaries from the private to the public system. This case proves that with few resources —1.6 per cent of the public budget — support can be offered to a large population —11 per cent of public system beneficiaries — so they may opt for the private alternative, in this way unburdening the public system.

VIII.5.3.11 Main lessons of the Chilean reform

This section has been divided in two: the first part called relevant conclusions indicates the positive results delivered by the reform. The second part outlines the lessons learned summarizing the aspects that must be approached with caution before trying to apply them to other countries.

5.3.11.1 Relevant Conclusions

Focusing the activities of the public sector

The reform applied allowed the population with the economic capacity to pay their expenses to autonomously transfer to the private sector, allowing the State to concentrate its efforts on the population that required its support the most. This effect did not mean a loss of resources on the part of the State, as was shown in the document, but it actually allowed it to increase the average per person expenditure of this system.

5.3.11.2 Findings Useful for Other Countries

First finding: The system's design offers incentives for high income and low risk individuals to be covered by public insurance and those with lower income and higher risk to be covered by the private insurance, which leads to a risk selection against the public system.

As will be seen below, in the Colombian system reform, to reduce this type of problem individuals pay the same amount for the basic insurance coverage, either through a public or a private insurer. The adjustment for the age and gender risk factor is taken from a common fund and insurers are paid according to the age and gender distribution of their covered population.

Second finding: There has been limited scope in coverage and effectiveness, resulting in a high proportion of the population with no access to the ISAPRES. This is partly due to the system's design.

The reason why ISAPRES are not an alternative for the whole population is that only those who have sufficient income to pay for an ISAPRE plan are able to opt to enter one. The ISAPRES do not offer less expensive plans since they argue that there are no health providers offering lower prices oriented towards the low income population segment. The argument is that these providers are not able to develop because of the existence of the National Health Service System, which is subsidized by more than 50 per cent with resources coming from fiscal contributions. Due to the above, private organizations are not able to compete with a public organization that charges a price that is equivalent to half the cost of the services offered to this population group.

One possible alternative to reduce this problem is that instead of subsidizing FONASA directly, the subsidy should be granted to low-income individuals and perhaps to those who are high risk.

Third finding: *The communication process*

An important lesson from the reform is that its diffusion and understanding by the general public have been deficient. Even if a health reform is made based on technical data, the perception the public has on such a sensitive area must not be overlooked. Any reform should carry a clear communication plan allowing the citizenship to understand it.

Fourth finding: *Cost dynamics*

The system should incorporate in its design a mechanism encouraging cost control and, in order to accomplish this, competition at provider level as well as at the level of welfare organizations must be intensified.

Fifth finding: *Price differentiation due to risk*

The most highly criticized aspects of this differentiation refer to the adverse selection that is naturally produced and to problems of coverage for the older population. Due to the above, it is appropriate to establish mechanisms to minimize adverse selection as well as significant price differences according to age.

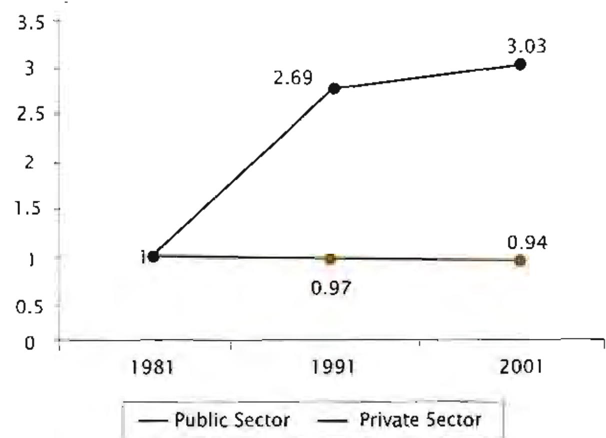
Sixth finding: *Prevention*

Affiliate turnover in the ISAPRE system is around 25 per cent annually, implying a very high renewal rate of the contributor portfolio. This fact makes medium term actions, such as applying prevention programs, unattractive. As a consequence, it is advisable to establish basic compulsory coverage for all organizations that include this type of program. Once it has become compulsory for every institution, none gains nor loses in particular by applying it, obtaining benefits only as a system.

Seventh finding: *Public private complementarity in the rendering of services*

In general, there are public and private providers in every country. In the case of Chile, since the emergence of the ISAPRES, an important high-level ambulatory and hospital network has been created. One example of the private sector's investment capacity is shown in the following figure, establishing that in the period between the creation of the ISAPRE system and the year 2001, the availability of hospital beds has almost tripled. At the same time, the transfer of beneficiaries from the public sector to the private sector has released the former from the need to invest in this kind of infrastructure, which demands large amounts of resources.

Figure VIII.6
Variation of the Number of Beds by Sector
(Base 100=1981)



Source: Ministry of Health and Clinic Association.

VIII.5.4 Colombia

VIII.5.4.1 Background to social security reform in Colombia

Prior to the 1993 reform, as in many countries in the American continent, the health system in Colombia was mainly made up of three large blocks: social security, private insurance and the public network.

Social security as a whole covered 20 percent of the population through the Social Security Institute (ISS), which compulsorily had to affiliate employees in the private formal sector, and social welfare associations covering the public sector as well as public university workers.

The private insurance sector covered the high-income group but its coverage did not exceed five percent of the total population. A large part of this population was at the same time affiliated to social security because they were employees, so there was a significant overlap in the coverage of these two systems.

The uninsured population was attended in public hospitals and health centers, which received historical budgets for their operation. The supply subsidy received by these institutions allowed them to provide free services that were supposedly offered only to the uninsured and to the lowest income groups.

VIII.5.4.2 Health System Reform

The goal of the reform set out at the end of 1993 in Colombia through Law 100 was to achieve universal coverage in 2001, making affiliation to a minimum health insurance compulsory for the whole population.

One of the reasons for reforming the rigidly segmented social security system in existence before 1993 was that having captive populations gave social security institutions monopolistic power.

The same was true of public hospitals since the uninsured and low-income population did not have any other alternative and almost always exceeded the capacity of these centers. Additionally, financing through historical budgets was not generating incentives for medical units to become more efficient or to produce better quality services.

As a response to these shortcomings, the alternative of opening the health sector to competition, in insurers as well as in the supply of services, was suggested (World Bank, 1993) in such a way so as to expose insurers and providers to the 'user's vote'. Those providers unable to respond to consumer expectations or that maintain high prices would leave the market. This would force insurers and providers to reduce production costs while at the same time improving service quality.

The insurance of individuals with payment capacity and affiliated to the Contributive Regime is financed with 12 percent of their income, of which one percentage point (1/12) is contributed to a solidarity fund, known as 'solidarity point', for persons with no financial capacity. Everyone is allowed to choose the insurer or Health Promotion Organization (EPS) that s/he prefers. The EPS, in turn, will hire the rendering of services. People with a low payment capacity belong to the subsidized regime through their affiliation to a Subsidized Regime Manager (ARS). The subsidized regime is financed with national and local resources, as well as through the 'solidarity point' (Harvard School of Public Health, 1996 and Jack, 2000).

Every person has the right to insurance for a minimum benefit package. Those in the contributive regime are covered by a more extensive minimum package than those in the subsidized regime and have the option to purchase a benefit package that is even superior.

One of the goals is to gradually expand the benefit package in the subsidized regime, as more financial resources become available, until the package resembles that of the contributive regime.

Even though the hiring of services from suppliers is not regulated, the government is encouraging the use of more efficient payment methods, such as the prospective payment for related diagnosis group (GRD), for hospital interventions and capitation payments for primary health care. However, at present, capitation payment dominates the basic level, payment per event the intermediate level and the high complexity level is handled by a package of service purchases and not by GRDs.

VIII.5.4.3 Results of the Colombian Reform

The results of the Colombian reform will be analyzed in order to find out what its benefits and costs are.

VIII.5.4.3.1 Social Security Coverage

Even though universal coverage has not been accomplished, a significant increase in coverage was indeed achieved. Coverage in the contributive regime expanded from 20 percent in 1993 to 30 percent in 2000, while coverage in the subsidized regime rose from zero to 25 percent. That is, in 2003, total coverage is around 55 percent. The rest of the population that is not covered by either of the two regimes may utilize the health services offered in public hospitals by paying a nominal fee.

In the contributive regime, most of the growth in coverage is explained by the inclusion of members of the family group of those who were already affiliated to ISS and to Cajas existing before the reform. The increase in affiliation of independent or freelance workers was not really significant (Restrepo et al., 2002). With regard to the subsidized regime, the population covered did not have health insurance before the reform.

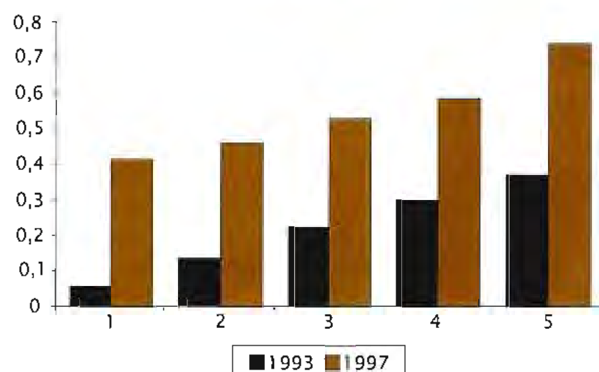
Two main reasons explain unsuccessful universal coverage. On the one hand, people with payment capacity who are in informal sectors or are independent workers have not affiliated. On the other hand, there has not been a complete transformation from supply subsidies to finance health services to demand subsidies, which is necessary since it would release financial resources to cover those people who have no payment capacity.

The greatest advances in coverage occurred in the lowest income levels; however, coverage increased in every income group. As observed in Figure VIII.7, between 1993 and 1997, coverage for the first income quintile — the 20 percent of households with the least resources — increased from five percent to more than 40 percent. During these same years coverage in rural areas increased significantly, from approximately five to more than 40 percent of the rural population, and in urban areas it increased from 30 to 60 percent approximately. Since then, insurance coverage has suffered stagnation, showing sustained growth only in the subsidized regime.

The 1993 CASEN survey shows that 12.08 percent of the population were affiliated to the system as contributors, while only 10.42 percent were affiliated as beneficiaries.[12] Affiliation data from public social

security institutions show that they covered 18.1 percent of total population. For 1998, these figures were 13.4 percent for contributors and 16.3 percent for beneficiaries, while for 2000 the figures were 12.4 and 18.2 percent, respectively.[13]

Figure VIII.7
Insurance Coverage by Income Quintiles, in 1993 and 1997



Source: Castaño et al. 2001.

Before the reform there were prepaid plans or indemnity policies presenting a high degree of coverage duplication with social security.[14] Since 1994, some of the former created social security plans — private EPS. The entrance of private insurers to the system starts taking participation away from public insurers, as observed in Table VIII.14.[15]

In addition, the disappearance of a large number of social security public funds that were unviable contributed to a redistribution of affiliates between public and private sectors —the public organizations that did not disappear were converted into 'Adapted Organizations'. As a consequence, the substitution of affiliation between public and private insurers gradually appeared, as seen in the table below.

VIII.5.4.3.2 Health Expenditure

a) Aggregate Health Expenditure

Aggregate health expenditure showed a marked increasing tendency in the 1990s as a result of two important measures: on the one hand, the constitutional reform in 1991 created new items for municipalities, which are allocated to social expenditure — health, education, housing, drinking water and others — and, on the other hand, the Law 100 increased worker-employer contributions for health social security. Sarmiento et al. show that the participation of public expenditure in health with respect to social expenditure grew from 15 percent in 1975 to 30 percent by the late 1990s. Also, Castaño et al. (2001) found a considerable increase in total public resources for health — in constant 1999 pesos.

The exercise of National Health Accounts (CNS)[16] shows that the proportion of GDP dedicated to health evolved in an increasing fashion between 1994 and 1997, but it then fell and followed a fluctuating course between 1998 and 2001 — see Figure VIII.8. The increase during the first phase is explained by the growth in worker-employer contributions and in public resources for the sector, while the decline in 1998 is a reflection of the economic slowdown and the subsequent recession that started that same year.

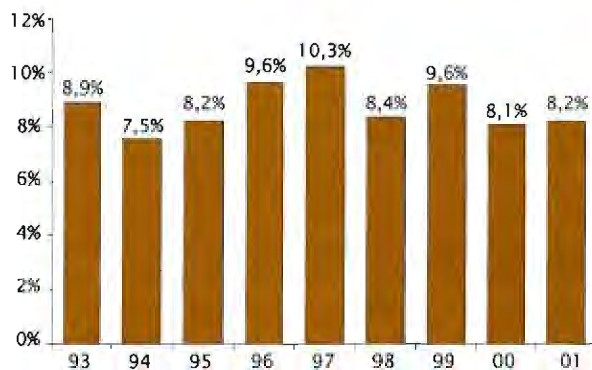
Table VIII.14
Substitution of Coverage Between Public and Private ESP's (Data in Millions of Persons)

Year	Private EPS	ISS	Other Public	Adapted Organizations	Total
1993		6.07	0.48	0.18	6.73
1994		6.35	0.48	0.19	7.02
1995	0.66	6.61	0.48	0.19	7.94
1996	1.84	7.07	0.69	0.34	9.94
1997	3.12	7.84	0.87	0.35	12.18
1998	4.04	7.27	0.77	0.31	12.39
1999	5.38	6.44	0.77	0.29	12.88
2000	7.08	5.04	0.76	0.18	13.06
2001	8.93	3.62	0.63	0.16	13.37

Source: Martinez et al., 2002 (information from 1993 to 1999) and Minsalud, 2002 (information from 2000 and 2001).

[12] Author's own calculations.
[13] Martinez et al. (2002).
[14] By the end of 1992, prepaid medicine plans covered 665,924 people, a figure that had grown to 973,343 affiliates one year later, and by 2000 it stood at 819,053 (National Health Superintendence, 1994a and 2003).
[15] Public organizations that did not disappear were converted to 'Adapted Organizations'.
[16] Preliminary data subject to revision, provided by the National Planning Department, National Health Account project.

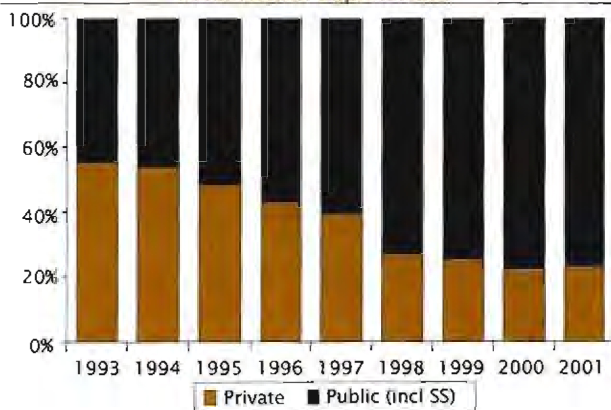
Figure VIII.8
Health Expenditure as a Percentage of GDP



Source: National Planning Department National Health Account Project (preliminary information subjet to revision).

However, a more detailed analysis of the decrease in 1998 shows that 92 percent of the difference in total expenditure between 1997 and 1998 is explained by

Figure VIII.9
Participation of Public and Private Expenditure in Total Health Expenditure



Source: National Planning Department, National Health Accounts project (preliminary information, subjet to revision).
Note: Expenditure of the Social Security Sector includes public expenditure to differentiate it from private expenditure, which includes: household's out of pocket expenses and private insurance expenses.

However, a more detailed analysis of the decrease in 1998 shows that 92 percent of the difference in total expenditure between 1997 and 1998 is explained by the reduction in direct household out-of-pocket expenses, while public and social security expenditure were able to remain stable. In general, between 1993 and 2001, a clear substitution between private expenditure (out-of-pocket and private insurance expenses) and public expenditure (fiscal expenditure and social security contributions) can be noted. While the former reduces its participation, the latter increases it considerably, as observed in Figure VIII.9.

It is interesting to note that after 1998, private expenditure remained low, which may suggest increased consciousness of the existence of social security and, consequently, higher utilization of its services, especially due to the adverse economic impact suffered by families between 1998 and 1999. In fact, the stability in public and social security expenditure shows that these financing sources are relatively well protected from the economic cycle.

The reduction in private expenditure is a positive aspect achieved by the reform since it means that family health expenditure is being covered by insurance instead of by out-of-pocket expenses. This reduces the financial risk incurred by families, which is one of the goals of social security.

a) Household Out-of-Pocket Expenditure for Different Income Levels

Castaño et al. (2002) estimated the proportion of household income spent on health services for 1985 and 1997, which are the two years for which available income-expense surveys are comparable. As observed in Table VIII.15, the proportion is lower in every case for 1985. However, since the simple comparison of proportions by expense decile does not really allow one to detect or estimate the regressiveness or progressiveness of out-of-pocket expenditure, the authors calculated the Kakwani index in order to control for the undetected effect in the simple proportion analysis. They found that the Kakwani index estimated based on household expenditure shows a slight tendency towards progressiveness, increasing from -0.0092 to 0.0026 in 1997.

Table VIII.15
Out-of-Pocket Expenditure as a Proportion of Total Expenditure (%)

Expense Decile	1985	1997	Expense Decile	1985	1997
1	3.2	5.89	6	3.34	6.19
2	3.25	5.46	7	3.45	5.79
3	3.18	5.99	8	3.39	7.16
4	3.26	6.18	9	3.54	6.07
5	3.27	6.10	10	2.98	6.44

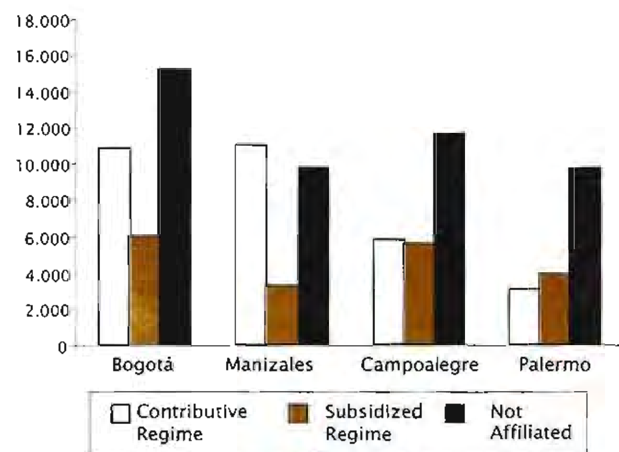
Source: Castaño et al. (2002).

Among other studies focusing on out-of-pocket expenditure, Molina et al. (1993) found that in 1992 the highest income quintile allocated only 1.7 percent of their income to out-of-pocket health expenses, while the lower quintile allocated 7.5 percent. The significant differences between this study and the study made by Castaño et al., could be due to the fact that the survey utilized for the analysis made by Molina et al. does not gather exhaustive information on income and expenses, so estimates are subject to greater variation.

Peñaloza et al. (2001) carried out a study that includes the cities of Bogotá, Manizales, Campoalegre and Palermo, which were selected under the criterion that they represented a large city, an intermediate one and two municipalities that are smaller in size, respectively.

In these four cases, information was gathered from a representative sample of households during the first quarter of 2000, and it was found that out-of-pocket expenditure for the quarter was higher among those who were not affiliated to social security, with the exception of Manizales. Affiliates of the subsidized regime showed lower expenditure than those affiliated to the contributive regime, with the exception of Palermo. Figures are shown in Figure VIII.10.

Figure VIII.10
Out of Pocket Expenditure in Four Case Studies



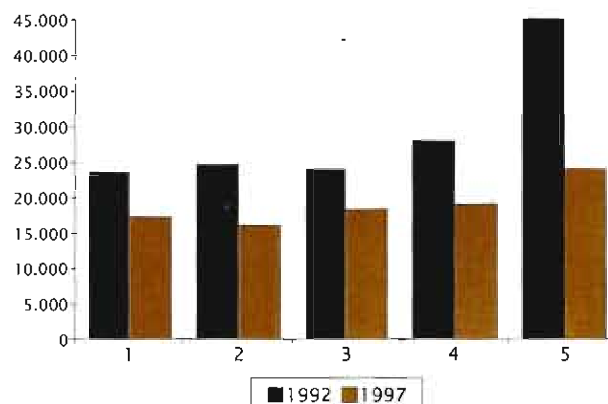
Source: Peñaloza (2001).

Castaño et al. (2001) analyze expenditure on medicines separately — in absolute values. As shown in Figure VIII.11, such expenditure exhibits a considerable reduction at every income level between 1992 and 1997. The reduction in out-of-pocket expenditure on medicines is clearly related to the increase in population coverage and to the fact that the packages of the subsidized regime as well as those of the contributive regime include a list of medicines.

The surprising findings of a reduction in major expenditure for the highest income quintile is explained by the authors as an effect of overlapping private and public insurance before the reform, as previously mentioned. According to this effect, in 1993, households in the highest income quintile did not use social security, even though they paid their compulsory contributions, because they acquired private insurance to avoid the inconvenience in public services.

As a result of many of these private insurers entering social security, households in the highest income strata started using services covered by the EPS even if only to acquire medicines; this was easy because, frequently, the family had simultaneous coverage through their private plan and the EPS plan when they both belonged to the same organization. Unfortunately, it is not possible to compare the evolution of medicine expenses with later surveys.

Figure VIII.11
Out of Pocket Expenditure on Medicines, by Income Quintiles



Source: Castaño et al., 2001.

Note: All the differences are statiscally significant ($p < 0.05$).

a) The Equity of Public Expenditure by Income Level

The influence of subsidies on the income of Colombians was studied by Delgado and Gutiérrez (2000), based on data from the 1997 National Survey on Quality of Life. In this study, the authors find that health subsidies are highly progressive because they represent a much higher proportion of lower strata income — 20 percent of low income households — than of higher income households. This impact is shown in Table VIII.16.

Table VIII.16
Impact of Health and Social Welfare Subsidies on Household Income

Income Decile	Thousands of Millions of 1997 Pesos	% of Household Income	% of Total Subsidy
1	404	38%	17%
2	405	17%	17%
3	388	12%	17%
4	318	8%	14%
5	237	5%	10%
6	217	3%	9%
7	157	2%	7%
8	84	1%	4%
9	64	0%	3%
10	53	0%	2%
Total	2,327	2%	10%

Source: Delgado and Gutiérrez (2000).

In another study, Sánchez and Núñez (1999) found that in the contributive regime there is a smaller redistributive effect than in the subsidized regime, perhaps due to that fact that there are fewer people from the first income quintile — the 20 percent of households with the lowest income— in the contributive regime, while the opposite is true of the subsidized regime. The authors also show that these effects were more significant in 1997 than in 1993. Table VIII.17 shows the effect subsidies have on income according to social security regime. Delgado and González (2000) show that health subsidies have a redistributive effect that is only exceeded by subsidies targeted at primary education.

VIII.5.4.4 Substitution of Supply Subsidies for Demand Subsidies

A significant part of the subsidized regime financing was to be obtained by the transformation of supply-based subsidies, destined to public hospitals, for demand-based subsidies, destined to low income insured individuals.

However, this transformation turned out to be much smaller than expected, and it was even suspended in 2002 by virtue of Law 715 of 2001. Of total resources used to finance demand subsidies in 2001, only one third corresponded to resources transformed from supply to demand. New resources for delivering greater demand subsidies would have to come from other sources.

Currently, it is difficult to think of a complete subsidy transformation because coverage is not comprehensive in the groups that are the object of the contributive regime, collections are not sufficient to achieve universal coverage, and some public hospitals require supply subsidies for reasons of equity in health service access. Still, the new resources destined to demand subsidies since 1993 have contributed towards decreasing the geographical inequity in public fund allocation that existed before that year.

a) Viability of Substituting Supply Subsidies for Demand Subsidies

- Even though the Law 100 was based on the assumption that a complete substitution of supply subsidies for demand subsidies was possible and that public hospitals would be able to survive only through revenues generated by services invoiced to subsidized regime managers and certain EPSs of the contributive regime, there had been evidence suggesting that this assumption was not totally accurate (Health Ministry, 2002b).

Table VIII.17
Health Net Subsidies. Percentage Increases in Income as a Consequence of Health Subsidies

Regime	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5		Total	
	1993	1997	1993	1997	1993	1997	1993	1997	1993	1997	1993	1997
Subsidized	10.7	42.8	4.2	12.7	2.68	6.33	1.04	1.17	0.11	0.06	1.36	3.2
Contributive	1.25	2.7	2.32	2.51	2.64	3.2	1.92	1.16	0.27	-0.27	1.21	0.63

Source: Sánchez and Núñez (1999).

On one hand, care centers located in small municipalities or in rural areas, whose demand is very reduced due to the condition itself of being a rural population, became the only regional providers but were unable to finance their fixed costs and possibly not even their variable costs. However, although closing care centers whose service sale revenue was insufficient to cover operating costs would have been justified in the interest of efficiency, closing units was not possible in these circumstances in the interest of equity, because the user population would in the future have strict access barriers by having to go to area or sub-regional care cènters. For this reason, medical units in remote areas of the country had continued to be subsidized.

On the other hand, the contributive regime had been incapable of expanding beyond of what the inclusion of family group members allowed originally. Additionally, total coverage in this regime was conditioned to formality in the economy, which has tended to diminish. The informal economy represented 60 percent of total employment in 2000.

In this sense, Giedion and López (2000) show that even if a total transformation of supply subsidies existing in 1999 had occurred, and all of the most impoverished population were to be affiliated to the subsidized regime, with the available resources, around nine million people would still have been left out of the system. These correspond to the population that is not so poor as to enter the subsidized regime, but that is not in the formal sector of the economy either. If they were to affiliate to the contributive regime as independents, the obligation of paying the total 12 percent contribution out of their own pockets would prove to be excessively costly. This sector of the population has no alternative except to turn to the public network, so maintaining the supply subsidy is considered necessary in order to be able to offer health services to these people. Furthermore, since the service package of the subsidized regime is not complete, middle and high complexity care that is not covered must still be taken care of in the public network, so supply subsidies are necessary in order to finance them.

As a result of these structural limits, it was not possible to complete subsidy transformation, thus implying the coexistence, at least in the foreseeable future, of a contributive regime with an extended benefit plan, a subsidized regime with a restricted benefit plan and an unaffiliated population. The latter, together with the population affiliated to the subsidized regime, who demand services not covered by the subsidized package, makes it necessary to maintain supply subsidies, thereby generating several operating difficulties for public hospitals when services are invoiced to EPS, or ARS, or to the State when the operating deficits of these hospitals have to be financed.

VIII.5.4.5 Change in the Perception of Service Quality

Quality perception on the part of users and affiliates is shown in Table VIII.14. It can be observed that for affiliates to the contributive regime there is a better perception of quality among those affiliated to a private EPS than their counterparts affiliated to a public EPS. These differences increase slightly when private EPS are compared only to the ISS; that is, excluding affiliates to the rest of public EPSs — Table VIII.19. Both tables were made utilizing the 1997 Survey on Quality of Life.

Table VIII.18
Quality Perception According to EPS Nature (%)

	Private EPS	Public EPS
Good	89.23	78.82
Regular	8.9	16.41
Bad	1.85	4.79
Total	100	100

Source: 1997 Survey on Quality of Life.

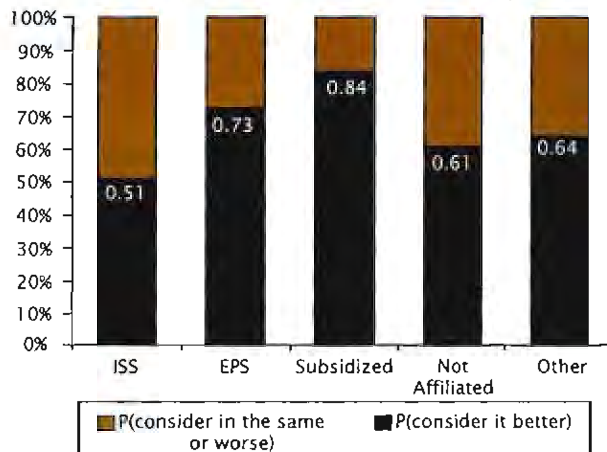
Table VIII.19
Perception of ISS Quality vs. Private EPS (%)

	Private EPS	ISS
Good	89.23	78.21
Regular	8.9	17.13
Bad	1.85	4.66
Total	100	100

Source: 1997 Survey on Quality of Life.

With respect to specific studies on the perception of quality, in 1998, the Ministry of Health carried out a survey among 1,800 adults in six large cities in the country. In this survey, individuals were asked about their perceptions of the quality of health services compared to the quality prior to 1994. It was found that among affiliates to EPSs other than the ISS, the proportion responding that 'quality was much better or better' was higher than among ISS affiliates, as shown in Figure VIII.12. This same figure shows that 84 percent of people in the subsidized regime responded that quality was better or much better.

Figure VIII.12
Quality Perception in Six Large Cities in Colombia



Source: Ministry of Health (1998).

Note: The black bar shows the probability of quality being considered better than what the interviewee previously had.

VIII.5.4.6 Changes in Health and Efficiency Indicators

The relationship between different aspects of the reform and changes in certain health indicators has been studied by Flórez et al. (2002). They find that higher coverage levels are associated with the fall in child mortality and with the increase in institutional childbirth care between 1995 and 2000.

One aspect that could reflect changes in the combination of medical supplies with the purpose of achieving increased efficiency in the production of health services is the aggregate behavior of medicine consumption in the country.

An analysis with regard to this subject (ANDI, 2003) shows that in 1998 the proportion of total units consumed corresponding to generic medicines was 40 percent while the rest corresponded to innovative medicines. By 2002, these proportions had been inverted, resulting in 60 percent generic and 40 percent innovative medicines. It is important to point out that this substitution does not necessarily mean that greater efficiency is aimed for, in view of a constant effectiveness level. In fact, it has been commented that generic products substituting innovative products are sometimes lower in quality, and that this substitution, headed by the EPS and the ARS, is based exclusively on price, when both products are actually not perfect substitutes.[17]

VIII.5.4.7 Adverse Selection

The system shows adverse selection in the contributive regime, especially among independent workers and of the informal sector, and to a lesser extent among workers in the private formal sector. It also shows adverse selection in the subsidized regime since the same regulatory framework ensures that preference is shown to vulnerable persons, and this has led to priority being given to the affiliation of individuals who have current needs for medical treatments. There is also adverse selection among the EPSs of the contributive regime, at least regarding high cost catastrophes — specifically, HIV/AIDS and renal dialysis — which present a higher concentration in the Social Insurance Institute.

a) Adverse Selection in the Contributive Regime

Adverse selection of the general population towards the system is possible because, although affiliation is compulsory, a large part of the economy is informal. In 2000, it was estimated that 60 percent of the country's employment was in the informal sector (Ministry of Health, 2001b), which makes affiliation, collection and affiliate default control processes very difficult and costly. Additionally, the fact that the EPS may not reject any entrance application and must receive affiliations during the whole year allows 'stowaways' to register when they have a medical need.

The constitutional guarantee of the right to health, protected through the Tutelage Action,[18] has created a favorable atmosphere for many persons to avoid shortage periods of certain high cost medical attention or for elective surgical procedures.

[17] This is another aspect where for which multiple complaints exist, although none has been formally documented.

[18] Legal action taken by an individual when s/he considers a fundamental right is being breached. This action has to be attended at no cost by any judge in the Republic and has peremptory time limits, for the ruling on the part of the judge as well as for compliance on the part of the defendant. In some countries in Latin America it is known as an 'appeal for legal protection'.

Panapoulou (2002) analyzed the 1997 Quality of Life Survey data to establish the probability of household head affiliation to the system. Because of the different dynamics in their decision to affiliate, for this analysis the author separated the working population into public sector, private sector and independent or freelance workers. In the first two groups, their labor association determines system affiliation and it is less likely for adverse selection to exist.

However, among independent workers, in view of the high proportion of informality, the higher affiliation price — since the independent worker must cover the complete 12 percent contribution himself — and the disincentive that EPSs have to actively seek the affiliation of these workers, it is more likely for adverse selection to appear, not just when the worker presents a chronic disease or considers his health to be regular or bad, but when any member of his family group presents either of these two characteristics.

Panapoulou's study shows that the proportion of affiliates to the contributive regime among public sector employees is 95 percent, among those in the private sector, 76 percent, and among independent workers, it is only 46.5 percent.

The author concludes that there is evidence of adverse selection when she maintains that 'individuals in the private employee and independent worker model belonging to a family where at least one of the members has a chronic disease, have a higher probability of being affiliated to the contributive regime. These probabilities are, respectively, seven and 18 percentage points higher. Furthermore, an independent worker with a chronic disease has a probability of being affiliated to the contributive regime that is 23 percentage points higher than an individual with no chronic illnesses.'

b) Adverse Selection in the Subsidized Regime

In the subsidized regime, the problem of adverse selection is evident since affiliation priority is offered to sick persons. Panapoulou (2002) found that the presence of a chronic disease in at least one member of the family group is associated with a higher probability of subsidized regime affiliation, although the self-reported health status did not show any significant association with the probability of affiliation.

c) Adverse Selection among Contributive Regime Insurers

It has generally been taken for granted that there is a higher concentration of affiliates with high cost conditions in the ISS, as declared by the National Council on Economic and Social Policy (CONAPES)[19], which estimates that 94 percent of high cost diseases in the contributive regime corresponded to ISS affiliates.

For its part, the association of private EPSs maintains that the concentration is not that elevated but that it is certainly still high; this has been propitiated by ISS policies to attract the high-risk population (ACEMI, 2001). Among these policies, coverage of interventions outside the legal service package, external referrals, not applying shortage periods and publicizing its high medical technology capabilities are clearly identified. Additionally, a poor capacity in verifying the rights of persons when they demand health services in the ISS network makes high cost affiliate admissions easier.

The analysis of high cost disease incidence data in the ISS versus the EPS shows that it is obvious that the burden of high costs on the ISS is much higher in dialysis, cardiovascular surgery, HIV/AIDS and chemotherapy/radiotherapy. However, the opposite occurs in the case of central nervous system surgery, articular replacements, internal care unit and congenital malformation surgery since the burden is higher in private EPSs. In other conditions, low occurrences do not permit any relevant analysis to be made.

It has been argued that with dialysis and HIV/AIDS there is a higher possibility of adverse selection because these are chronic cases, which were mostly — especially dialysis — affiliated to the ISS prior to the reform, so the incentive to change to a private EPS was minimal (Ministry of Health, 2002b).

This argument is also based on the findings of a higher occurrence, among the EPS, of unspecified catastrophes such as intensive care stays and congenital malformation surgery. In the former, admittance to intensive care is associated with higher trauma or with complications in chronic diseases that are usually not predictable, and in the latter, the automatic affiliation of the newly born makes adverse selection as well as 'skimming' more difficult.

In January 2003, the EPSs opted for a patient redistribution mechanism.[20] This redistribution was restricted in principle to patients who were being treated for chronic renal insufficiency and HIV/AIDS, since information gathered during the life of the first mechanism adopted determined that these were the two most relevant conditions. It is interesting to point

[19] CONPES, document 3219 dated March 2003

[20] See Health Social Security National Council, Agreement 245, dated 2003.

out that, contrary to the assumption that the concentration of older adults in a system is generally an indicator of adverse selection, these conditions are not concentrated in the elderly population but rather in men between 15 to 44 years of age.

VIII.5.4.8 Risk Selection among Insurers

It is found that there is a greater participation of groups from 45 to 60 years of age and those over the age of 60 in the ISS and Cajanal, two public institutions. This is explained by the fact that these two EPSs already existed before the reform and the old age, disability and survival pension component was integrated.

When the system was reformed, pensioners from these institutions preferred to remain in them even though the law expressly allowed them to change to a private pension fund or to remain in the public fund but change to a different EPS given that from that time on, both social security components were totally independent.

Due to misinformation or to fear of change, a large part of those over the age of 65 preferred to remain affiliated to the ISS in health, wrongly assuming that if they changed to a different EPS they would lose their old age pension. Another reason that may explain higher participation from these age groups in these insurers is the fact that most of these affiliates present chronic diseases or make consultations frequently, so they have long-standing relationships with their health providers and professionals. These relationships act as a discouraging factor when the time comes to make the decision to change EPS. Risk selection will be preserved to the extent expected high risk age groups remain in the ISS.

VIII.5.4.9 Situation of the Social Insurance Institute and its Reaction to the Reform

The transformation of the Social Insurance Institute from a monopoly with insurer-provider integration to a competitive environment has been difficult. The fact that operating costs are higher than its income in conjunction with a sustained reduction in the number of affiliates has led to an increasing accumulated deficit. For these reasons, the government decided to restructure the organization, separating insurance from the provision network and decentralizing the latter into seven autonomous regional networks.

At the time of the reform, in 1993, the ISS had an advantage over its potential competitors because it had a trajectory of almost 50 years in the history of the country and its reputation generated more confidence than the reputation of some new companies nobody knew until then. In general, there was the perception that the ISS was excellent in the attention of complex conditions or in external referrals even if its low complexity attention resulted in quality problems.

Once competition with private EPSs started, the ISS opted to compete at different times on prices, benefits, service network and reputation. However, this competition was more oriented towards maintaining its market participation than towards increasing it (Harvard, 1996). This might be explained by the fact that as coverage was extended to members of the family group, the ISS affiliate population grew quickly without the concomitant growth in installed capacity allowing it to respond to higher health service demand.

With respect to price competition, the ISS decided not to charge moderating fees or co-payments. With regard to benefit competition, it kept a lax policy regarding external referrals and benefits not included in the benefit package, and with regard to new medicines or medicines excluded from the package list. Another important benefit through which it differentiated itself from its competitors was by not applying shortage periods for high cost catastrophe care.

The reputation competition generated a negative effect, as was to be expected, since a marketing insurance strategy based on highlighting capacities with regard to high complexity interventions simply magnified adverse selection, that is, those requiring this type of attention, which is costly, looked mainly to affiliate to the ISS.

Apart from the negative effects of the competitive strategy adopted by the ISS, its flexibility in responding to changes in the environment was extremely reduced, forcing the organization to maintain running expenses that were not in line with its income.

VIII.5.4.10 Restructuring of the Social Insurance Institute

In view of the ISS' growing problems and the fiscal cost these represent in the present and for the future, the National Council on Economic and Social Policy issued a document in which it made a detailed analysis of the problems in the institution and made concrete proposals for its restructuring.[21] Finally, the President of the Republic, using his power to restructure public institutions, decided to restructure the ISS on 26 June 2003.

[21] CONPES, document number 3219, dated 31 March 31, 2003.

The restructure has several central aspects. The first is the vertical disintegration of insurance and service rendering through the separation of the rendering network. The ISS remains exclusively dedicated to handling financial risks in health pensions and professional risks, while the health service rendering network is divided into seven autonomous public companies called Social Companies of the State (ESE), covering the whole country. An interesting aspect of this autonomy is the possibility for labor unions to become clinic managers or operators, so they will be able to exercise a participative trade unionism instead of a vindicating unionism

VIII.5.4.11 Some Final Observations on the Reform Process

a. Freedom of choice has not been enough to improve system efficiency and quality. There is still great communication asymmetry between users and insurers, leading to lack of competition in the technical component of quality and to a price war, regardless of the fact that these prices may affect the technical quality of the service. This reflection may be valid for markets in large urban centers, but in small or rural markets there is not even exposure to user choice because most of them are regions with only one public hospital and real competition among insurers is not present.

b. Universal coverage was not achieved in the expected period because growing informality in the economy has become a structural pitfall that does not allow for the expansion of insurance coverage based on employment.

c. As a consequence of the previous point, a double affiliation on the part of users is originated as well as the coexistence of three groups with different coverage —contributive regime, subsidized regime and those who are not affiliated — generating great logistic and policy formulation difficulties that make the complete implementation of the reform more complex.

d. The structure of financing sources has allowed them to maintain an anti cyclic rhythm since it has been possible to generate surpluses that make it possible to maintain the flow of resources during recessive periods. The evidence in Colombia shows that it has been possible to maintain the financing of the subsidized regime in times of recession, and that the contributive regime has been able to overcome the difficulties of this period with surpluses accumulated during growth periods.

e. A weakening of the regulatory capacity of the State is being perceived, which in conjunction with the lack of information for decision-making and for controlling the system has resulted in the fact that risks originated by the separation between regulation, service rendering and insurance have not been compensated.

f. The prioritization in the composition of the benefit plan risks being neutralized by the Tutelage Action since limits are exceeded by legal decisions protecting fundamental rights.

g. One aspect that has been highlighted is the scarce supervision and control over the evasion in affiliation and contributions to the health system. The health superintendence argues that the number of those who contribute greatly exceeds the physical capacity of the organization to supervise them and this also becomes difficult due to the high informality rate.

VIII.5.5 Mexico

The Mexican case is presented as an example of a country with a large informal sector, where social insurance is compulsory and linked to formal employment. This is an interesting case given that several countries have similar systems and therefore will face the same challenges.

In the first part, the context of the Mexican health system is presented. In a second section a brief explanation of the 1995 of the Social Security Institution reform. The third part presents the effect of the reform in coverage and on system financing. The fourth part, includes an analysis of the situation prevailing after the reform and presents the challenges of the Mexican system in terms of economic efficiency and distribution that justify the government's intervention in the social security. The last section concludes.

VIII.5.5.1 Health Social Security System

In the Mexican case there is a mix of social insurance and social assistance programs. The coverage of the public health systems is linked to employment and is very fragmented. This fragmentation has as a consequence the inefficient use of resources, since service provision is duplicated, causing an unnecessary expense for the Mexicans.

If the worker is an employee in the formal sector, he and his family will be covered by a social security program. The social security programs covered 41 per cent of Mexicans in the year 2000.[22] Workers in

22 The figures on coverage were estimated using the National Survey of Employment and Social Security 2000 (ENSS, 2000).

the private sector and their families are covered by the Instituto Mexicano del Seguro Social (IMSS), and they correspond to 32 per cent of the population. The IMSS health insurance is financed with worker-employer payroll taxes and fiscal resources.

The employees of the public sector and of other government firms, are covered by different institutions. These include the Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (ISSSTE), Petróleos Mexicanos (PEMEX), Secretaría de la Defensa Nacional (SEDENA) and Secretaría de Marina (SM), among others, which together cover nine per cent of the population. The social security services for these workers are financed trough payroll taxes and fiscal resources.

Finally, the uninsured population corresponds to 59 per cent of the total and it is composed mainly of people in families whose members work in the informal sector or are self-employed.[23] Private health insurance covers just a small part of the population.

Health Programs for the Uninsured

The uninsured population can use clinics and public hospitals. An effort has been carried out by means of different Ministries to achieve effective coverage of remote geographic areas and of low-income people. The programs are: a federal program targeted to the extremely poor population, OPORTUNIDADES, which has a health component; a specific program for the population living in remote rural areas, who receive a basic benefit package, PROCEDES, provided through fixed and mobile health units.[24] And finally a program recently created, 'Seguro Popular', for those families not covered by a social security program. This program offers health services through the public clinics and hospitals and guarantees a list of medicines. The insurance is voluntary and, in order to obtain it, the families have to pay annual fees that vary according to the household income level. The coverage to be achieved by this program will depend on the willingness to pay of the households, and also on the state and federal financial resources used to cover the lowest-income population. For example, the state of Colima financed the premiums of all its low-income population covered by OPORTUNIDADES (World Bank, 2003).

One of the main problems that the 'Seguro Popular' will face is adverse selection. Given that it is a voluntary insurance, high risk individuals will have a greater incentive to affiliate.

Social Security Programs

The health benefits provided by the social insurance programs are larger than those provided by the assistance programs. These benefits are given to the workers and their families, independent of the number of members.

The social security programs include several branches: these are health, disability, old age, and death insurances, working risk insurances, as well as nurseries and social benefits. These cannot be acquired separately, is the employee is in the formal sector and pays payroll taxes simultaneous coverage of all the insurance it is obtained.

VIII.5.5.2 Reforms to the IMSS Health Insurance

In 1995 the law initiative was approved and it was implemented in July of 1997. The reform to the IMSS sickness and maternity insurance was small compared to the Chilean or the Colombian cases. One could say that the Mexican reform was parametric, while those of the two South American countries were structural.

The following points are included in the change to the law:

1. Separation of the financing of the health insurance from the other insurances offered by IMSS. Before the reform, resources from other branches were used to subsidize the costs of the health insurance. Mainly the funds of the insurance for retirement, cessation, advanced age and old age were used, that branch being a PAYGO system, but in 1997 it was changed to one of individual accounts, in which, the resources that enter the system can no longer be used with other ends.[25]

2. The financing of the monetary and in kind benefits are separated.

3. The amount of contributions from workers, employer and government is modified, changing to a government fixed quota; an employer fixed quota; and an additional worker-employer contribution proportional to the wage.

4. A voluntary health insurance for the population not covered at the time by social security is offered — the "Seguro de Salud para la Familia". To obtain this plan the families have to pay an annual quota, and the State makes a contribution coming from general

[23] The estimates can vary according to the survey and methodology used. An estimate from the World Bank (2003) study, uses a different methodology and estimates that 55 per cent of the population is not covered.
[24] Before " Programa de Ampliación de Cobertura" (PAC).
[25] The study by Solís, Soberón and Villagómez (1999) includes among other things a description of the change in the system of pensions after the reform of 1995.

taxes.[26] In this modality restrictions are applied in terms of pre-existing conditions and waiting periods.

The objective of the change in law is to substantially increase coverage and to foment employment generation. Another objective was to eliminate the financial deficit of the health insurance, with greater social justice, making state participation more redistributive (IMSS, 1996). The increment in the government's financial participation is translated into a reduction in the payroll taxes of the workers and the companies, with what is expected to be a greater generation of employment and an increment in the worker's available income.

VIII. 5.5.3 Results of the IMSS Health Insurance Reform

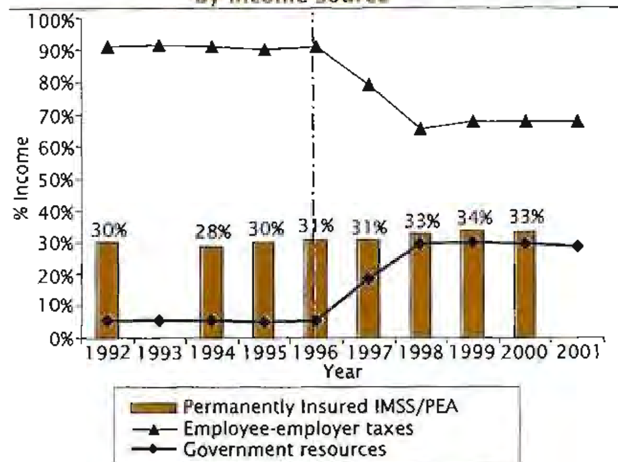
The result of the modification in the distribution of the workers', the employers' and the government contributions to finance IMSS health insurance can be seen in Figure VIII.13. Between the years 1996 and 1998, there was an increase in the state contribution, which went from around five per cent to 30 per cent of total income. The proportion of the employee-employer contributions to finance this insurance was reduced from 90 to 65 per cent during the same period.

In spite of the dramatic change in the distribution of the contributions, the coverage increase was not highly significant, since it only rose from 31 per cent of the economically active population in 1996 to 33 per cent in the year 2000.[27] However, this increase was not due only to the change in the contributions, there was also a change in the benefits of the retirement and old age insurance which could affect the results.[28] This issue is studied in depth in Chapter IV, that covers the impact of the reforms in the labor markets.

Financing and Coverage of the "Seguro de Salud para la Familia"

This insurance is a voluntary plan that provides similar benefits to the in kind component of the traditional IMSS health insurance, but the difference is that those people with certain pre-existing conditions cannot be affiliated, and there is a waiting period to cover some procedures.

Figure VIII.13
Financing of the IMSS Health and Maternity Insurance by Income Source



Source: With information of the Mexican Social Security Institute (IMSS) 2001. Accounting and Financial Evaluation cordination.

In 2001, this insurance covered 577,083 individuals, a figure that has not been modified since 1998. Its expansion has been very limited, if one considers that in the year 2000 there were almost 68 million people not covered by social security. Since most of the members come from previous optional insurance schemes of the IMSS, who decided to keep their insurance, it would be expected that in many cases they might be persons with pre-existing conditions. This scheme had a deficit during the years 1997 and 1999, and slight surpluses in 1998, 2000 and 2001

In summary, it was found that the IMSS reform resulted in a small increase in coverage, with a strong rise in fiscal resources — 25 per cent of the total — for the financing of sickness and maternity insurance. It was also found that the volunteer branch of the IMSS has not been very successful.

Financial Pressures on IMSS Health Insurance

The sickness and maternity insurance of the IMSS covering active workers had a surplus in the year 2000, but a deficit for the group of pensioners. There is a series of factors that will imply an increase in the healthcare costs in the near future, mainly for the pensioners group, which will put a greater financial pressure on the system.

[26] Recent modifications to the law change the collection structure. Now the payment is individual and it will depend on the person to insurer's age.
[27] According to IMSS figures (2001).
[28] The increase in coverage could be also attributed to a recovery from the 1995 crisis. However, if one observes the coverage for the years prior to the crisis, this was very similar to that of 1995, being 30 per cent in 1992 and 28 per cent in 1994. If part of the increase in coverage could be attributed to the crisis, this only reinforces the argument that the change in the contributions did not have play an important part in coverage.

The first factor is an increase in the demand for health services due to demographic processes. The fertility rates are lower and the mortality rates are higher, and as a result of this, a largest proportion of the population will be over 65 years old in the future. The cost of caring for the elderly is, in average, superior to that of caring for the younger groups, as can be seen in Figure VIII. 14. Therefore, an increase in the health expenditure is expected.
A second factor is that the epidemiological outlook has been transformed with a prevalence of conditions that are more costly. Another factor is the increase in the prices of prescription drugs and medical treatment, which increased twice the increase in the price index since 1995 (IMSS, 2000).
The IMSS considers that, taking into account these scenarios, its medical expenditure on the pensioned population will double in the next ten years, from US$1,140 million dollars to US$2,080 million dollars annually (IMSS, 2000).

VIII.5.5.4 Distributive and Economic Efficiency Challenges

In spite of the reform, there is a large part of the population that is not covered. This section will analyze the impact of some variables on the probability that a worker is covered by social security. It will also examine the perception of quality by the patients, since this may affect the employee's decision to become affiliated, as well as the equity in coverage and in the distribution of fiscal resources. Finally, it examines to what extent there is adverse selection due to the lack of effective compulsoriness in the affiliation.

Analysis of the Coverage Determinants for Workers Contributing to Social Security

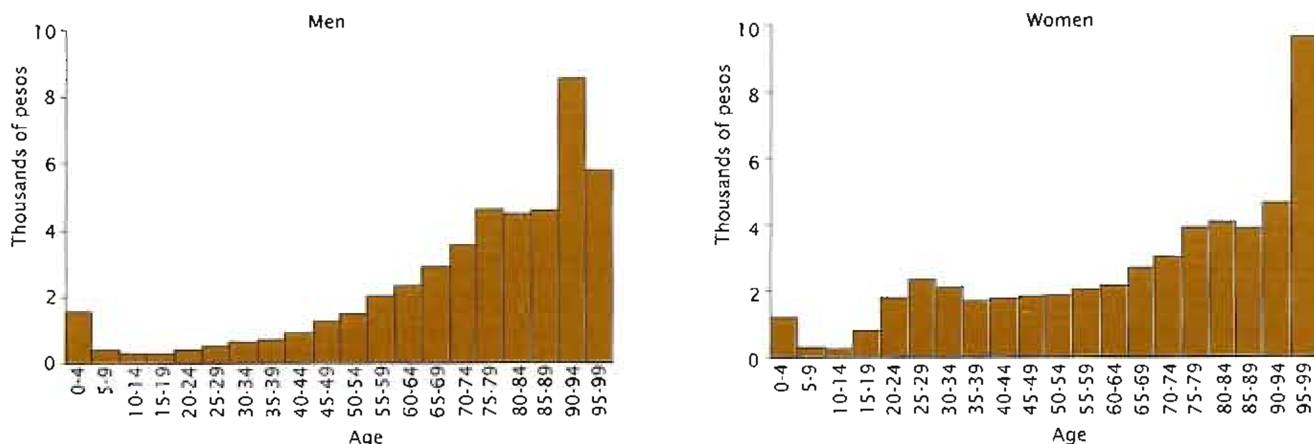
Although affiliation is compulsory by law, in the year 2000, 59.8 per cent of workers in the private sector were not covered by IMSS. There are two reasons that determine whether a person affiliates to social security. On one hand, is the demand for formal employment by the firms, and on the other, the workers' own decisions about whether or not they will enter formal employment. This decision will be based on their perception of the benefit granted by social security and the cost implied.

An estimation was carried out on the variables that determine the probability that workers in the private sector contributed to the IMSS in the year 2000.[29] These included socio-economic variables for the worker and his/her household, others related to the use of health services by household members, and variables related to the source of employment — employment demand.

In Table VIII.20 the different variables and their averages are included, for the economically active population working on the private sector.

It was found that for the variables related to the source of employment, the one that has a mayor impact on the probability that a person contributes to IMSS is the size of the company in which the employee works. The workers in small, medium and large companies have a higher probability being covered by IMSS than those who work in micro-enterprises — 45, 59 and 61 per cent higher,

Figure VIII.14
Annual Expenditure on Hospitalization Covered by IMSS, Men and Woman 2001



Source: Peña, et al.. Prepared with data from the National Health Survey (ENSA) 2000 and IMSS information on GRD's.

[29] Probit estimations were done by using the National Employment and Social Security Survey 2000. Estimations include employees on the private sector, but excluding rural and domestic workers.

Table VIII.20
Determinants of Workers Insurance Coverage by IMSS (2000)

Dependent Variable		Impact on the Probability of Being Covered	Average	Definition
Insured IMSS		Base Group	0.4	=1 worker insured covered by IMSS
		Impact on the Probability of Being Covered	**Average**	**Definition**
A) Socio-economic Variables				
Age and Gender Group				
Women	18-44 years	0.04*	0.26	=1 for women from 18 to 44 years
Men	18-44 years	Base Group	0.53	=1 for men from 18 to 44 years
Men and Women	45-64 years	-.02	0.21	=1 for men and women from 45 to 64 years
Education				
Without Education and with Elementary School		Base Group	0.4	=1 If has no education or has only elementary schooling
Junior High-School		.07*	0.33	=1 if finished junior high-school
High-School		.06*	0.14	=1 if finished high school
College		0.01	0.13	=1 if has Bachelor or higher degree
Household Quintile				
QI		Base Group	0.05	=1 if belongs to the first income quintile
QII		.12*	0.15	=1 if belongs to the second income quintile
QIII		.18*	0.21	=1 if belongs to the third income quintile
QIV		.21*	0.27	=1 if belongs to the fourth income quintile
QV		.24*	0.32	=1 if belongs to the fifth income quintile
Position in Household				
Family Head		.13*	0.52	=1 if the worker is the family head
Spouse		.01	0.14	=1 if the worker is the spouse of the family head
Son		Base Group	0.27	=1 if the worker is son of the family head
Parents		Base Group	0.003	=1 if the worker is one of the family head insured's parent
Rural		-.07*	0.37	=1 if household is in a rural area
B) Variables Related to the Use of Medical Services				
Percentage of Household Users		0.008	0.64	Percentage of household residents that used health care services during the last 12 months
Disability		-.008	0.09	=1 if has a permanent or temporary disability
Older than 65 Years who live at Household		.03*	0.13	Older than 65 years who live at household
Total of residents		0.0007	4.87	Number of residents at household
C) Variables Related to the Source of Employment				
Occupation				
Professionals and technicians		.14*	0.07	=1 If the worker has a technical or professional job
officers and Businessmen		.12*	0.22	=1 if the worker has an administrative job or is in sales activities.

Table VIII.20 (continued)
Determinants of Workers Insurance Coverage by IMSS (2000)

Explanatory Variable	Impact on the Probability of Being Covered	Average	Definition
Education Workers	.15*	0.2	=1 if the worker grants personal or educational services, artisan supervisor
Art, entertainment, sports	.15*	0.38	=1 If the worker is an arts, entertainments or sports worker
Salesperson	Base Group	0.13	=1 if the worker is a travelling salesperson
Size of the firm			
Micro-business	Grupo base	0.59	=1 if works in a micro-business (1to15 persons)
Small-business	.45*	0.15	=1 if works in a small-business (16 to 100 persons)
Medium Size-business	.59*	0.03	=1 if works in a medium size-business (101 to 250 persons)
Big firm	.61*	0.22	=1 if works in a big firm (251 persons and more)
Independent Worker	-.40*	0.4	=1 If is independent worker
Part time Worker	-.22*	0.1	=1 if the employee works less than 30 hours a week

Source: With data from the National Employment and Social Security Survey (ENESS) 2000.

* Statiscally significant at 5% level.

respectively. All of this is related to informality, since it is expected that the micro enterprises are the ones that have a minor cost for being informal. Also, it was found that if the worker is independent, his/her probability of contributing diminishes by 40 per cent, and if he works less than 30 hours per week this probability falls by 22 per cent.

Regarding the socio-economic variables, those with a greater impact are: the household income level, the worker's age and his/her position in the household. The workers in the highest income quintiles have the highest probability of being covered by the social security system.

For example, a worker in the fifth quintile — the 20 per cent of households with the highest income — has a 24 per cent greater probability of contributing to IMSS than those from the first quintile — the 20 per cent of households with the lowest incomes. Both men and women in the 45 to 64 years old group have two per cent lower probability of contributing to IMSS, than a man aged between 18 and 44 years old. If the worker is the head of the family, he has the greatest probability of contributing.

Regarding the variables related to the use of health services, the only one that had a significant effect is the number of people over the age of 65 living in the worker's household, that increased the worker's probability of being covered by IMSS by around two per cent.

With respect to the perception of services provided by IMSS in the year 2000, according to Table VIII.21, it was found that 80 per cent of the population covered by IMSS considers the quality of the healthcare services to be good or very good, and the other 20 per cent considers it regular, bad or very bad. The main reasons that people gave for stating that the service quality was regular, bad or very bad were that they had to wait a long time to get that service — 29 per cent— that they were treated badly —12 per cent — that the prescription drugs and equipment were insufficient or bad quality — five per cent — as well as that their health did not improve with the treatment — five per cent — or that the prescribed drug did not help them — five per cent.[30]

Table VIII.21
Perception of Health Service Quality by Type of Coverage

Quality of the Attention	IMSS	Public Insured*	Uninsured
Vey Good and Good	80%	85%	89%
Regular	16%	13%	10%
Bad and Very Bad	4%	2%	1%

Source: National Health Research (ENSA) 2000.

* Public insured include the ISSSTE, PEMEX, SEDENA, SEMAR and other insurances from the public sector.

[30] Author's own estimation, using the National Health Survey 2000 (ENSA 2000).

The Mexican Health System achievement in Relation to the Justification of Social Security as a Public Institution

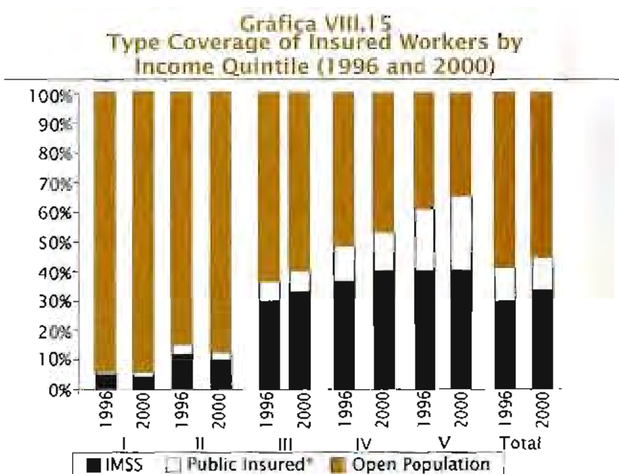
Following an analysis is done to find out whether there is a persistence of the market 'failures' and inequities in coverage that should be corrected by the government's intervention.

Coverage per Income Level

Figure VIII.15 presents the level of workers coverage per income quintile estimated with data from the National Employment and Social Security Survey (ENESS) for the years 1996 and 2000; that is, before and after the IMSS reform.

First, it must be noted that the percentage of workers covered in households in the lowest income quintiles is less than the coverage of workers pertaining to households in the highest stratas. Of the total workers who were in quintile I in the year 2000, only four per cent were covered by the IMSS and one per cent by other public insurers, while for these in quintile V, 43 per cent were covered by IMSS and 21 per cent by other public insurances. In this figure, one can see that between the years 1996 and 2000 there was a reduction in the percentage of workers covered in quintiles I and II, while there was an increase of coverage for quintiles III, IV and V.

Gráfica VIII.15
Type Coverage of Insured Workers by Income Quintile (1996 and 2000)



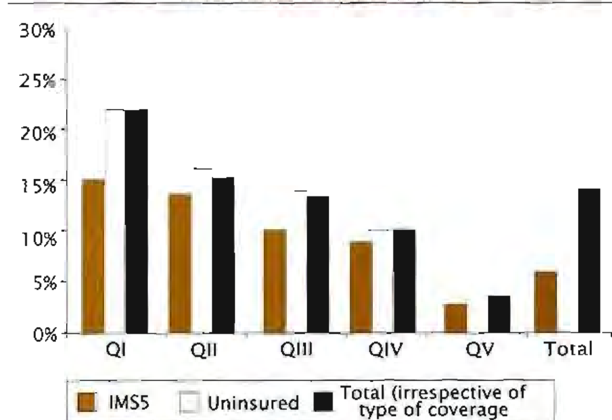
Source: Author's elaboration with data from the National Employment and Social Security Survey (ENESS) 1996 and 2000. INEGI.

* Public insured include the ISSSTE, PEMEX and other public sector insurances.

Although the in kind sickness and maternity insurance of the IMSS is very extensive, because of problems related to service quality, mainly waiting lists and lack of prescription drugs, those people who are covered have to pay out of their own pockets for some services and prescription drugs. It may be observed in Figure VIII.16 that this expenditure corresponds on average to six per cent of the household's income in the year 2000.

The expenditure as a proportion of the income of non-insured households is higher, at 19 per cent. Independent of the coverage, the households with lowest income have a higher health expenditure as a percentage of their income than those in the higher stratas. For the households covered by the IMSS on the first quintile, out-of-pocket expenditure in health corresponds to 15 per cent of their income, while for those without coverage that expenditure is 22 per cent of their income. And this percentage is smaller for the highest quintiles.[31]

Figure VIII.16
Out of Pocket Expenditure as a Percentage of the Household Income (2000)



Source: Author's elaboration with data from ENESS 2000.
Note: The ENESS 2000 reports the household out of pocket expenditure as a percentage of the three-month family income. The relation is calculated as the household aout of pocket expenditure divided by the family income. Households whose family income is zero are excluded, and for the cases where the household out of pocket expenditure is higher or equal to family income, we will assume, that the out of pocket expenditure as proportion of the family income is equal to 1.

A study carried out by researchers from FUNSALUD and The World Bank (The World Bank, 2003) estimated the percentage of households that incur in catastrophic health expenditures. Two definitions are used: the first is that they face catastrophic expenses when they spent more than 30 per cent of their available income in health. The second is, when discounting the health expenditure from their income they are left below the poverty line — US$1 dollar per day per household member —.

[31] Data on out-of-pocket expenditures were also estimated by the World Bank (2003) study using a different methodology and the National Income and Household Expenditure Survey 2003. Percentages vary, with health expenditure corresponding to five per cent of income for the total population, three per cent for IMSS population and six per cent for the uninsured. Although the data are different, trends by income level are the same as the ones presented here.

Using the ENIGH 2000, researchers found that over one year period, according to the first definition, 2.02 per cent of households with social security coverage face catastrophic health expenditures and 4.84 per cent of non-insured households incur in this kind of expenditure. Using the second definition, the percentage of households increases to 9.3 per cent for the insured and to 39.48 per cent for the non-insured.

Inequity in Fiscal Health Expenditure as a Result of the IMSS Reform

Fiscal expenditure per capita varies according to the kind of coverage. Between 1996 and 2000 this expenditure changed from having a progressive trend — people with less income received a larger subsidy from the government — to a regressive one in absolute terms — those with the highest income receive a larger subsidy from the government.

As can be seen in Table VIII.22, in 1996 the fiscal expenditure per capita addressed to the IMSS corresponded to $99 pesos —in pesos as of the 2000 — while in 2000 that expenditure had increased to $806 pesos. If this is compared with the fiscal expenditure on population not covered by social security, before the IMSS reform it was large than that of the insured ($378), but after the reform this expenditure was lower than the IMSS figure ($658).

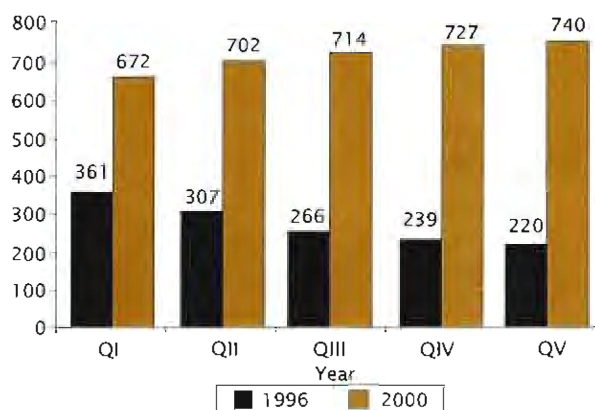
If one considers the distribution by income level of the covered and non-covered populations, which is shown in Figure VIII.17, it can be noted that in the year 2000 the fiscal expenditure in absolute terms had a regressive trend, while in the year 1996 it had a progressive trend.[32]

Arzoz and Knaul (2003) find similar results for the year 2000. These authors also detect vertical and horizontal inequity in the fiscal and public expenditure in health. The inequities come from the difference in the expenditure between covered and non-covered populations, and from the unequal geographical distribution of public resources addressed to the open population by the State governments. However, federal programs such as PAC, PROGRESA and IMSS-Solidarity seem to have a more equitable distribution.

Now then, inequity may not be so high if it is considered that, in fact, from those covered by IMSS, the percentage pertaining to the highest income level using IMSS medical services is lower compared to affiliates in the first income quintile that used them.

With regard to the uninsured population, it was found that a larger proportion of low income people use public services have, and a smaller one from the highest quintiles used them.[33]

Figure VIII.17
Per capitaFiscal Expenditure by to Income Quintile



Source: IMSS, National and State Health Accounts System, General Office for Information and Assessment of the Performance, Ministry of Health, Mexico 2002 and ENESS (2000).

Table VIII.22
Per capita Fiscal Expenditure by Type of Coverage (Pesos of 2000)

Year	IMSS	Uninsured
1996	$99	$378
2000	$806	$658

Source: IMSS, National and State Health Accounts System, General Office for Information and Assessment of the Performance, Ministry of Health, Mexico 2002 and ENESS (2000).

[32] The above calculations are those of the authors, using information from the IMSS, the National and State Health Accounts System, provided by the General Office for Information and Assessment of the Performance, of the Ministry of Health, Mexico 2002 and the ENESS (2000).

[33] Using data from the ENESS 2000 it is found that the percentage of open population that uses public services for quintile I is 75 per cent, for quintile II it is 58 per cent, for quintile III it is 45 per cent, for IV it is 34 per cent, and for V it is only 15 per cent.

Adverse Selection

In this section a statistical analysis is made in order to find out if there is a problem of adverse selection, and to estimate the cost of that problem for IMSS. In Mexico, this problem may exist because coverage is not compulsory, in particular because coverage is linked to employment and there is a high degree of informality.

In cases where workers have the option of choosing between a job covered by IMSS or another not covered — informal or independent — it may be that the ones who tend to seek IMSS affiliation are those who require more medical care, for example those over age of 65.

In order to investigate this phenomenon a statistical analysis was made in which the determinants of being covered by the IMSS were estimated. These included risk factors such as age and gender groups, and whether the person has a permanent disability or not, controlling for socio-economic factors that include education, household income level and whether the person lives in a rural area.

As it can be observed in the second column of Table VIII.23, it was found that the probability of being covered by IMSS increases for those age groups with higher expected health expenditure. Comparing with the group of men from 5 to 19 years, which as can be seen in Figure VIII.14 is the one with least cost, the probability of coverage seems to be related to the medical expenditure anticipated by the person. For example, men and women over the age of 64 have a probability of being covered by IMSS seven times higher than those who do not have a disability. These results suggest that there is a problem of adverse selection.

Table VIII.23
Determinants of Worker and their Families Coverage by IMSS (2000)

		Impact on the Probability of Being Covered	Average	Definition
Insured IMSS		Dependent Variable	0.34	=1 if covered by IMSS
A) Socio-economic Variables.				
Age and Gender Group.				
Men and Women	0-4 years	0.07*	0.11	=1 for men and women from 0 to 4 years
Men and Women	5-19 years	Base Group	0.34	=1 for men and women from 5 to 19 years
Women	18-44 years	0.03*	0.19	=1 for women from 20 to 24 years
Men	20-44 years	0.03*	0.17	=1 for men from 20 to 40 years
Men and Women	45-64 years	0.06*	0.13	=1 for men and women from 45 to 64 years
Men and Women	65 years and more	0.10*	0.06	=1 for men and women 65 years and more
Rural		-0.18*	0.53	=1 if belongs to a rural zone
Education				
Without Education and Elementary		Base Group	0.65	=1 If has no education or only elementary
Junior High School		0.06*	0.22	=1 if finished Junior High School
High School		0.05*	0.07	=1 if finished High School
College		0.03*	0.05	=1 if has a Bachelor's or a higher degree
Family Income Quintile				
QI		Base Group	0.16	=1 if belongs to the first income quintile
QII		0.27*	0.21	=1 if belongs to the second income quintile
QIII		0.40*	0.20	=1 if belongs to the third income quintile
QIV		0.45*	0.19	=1 if belongs to the fourth income quintile
QV		0.48*	0.17	=1 if belongs to the fifth income quintile
B) Variables Related to the Use of Medical Services.				
Disability		.07*	0.06	=1 if has some permanent disability

Source: With data from the National Employment and Social Security Survey (ENESS) 2000.

* Statistically significant at 5% level.

Finally, an estimation was made of the cost that adverse selection represented in the year 2000, considering only the expenditure on inpatient services. This calculation was made by comparing the total cost of such expenditure for affiliates to the IMSS with the inpatient expenditure if the IMSS population were distributed at random, that is, the total population, whether affiliated or not. The resulting cost of the adverse selection was $1,528 million pesos, that is, 4.04 per cent of the total inpatient expenditure.[34]

VIII.5.5.5 Final Comments about Mexico

In the Mexican case, as well as in other countries of the American continent, the health social security includes traditional programs provided by different social security institutions, as well as by social assistance schemes for the uninsured population.

From the study of the Mexican case, it may be concluded that:

Coverage varies according to the income level and type of job of the household members, and the people who mainly have access to the social security programs are those with higher incomes who work in big companies. The rest of the population may use the services of public clinics and hospitals. The uninsured population also has access to the health components of specific programs such as 'Oportunidades', or PAC.

The health benefits packages delivered by the social security institutes are more comprehensive than those of the assistance programs, and therefore people with higher income level have access to formal programs with a wider coverage.

There are problems of quality of service, and as a result none of the above mentioned programs has complete or coverage and for this reason on many occasions people have to buy the services from the private sector, affecting the household budget. This may be observed from the out-of-pocket household expenditure that arises under any type of coverage. The main quality problems include the lack of prescription drugs or healing materials, the waiting times for gaining access to health services, the poor treatment that people receive in some hospitals and health centers, as well as the lack of confidence in practitioners. To all this, one may add the problems that affect people in rural areas or small cities, such as the high transportation and lodging expenses when they need to use a hospital.

The distribution of fiscal resources is unfair because there are more resources assigned per capita to social security programs than to social assistance programs, and given the coverage distribution, households with the highest incomes receive more fiscal resources per capita.

There is evidence of a problem of adverse selection. As it is argued, when affiliation is linked to the source of employment and there is a large informal sector, some people may choose to be covered. The problem of adverse selection raises the cost of healthcare for the IMSS. According to calculations made, the healthcare expenditure of IMSS is four per cent higher, for inpatient services alone, as a result of this problem.

VIII.6 General Conclusions

It is found that in order to achieve a universal coverage it is a necessary condition that the system is financed with fiscal resources, and that all citizens have right to the insurance coverage, as in the case of Canada. In economies with an informal sector, if the social security affiliation is linked to employment it is not possible to achieve universal coverage. Part of the population of the informal sector will not be covered because there is no way to force them to contribute to the system. This happens in the cases of Chile, Colombia and Mexico, where the only way to achieve universal coverage is to insure the whole informal population with fiscal resources. However, this could introduce distortions into the formal labor market.

In systems where there is the possibility of choosing between public and private insurers, as the Chilean and the Colombian cases, there will always be a need for an insurer of last resort. This, because it is almost impossible to avoid the risk selection by the private insurance companies, that is, that they do not accept high risk people in their plans. In the case of Chile there is evidence that this problem occurs. In Colombia, there is regulation in place that endeavors to avoid this problem, however, it is very early to assess if in effect this can be avoided.

Finally, certain levels of financial resources are necessary in order to achieve coverage of the whole population. It cannot be expected that the Latin American countries reach the expenditure levels of the United States and Canada.

With regard to the systems equity, it is found that social security coverage in Chile is quite high for all income levels. Nevertheless, people with less income

[34] Author's own calculation using hospital expenditures per age group of Peña, Caamal and Rodriguez (February 2003) and data from the ENESS 2000.

are concentrated in the public sector and those with higher incomes in the private one. In both Colombia and Mexico, people with lower incomes have a low level of coverage by the formal social security programs. In Colombia this problem has been reduced, while in Mexico it has increased.

The Chilean and Colombian reforms have placed an emphasis on targeting fiscal resources to covering people with lower income. In the former, this is one of its biggest successes. In the latter this has not been totally achieved, because part of the resources necessary for covering this group would come from reducing the fiscal transfers to public hospitals, and this has not been possible. In Mexico there has been no focusing of resources, in fact, as a result of the reform more fiscal funds are transferred to persons who are covered by the formal social security programs, who are also the ones with higher incomes.

There are market failures in Chile, Colombia and Mexico. In Mexico and Colombia there is evidence of adverse selection due to the fact that the insurance — which is compulsory by law — is partially voluntary, due the existence of a strong informal sector. In Chile's case, the evidence shows that there is a problem of adverse selection against the private sector.

Finally, policies to slow down costs increase carried out by Canada were successful in the sense that there was no big increase in the healthcare expenditure of this country, as compared to the United State.

In the United States, a certain degree of success has been achieved in controlling the health expenditure. In Medicare the way of reimbursing the hospital was changed from the for service payment program to prospective payment, and with this it was possible to reduce costs dramatically. In the Medicaid program instead of buying services directly from providers, a system was introduced to buy services through the managed care type of insurance, which has been found to reduce healthcare costs, although not necessarily the premiums.

CHAPTER IX
SUMMARY AND CONCLUSIONS

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To end, this chapter offers a review of each chapter of the Report, and then conclusions with some comments.

IX.1 A Summary of the Report

The Inter-American Conference on Social Security (CISS) has made an effort to collect new information and provide analysis on the performance of the reformed systems, in pensions as well as in healthcare insurance. In doing so, 32 studies were commissioned through which many aspects of the reforms in the continent were analyzed, 25 of them were carried out by external experts. Each chapter of this report is devoted to a specific topic.

Chapter I. Introductory Concepts

The Social Security schemes seek to ensure that every inhabitant of a country is given the same socioeconomic opportunities, regardless of whether they have to suffer from the materialization of many risks that may reduce, permanently or temporally, their sources of income.

In terms of the incidence of insured events, and the amount of resources for them required to operate, old age pensions and healthcare attention are the two most important branches of social security. The analysis is limited, then, to the reforms of those branches.

Pension insurances have been categorized as public or private. In the case of the public system, it has been stated that contribution rates are not defined as they depend on the demographic conditions of the country. In fact, as a country ages, payroll contributions should be increased gradually, as the number of active workers falls relative to those who are retired, as it will be explained later.

Benefits are established in a given formula by law. The scheme is financed through a pay-as-you-go system, i.e. pensions for the elderly are paid using contributions made by younger citizens, and this is run by a government agency.

In the private systems, contributions are determined the outset without reference to the demographic characteristics of the country, but as will be seen, this is not necessarily possible if the pension at the time of retirement is too low.

Benefits are not wholly defined, as they depend on the accumulated individual account of the workers, but it has to be emphasized that, ultimately, the public system's benefits as established by law could be financially unsustainable, and therefore it is not certain that such benefits will be received.

The private system is funded in the sense that the pension depends on the accumulated amounts in the person's individual account, and the management of the funds is generally private.

Now, there is no national social security system that is limited to forcing workers to save in their individual accounts. They all include, to some extent, a minimum guarantee of pensions, which is a fiscal concession made by the State, charged to source revenues not coming from social security, but from general taxation, or else, the guarantee is financed with solidarity contributions from those who do not need them. One way or another, all private systems have a degree of financing through a pay-as-you-go system.

The classification of social security health schemes is perhaps a complex task, but two dimensions are emphasized in general: who finances the system, and who supplies the services. That is, the government could finance medical attention, but doesn't

necessarily have to provide that attention directly, but rather it could hire a third party to do so.

At the same time, in the case of the financing from the government, this could be based on payroll contributions made by workers and employers, or could depend on fiscal revenues from other non-contributive sources. In a same way, direct provision of services could be made by the government or private firms, irrespective of the financial source.

Population ageing is the main challenge to social security, not only in the pension insurances but also in the medical ones. This is evident for a pension system financed by the contributions of the young, but it is also true for those in the individual capitalization schemes, given that the insurance premium paid to the insurers in order to acquire an annuity with the funds accumulated by the workers becomes more expensive when life expectancy increases

On the other hand, there are two main challenges facing the medical services schemes in social security, the problem of adverse selection and the continuous increase in costs of the services provided.

There is an initial difficulty when the system does not have universal coverage, as in such a case workers who are not covered may look for coverage and contribute only when they get sick and medical attention is required.

This may lead to a strong fiscal pressure on the scheme, because people who use the system intensively could be overepresented in the covered population, and those who make contributions without making use of the system are underrepresented.

The other problem is the sustained increase in the costs of healthcare insurance, which has been present to a greater or lesser degree all around the world, especially over the last three decades.

Cost increases are triggered by many factors. One of them is precisely the ageing of the population, as medical services for the elderly are much more expensive. It is also important to point out that the epidemiological transition affecting modern societies, with an increase in illnesses that are expensive to look after and to control as a result of contemporary lifestyles. In addition, a strong trend towards an increase in the prices of medicines and treatments has been found. What is available to the population becomes more effective all the time, but also at a higher cost. Finally, the results of some studies have made it possible to state that if the demand for services is not limited somehow, there is a trend in which individuals use excessively the medical services to which they are entitled.

Reforms to social security could be parametric or structural. The former refers to changes in the parameters of the traditional scheme, such as the retirement age, the number of years of contributions required to acquire rights to a pension, the rate of the payroll contribution, whether there should be some kind of co-payment to receive medical attention, or the limits to attention for some illnesses, among others.

Structural reforms, on the other hand, in the case of pensions imply modifications to defined contributions schemes, financed through pay-as-you-go, and a partial or total adoption of a private system, or one of defined contributions.

In the health schemes, the most important reforms have been the structural, in the sense that they have been oriented towards allowing the participation of service supply through private companies, while maintaining public financing. In a few cases, some individuals are allowed to leave the scheme and complement the financing of medical services with private resources.

Chapter II. Political and Economic Factors Influencing Social Security Reform

The objectives of this chapter were to offer a broad panorama of trends that characterize some countries that have undertaken reforms and analyze the importance of political variables in that process.

It was following the privatization of the Chilean pension scheme that many countries showed a higher propensity towards the privatization of such systems, encouraged by international organizations.

Despite the importance and weight of economic and financial arguments, in favor or against such reforms, it is important to bear in mind that the design, implementation, monitoring, and especially adjustment of public policies, are part of a highly politicized game. This is particularly true of policy changes that lead to distributive consequences, as is the case of reforms to a pension system.

It could be argued that social security reforms fail when there are pressure groups opposed to changes. They also fail when veto players promote action to reject them. The absence of a true commitment to go ahead with the reforms and compensate the loser groups, as well as the lack of explicit information, are among the reasons for failure.

The population aged 65 and over is often the interest group that could exert more pressure on public policy-making with regard to social security reforms.

It is widely acknowledged that, in general, democracies spend more social security policies, but it is also recognized that they facilitate the creation of interest groups and the establishment of the channels needed to express such interests and then move towards the achievement of their objectives. In increasing the diversity of interests, it could become more difficult to effect changes to the *status quo*. In consequence, it is expected that a greater degree of democracy will have a negative effect on reforms to social security.

A statistical analysis was carried out in order to determine which economic, demographic, and political factors influence the decision to undertake a social security reform. On a global scale, today's social security spending has a negative impact on the probability of reforms being implemented. This seems to confirm the hypothesis that with the passage of time, social assistance programs come to be considered as social assistance rights. The analysis also indicates the existence of a small income effect, as the higher the per capita GDP, the higher is the probability of a reform to the pension scheme.

Political freedom has a negative effect on the probability of reform of the social security system. It seems that when a country allows of different voices and agents to express an opinion, it becomes more difficult to change the *status quo*. The existence of an institutional system that allows those groups to express and advance in their goals reduces the probability of a reform.

On the other hand, the level of political restrictions is not relevant in explaining the probability of reforms to the pensions system. The evidence shows that in political environments that are highly restricted due to the power of veto players, on some occasions rulers find a way to ensure that the opposition passes a reform, but on others they do not have the capacity to do so. There is no defined trend.

Statistical analysis was carried out for the American continent, to identify those factors that influence the probability of a private social security scheme — a structural reform — being implemented. The variables with stronger links to the probability of a structural reform are the population aged 65 and over, the level of the fiscal balance and the index of economic freedom. Another variable with some degree of influence is the social security spending, but this is blurred, i.e. the trend towards reform is equally likely in countries with lower levels as in countries with high spending on social security.

In the American continent, structural reforms are more likely in countries with larger shares of older population. On the other hand, the evidence shows that economic freedom has a positive effect on the probability of a policy change, which could be interpreted as an attempt to seek efficiency on the part of governments, imposing an agenda with lower state intervention in the economy.

The lower the fiscal pressure on the government budget, the lower the probability of reform. In consequence, it seems that this policy is understood as a form of reducing the fiscal pressure on the public finances, perhaps because previous systems had important financial imbalances that were expected to negatively affect the public budgets in the medium term.

In general, there are also other factors that could be relevant, such as the compensation of affected groups and the transparency of information regarding such processes. Because some groups receive more benefits from reforms than others, there should be an early identification of potential winners and losers leading to a better outline of compensation mechanisms in order to avoid greater losses for some individuals or families, which also depends on the credibility of policy-makers and the transparency of the process, with useful information flowing freely.

Chapter III. Social, Economic and Political Context of the Reforms: Viewpoint from the Countries Concerned

Over the last few years, there has been a dynamic process of social security reform in the Americas. Faced with the new demographic, social and economic conditions, most of the countries have seriously examined how well the provisional system was working and implemented broad changes to such schemes.

Historically, social security faced many difficulties in order to surmount many fundamental problems. Among these, one could highlight the effects of the lowering birth rates that has an impact on the financing based on the generational change, given that as a consequence of the demographic change there are less young workers making contributions to the schemes that sustain the elderly. Another challenge has been the negative redistribution of the benefits promoted by social security, as on many occasions systems granted privileges, not to the needy, but to those with political power. Finally, there also was a lack of efficiency and effectiveness in the management of the systems.

In general terms, Latin American reforms have had the following characteristics: individual capitalization financed through defined contributions; the revenues of private management opened to free competition; and a new distribution of

responsibilities among government, institutions and society. In the USA, reforms have been parametric, i.e. the PAYGO system has been maintained, with defined benefits, but with some modification of its parameters, such as the retirement age. However, that country has been evaluating the possibility of partially adopting an individual accounts scheme.

The analysis highlights that, within the Latin American countries there exists the perception that international financing organizations exert pressure on governments to go ahead with structural reforms in the pension schemes.

In the specific case of Brazil, the characteristics of the recent reform to social security were presented, as an example of one related to the schemes of the bureaucracy. In many countries it is the case that the benefits of the bureaucracy are greater than those from the national insurance system of the private sector. The Brazilian reform is, perhaps, the beginning of a new wave of reforms to social security systems in the continent, addressed at the bureaucratic schemes.

Many concerns are expressed regarding the reforms at all levels. It has been pointed out, with precision, that there should be a closer link between the new systems and real social needs; a greater focus on the relationship between social costs and economic efficiency and management; absolute respect for the basic principles of social security; significant advances in coverage, particularly in the farming sectors, informal economy and the identification of financing sources to address an actuarial and financing imbalance.

However, social security reforms in the Americas are a dynamic and continuous process. In fact, as pointed out in the chapter, at this time many generations of reforms have been passed, teaching us that there is no single solution and they all pose some kind of risk. This means that there are some concerns about the identification of corrections that may permit us to achieve the goals of social security.

Chapter IV. The Labor Market: Effects of Social Security Reform

Some studies were commissioned to evaluate the impact of structural and parametric reforms on social security coverage and on the incentives for workers to take an early retirement. This implied the analysis of the effect of such policies on wages, employment, the valuation of social security benefits by workers, and the trends in retirement among the elderly.

Some countries increased the payroll tax for contributions paid by employers and employees, while others reduced it. The former were probably more concerned about social security finances, while the latter assumed that such reductions would encourage an expansion in coverage.

Those who implemented a structural pension reform make a deposit in the worker's individual account. In theory, this creates a closer link between the contributions made and benefits received. The hypothesis is that such a measure should be reflected in a lower net tax for covered workers, i.e. in a higher valuation of the contributions to social security.

The fundamental idea is that the individuals in the informal or uncovered sector get a slightly higher wage than similar workers in the formal sector, and the difference is the measure of how valuable the social security benefits are. This is important since the higher the valuation of benefits by workers, the greater the incentive to get a formal job. This is the reason why in low coverage countries it is normal that reforms try to establish a closer link between contributions and the system benefits.

In Chile, social security contributors have a take home wage about nine per cent lower than non contributors, while the contribution rate is 20 per cent of the wage, which indicates that workers consider that about half of the contribution is a pure tax on covered jobs. It is estimated that a hypothetical reduction of ten per cent to the payroll tax could lead to a two per cent increase in employment, and one of 0.7 percentage points in the participation rate of the labor force. During the 1970s there was a reduction in coverage as a consequence of the high and increasing payroll taxes. Starting from the number of contributors to the old regime as a share of the total employment in 1980, it could be argued that social security coverage increased from 50 per cent in the year prior to the reform, to 60 per cent in 1982 and to 65 per cent at the end of the 1990s. On the other hand, in general, the trend towards early retirement of the labor force by both males and females has reversed after the social security reform, in which the pensions levels depend on individual savings, and thus those who keep working will receive a higher benefit.

In Argentina, the valuation by workers fell after the reform, from 19.4 and 16.2 per cent for males and females, respectively, before 1994, to 12.0 and 12.8 per cent thereafter. This reduction could be explained by macroeconomic conditions that increased unemployment and informality, among other problems, and especially the lack of job flexibility and depressed wages. It was estimated that, with the parameters of the Argentinean labor market, in theory a reduction of about ten per cent of the payroll

tax would increase employment by about two per cent. However, since the 1980s, formal employment has shrunk substantially, probably as the consequence of higher taxes and labor market regulations that reduced the labor flexibility needed by firms as they faced an adverse macroeconomic panorama. That is, the expected expansion of social security coverage from the reform has not occurred.

In the case of Mexico, a study shows that the valuation of social security benefits by workers as a percentage of the contribution rate increased from 46.9 to 69.7 per cent with the reform. However, another study shows that such a valuation has remained at about 35 per cent of the contribution rate despite the policy change, with wage differentials in favor of uncovered workers of about 9.0 and 6.9 per cent before and after the reform, respectively, and a reduction in total payroll taxes from 25.6 to 20.1 per cent. In theory, it was estimated that a reduction of about six per percentage points in the contribution rate by workers, would increase the proportion of covered to uncovered employment by between 2.4 and 4.5 per cent. From 1996 to 2000, an increase was noted in the proportion of covered to uncovered workers, but this should be attributed to the recovery in the economy rather than to the reform. After 2000, however, the ratio of covered to uncovered workers seems to be stable at four per cent higher that before the reform.

In Brazil, the earnings premium needed to compensate covered workers for making contributions to social security to a point that is sufficient to prevent workers and employers from leaving the formal sector was about 12.5 per cent in 1992, 7.5 per cent in 1995 and 13.5 per cent in 2001. It was predicted that, in the long run, a reduction of ten per cent in real wages — for example, as a result of a ten per cent increase in payroll taxes to social security — would reduce covered employment by about 4.3 per cent and increase uncovered employment by about 0.9 per cent. This supports the diagnosis in which high and increasing labor costs are associated with lower employment in the formal sector, higher rotation rates, lower labor productivity and, thus, lower wage levels, which explains the huge expansion of the uncovered sector that has occurred over the last years.

In Bolivia, the wage differential between uncovered and covered workers is higher before the 1997 reform, but it decreased subsequently, although during the last few years it has increased once again. Although at the beginning the reform had a positive effect on labor, financial problems of the system and many distortions have negatively affected the valuations of the workers, meaning that the impact of the reform on the labor market has not been what was expected.

In Canada, the public pension system discourages work after 60 years of age as it significantly reduces the insurance against loss of earnings. There is a great deal of proof that income tests act as an incentive for people to retire at around 60 years of age. Regarding the coverage of the system, on the other hand, there is some evidence that the increase in the contribution rates have had a negative effect, except on women in middle age, as the coverage in this sector increased.

In the USA, the impact of social security and the recent reforms on the labor supply is widespread. It is more likely that workers will retire at 62, as they are then eligible to obtain partial benefits under early retirement. In order to encourage the elderly to work, the income test was abolished, as it reduced benefits if they were working. However, such a test is valid for those who opt for an early retirement between 62 and 65 years of age. It was found that if changes in the benefits due to the reforms in social security are not anticipated by workers, then the effect on the choice to retire could be substantial, especially for individuals close to the retirement age. This happens because they would not have adjusted their consumption and savings patterns, as could have been the case if they had anticipated the policy changes.

In general, the low valuation of the social security benefits by workers in many countries is the main hurdle to social security reform having a positive and substantial effect on coverage. The real increase in covered workers has been limited in some countries that have carried out reform and it has been negligible in others.

In an adverse macroeconomic context, social security reforms should be included in a complete fiscal reform, otherwise the reduction in the payroll tax in a context of recession would be not enough to encourage covered employment, given the high unemployment rates and the fiscal pressure faced by firms.

Chapter V. Fiscal Aspects of Social Security Reforms: Redistribution and Transition Costs

Social security is a powerful tool of inter- and intra-generational redistribution. It is inter-generational as it transfers income or welfare between different generations, defined according to the year of birth of the individuals; and intra-generational as it does so between individuals in the same generation, but at different income levels.

In the region, with the ageing of the population, pensions systems such as the PAYGO, in which retirees are paid from the contributions of the young,

faced serious problems of financial solvency as the insured received benefits that exceeded the contributions paid during the working life. Thus, in the last 20 years individual accounts systems have been introduced, where it is the contributions that are defined rather than the benefits to be received.

This chapter discussed the effects of the reforms on inter- and intra-generational income distribution, as well as the costs problem related to the transition between schemes. In doing so, empirical evidence was used from the cases of Argentina, Mexico and Uruguay.

In the cases of Mexico and Uruguay, in order to analyze intragenerational distribution, the population was divided according to income levels, and the increase in the net balance of the benefits versus the contributions of the reformed pension system was calculated. In the case of Argentina, the ways in which the design of the pension scheme might damage or benefit different income level groups was analyzed.

It was found that the PAYGO system is more generous with low-income individuals than with high-income workers. With the capitalization of the system, some degree of fiscal progresiveness was maintained, however, mainly because of the state contributions and the guarantee of a minimum pension.

In the Mexican and Uruguayan cases, the main beneficiaries of the reform have been high-income groups, while in the case of Argentina it has been the low-income individuals. In Argentina the average wage of the last three years was used in the calculation of the pension under the PAYGO system. As a consequence, less educated workers and women who had a relatively flat wage trajectory transferred income to the high wage individuals.

In the case of Uruguay, it was found that men win and women lose from the reform. Additionally, the low-income sectors are benefited, but to a lesser degree than those in the high-income levels. In Mexico, on the other hand, individuals from deciles I to VIII on the income scale lost with the introduction of the capitalization system.

In the study of the intergenerational redistributive consequences of the social security systems in Mexico a generational accounts model was used, while in Uruguay a general dynamic equilibrium model was used. In both cases, the objective was to evaluate the fiscal burden that present generations impose on future generations.

Regarding the intergenerational distribution of income in Mexico, the analysis shows that even after the reform, future generations will have to support a fiscal burden three times higher than that of the present generation. These inter-generational disequilibria arise from previous prior obligations of the State with individuals contributing to the same PAYGO system.

In the case of Uruguay, and contrary to the Mexican experience, the reform did not recognize any implicit debt to the affiliated that had previously contributed. Therefore, the reform mainly benefited the future generations and caused a reduction in the public debt in the medium and long term, but without increasing the burden on the present generation.

In Argentina, younger workers benefit the most from the individual accounts component under the new scheme. This was reflected in the financial viability of the PAYGO system, as when changing to the capitalization schemes, it is deprived of important amounts of contributions.

Transition costs arise because when modifying the PAYGO scheme and introducing an individual accounts one, the financial burden is transferred from future generations to the present ones. For that reason, during the reform a particular strategy was devised to meet the previous obligations of the State.

With regard to the transaction costs, the results in general show a high fiscal effort in the short term, but this diminishes over time. In Argentina, thanks to the reform there has been a reduction in the fiscal deficit of 65 per cent compared to the forecast without reform.

In Mexico, despite the substitution of the PAYGO system for one of capitalization, there is some obligation from current pensions and from the prior obligations of the old system. The trend of the first is to fall from 0.49 per cent of the GDP, to 0.07 in 2026. In that year, the costs of the latter would have risen from 0.03 per cent to 0.27 per cent of the GDP.

In Uruguay, in the short and medium term the increase in deficit increases will range between 1.6 and 1.8 per cent of the GDP, but in the long term it will be reduced by more than 2.1 per cent of the GDP.

Chapter VI. Pension System Reform and Household Savings

In this chapter the behavior of households is analyzed, in an effort to identify the possible effects of a pension system reform.

Specifically, there is an analysis of the reforms in Argentina, Chile and Mexico, with two basic questions being posed: will those affiliated to the new system

save more or less than those who are not affiliated? And, are those results stable over time?

In order to answer these questions, there is first a discussion, from a theoretical perspective, of the expected impacts of the reform on saving decisions taken by households; in addition, there is a short presentation of the characteristics of the pensions systems of the three countries, before and after the reforms, that could be relevant to this topic. Empirical results show that such a measure would affect voluntary savings made by households in many senses.

First, affiliates to the new system of individual accounts modify their voluntary saving rates. In some cases they do it in order to complement or in others to substitute the compulsory savings through the AFPs.

Results suggest that in Argentina individuals affiliated to the reformed system in 1997 substituted private savings with compulsory ones through the pension system, that is, the first impact of the 1994 reform was the reduction in the voluntary savings in the households.

In the case of Chile, where the scheme was modified in 1981, it was observed in 1988 that households complemented their previsional contributions with voluntary savings: that is, at the beginning the reform encouraged higher savings. However, subsequently, in the stage of consolidation of the system, households modified their behavior and compensated an important part of the contributions to the pension system with voluntary dissavings; however, the compensation of savings was far from complete, and therefore the household's total rate of savings increased.

In Mexico, a decrease in consumption was noted, implying an increase of savings, during the implementation of the system, that is, during the first years of the reform.

A second result is that there are indirect effects, although small, from a pensions reform on the relationship between a household's voluntary savings in a country, and some of the variables that affect it, such as income, labor force participation of the couple and access to capital markets.

From a point of view of public policy related to the pension system, results suggest some interesting implications.

In the first place, the particular characteristics of the individual capitalization scheme seem to have specific effects on the voluntary savings of households. In the Chilean case, this aspect is illustrative. In 1988 the system was not yet consolidated and still had not accumulated a significant level of asserts and the pensions funds were not diversified. After a decade of development, the scheme was much more developed in terms of cumulated funds, with an significant level of participation and diversified assets. Thus, it is not surprising that in 1988 affiliates to the AFPs complemented their compulsory savings, while in 1996–97 they compensated a part of their compulsory savings with voluntary dissavings.

These results suggest that pension systems of individual capitalization take time to consolidate and do not affect the agents decisions permanently.

Chapter VII. Pension Fund Managers in Reformed Systems

Many aspects of the performance of the pension fund managers under the reformed systems — which are known as AFPs, AFAPs, AFORES, AFJPs and others — were considered and an evaluation was made of what has happened to them in many Latin American countries that have adopted individual accounts schemes with capitalization funds.

One of the classical arguments used to defend the need for the schemes to remain public —that is, that the managements remains in the government — is based on the hypothesis that there are returns to scale in the administration of pension systems — that is, that the cost per affiliate decreases with an increasing volume. If any industry of this type is privatized, it naturally tends towards a monopoly structure, and whoever first wins a higher share of the market will operate with lower costs per affiliate than the other potential competitors. In a monopolistic industry, the price policy that private firms would follow would hardly correspond to the optimal one for society. Then, in such a situation the State could withhold the production of this type of goods, in order to prevent it from falling to a firm with a profit motive (CISS, 2002).

For these reasons, reformed systems are criticized in terms of impossibility of obtaining the lower average costs from economies of scale, as the industry is divided among many firms operating the pension fund managers and because once the industry is privatized, the monopolistic tendency is an important challenge in terms of regulation of the market, in order to avoid the commissions from increasing excessively.

Another point of contention that the risk adjusted return that is paid on the capitalization scheme funds is not that high as the PAYGO systems. To some

extent, it is said, high commissions and low returns are the outcome of workers not being sensitive to differences among AFPs with respect to those parameters, as the choice of the AFP is often based on the quality of advertising.

Precisely, this chapter evaluates such critiques, with particular reference to the cases of Chile and Mexico, complemented with some information from Bolivia, Peru and Uruguay.

The Chilean pension system experienced an astonishing increase in account transfers in the first half of the 1990s. Those levels of rotation were seen by the authority as a danger, given that they were essentially a response to the efforts of salespeople, who offered rewards in kind, not is cash, to the affiliates who made privatized the change. This form of competition is inefficient, as it absorbs labor resources in promotions and the payment of salespeople, eating away at the profits of the managers, and leading them to charge higher commissions to sustain the commercial war in which they all were involved. It was said that the only way to maintain a constant stock of affiliates — the market share — was offset the exits generated by rival salespeople with the entrances generated by the own promoters. In July 1997 the government of Chile presented Congress with a bill to partially deregulate the regular commissions of the managers, legalizing discounts. The objective was to enforce AFPs to compete more vigorously in prices, in the hope that that the lower mark-ups reduced the need for salespeople.

In the case of the payments of the Mexican AFPs (AFORES), it was noted that the system which started in 1997, did so with lower costs for the workers' funds management than those of the Instituto Mexicano del Seguro Social (IMSS) before the reform. However, since the second quarter of 2000, the AFORES scheme implemented by the reform became costly. Although the commissions charged by the AFORES have been reduced since August 2001, they are still above what it would cost the IMSS to manage those funds.

It is known that salespeople, and promotion activities in general are determining factors in transfers between AFPs or AFORES, but this chapter sought to find out if commissions and financial management also had an influence in those transfers, and if the size of that influence is enough to give economic incentives to managers to offer good returns net of commissions.

Returning to the Chilean case, transfers in the previsional system have been motivated, essentially, by the work of salespeople and entrance premiums: neither the profitability, nor the commissions and the commercial brands have a clear statistically significant effect on transfers. Commissions are not a determining factor in the choice of AFP by workers, and this could be a major problem for the system, and this means that there is no pressure for the managers to reduce their commissions.

In the Mexican case, the results are similar regarding the importance of the number of salespeople and promotional activities; however, it was found that since the third quarter of 2001, demand has become sensitive to the commissions charged and returns obtained by AFORES. That is, it seems that workers have recently reacted more to differences in charges and returns when deciding on which manager to choose.

Regarding the degree of economic competition and the cost structure in the Chilean AFP industry, it was noted that the average return on management in the industry could be at any time well above of what is considered as normal. However, during the period of the commercial war (1993–97), the profitability of the AFPs had started to decrease given the huge commercial expenses that they were faced with in order to sustain their market share. In fact, since the end of that war in November 1997, there has been a sustained increase in the operative profitability of the business.

Although a competitive industry can be compatible with excessive profits if it is in the hands of more efficient firms and some of them exhibit a normal rate of profits, the Chilean case shows a lower degree of competition, and in fact, there is evidence of barriers to the entry of new competitors. For Chile, it is possible to conclude that the AFP market is not competitive. Estimations show that the only way to attract contributors in the AFP market is through a strong commercial investment and granting expensive gifts to those who agree to change — this being the negative price or 'entrance price'.

The discussion suggests that has become highly relevant to analyze the cost structure of the industry, in order to determine whether AFPs that have been in the market for a longer time operate with greater efficiency than the new entrants, or if there are economies of scale that make it necessary to attract a large number of affiliates to avoid failure given the high average costs.

Through the estimation of costs function it was possible to pinpoint for Chile the minimum efficiency scale of the industry, that is, the socially optimum size of an AFP, as well as to evaluate the compatibility of that scale with a competitive environment. In doing so, managers were grouped by categories. The first one distinguished between large and small, according to whether they had more or less than

100,000 contributors, and the second divided AFPs between titular and aspirants, depending on whether they entered the market before or after 1990.

It was proven that economies of scale are prevalent in the market, that is, that the minimum efficiency scale is the whole industry. This sustains the hypothesis that costs per affiliate in the management of pension funds decrease as the volume attended increases.

Moreover, data show that small Chilean AFPs face real lower costs of attending new clients and lower than large firms. As a paradox, all the small firms failed to grow and win a considerable share of the market. Large differences were also noted between the average costs of the aspiring and titular companies; the former have suffered twice the average costs of titular companies, given that they operate on a smaller scale, that is, they have less affiliates.

In conclusion, it is suggested that aspiring managers were well prepared for price competition, but poorly prepared within a commercial investment environment, which was the field on which the battle to enter the market took place.

In the Mexican case, there are also economies of scale with respect to the amount of the funds managed by the AFORES and in those related to banks as well with respect to the number of affiliates. This was verified with calculations of the cost curves using official information from CONSAR, the agency in charge of regulating the industry. It is also clear that AFORES that place an emphasis on promotional activities operate with lower costs per affiliate, especially when the number of affiliates is high. This also means that the threat of a commercial war is a barrier to the entrance of new AFORES to the industry, as managers that are already in the market operate at lower costs because of the economies of scale.

Given that the pension fund manager industry seems to have significant economies of scale, it could be suggested that the concentration of the industry could increase the efficiency of the previsional management, as it would allow a few AFPs or AFORES to operate with lower average costs. In fact, calculations for Chile suggest that the minimum management cost could be achieved if only one AFP operates in the market. This suggests a trend towards a monopolistic industry, reinforced by the fact that clients do not respond adequately to reductions in commissions charged by the AFPs, and thus, competition between managers based on advertisement or promotions, in which the firms that are well established in the industry have an advantage.

A general strategy to maximize the efficiency of the AFP industry and achieve lower commissions for a given level of quality cannot rest on one or two specific measures. Thus, the chapter presented a set of proposals to be considered as a global plan, with specific responses for each country. There is the need to: 1) ensure deconcentration of investment decisions and to break the link with future political officers in order for a capitalized system to pay trustworthy pensions; 2) the empirical evidence shows that contributors are sensitive to premiums for affiliation, but not to regular commissions, thus for a price competition to exist, it is essential to end with the requirement of commission uniformity among all the affiliates of the AFPs; 3) an international bidding process for an initial allocation of contributors, who maintain their freedom to change, and should it be successful in lowering commissions; 4) many affiliates are not sensitive to good management, and thus it could be suitable to promote incentives for companies achieving a stable high quality management performance.

Chapter VIII. Reforms to the Health Social Security Systems

This chapter includes some case studies of healthcare reforms in the American continent. In order to understand the bases of the different systems, and the choice of the countries analyzed were classified into four groups. Each case analyzed the possibility of achieving universal coverage under the hypothesis that it depends on the characteristics that social security has in health and the degree of informality in the labor market in every country. For each type of system there were also mentioned problems or private market 'failures'.

The case of at least one of the countries in each defined group was included in the chapter. All selected countries have the characteristic that they carried out reforms and then passed from one category to other. Coverage and finance related aspects were also analyzed. The chapter also includes some measures to evaluate if effectively the expected market failure happened according to the conceptual framework. Whenever possible, the analysis was made for period after and before the reform. Case studies were prepared for Canada, Chile, Mexico and the USA.

The case study for the first group of system is that of Canada. Social security in health went from a private insurance scheme to one with only one program, financed through fiscal revenues, in which provinces are in charge of the regulation and service hire, most of them private and heavily regulated. This is an interesting case as different effective mechanisms have been introduced in order to con-

trol costs, in the sense that health spending has not increased substantially. The case of Canada shows that when contributions are not linked to formal employment and the system is financed through fiscal revenues, universal coverage can be achieved. Effective measures for costs containment were also described, among them the price paid to suppliers and treatments are negotiated centrally by the government, and that each region is allocated a fixed budget for health based on criteria such as the size of the population. Canada accomplishes the objectives of social security; perhaps, the only problem is that for some medical surgeries there is a long waiting list.

The case study in the second category is the Mexican system. This belongs to the group with a mixture of different traditional social security programs; there is one where insurance is compulsory and financed through payroll contributions, but there are others that are non-contributive with universal coverage for the remainder of the population. The reform carried out in Mexico was minor in comparison with the other analyzed countries.

The case of Mexico facilitates the understanding of the inequity in coverage and the allocation of fiscal resources that could arise from the coexistence of fragmented systems. It also helps us to analyze the existence of the phenomena of adverse selection in a country with high levels of informality. The problem occurs when workers seek coverage when they are already ill or are in high risk. This reduces the revenues in the system and increases the expenditure.

It was found for the Mexican reform, that a reduction in the payroll taxes for workers and employers has a low effect on the coverage increase. However, such an increase was small once the fiscal resources that were introduced to the system are considered. It was found that the coverage by traditional social security programs favor high-income groups, and since the reform, fiscal transfers to the whole system went from progressive in absolute terms, to regressive, that is, low-income groups now receive lower benefits. Finally, despite the fact that the social security program is compulsory for workers, and due to the high levels of informality in the economy, and that when a health problem comes up in a family, individuals can enter the formal system without any limitation, there seems to be a problem of adverse selection affecting the finances of the Instituto Mexicano del Seguro Social (IMSS). It was calculated that this problem costs the IMSS, in hospital services, about four per cent of its total hospital cost.

The case studies in the third category are the schemes in Chile and Colombia. These belong to the group in which there are both social security insurances for individuals and groups. For these systems, although coverage is legally associated with the household's payment capacity, in fact the source of work also depends on it. The analysis suggests that, for the reasons given above, there is an acute adverse selection problem in the case of Colombia, as it has a large informal sector as in Mexico. In Chile the problem is not significant, in part because the informal sector is small and most of the informal workers have the right to be financed through fiscal resources. However, there is evidence of adverse selection against amongst private insurers.

On the other hand, one important measure introduced by the reforms in Chile and Colombia was that the individuals could choose between public and private insurers. This was possible as it was analyzed how the financing could 'follow' the individuals. It is expected that this system will lead to a problem of adverse selection, in which private insurers avoid high-risk individuals. In both cases, the Chilean and the Colombian, the problem was found to exist when the distribution of individual's gender and age groups was analyzed. The problem seems to be greater in the Chilean case than in the Colombian one, as in the latter certain regulations were implemented in order to avoid it. The Chilean public system is the last insurer covering unexpected cases of high risks. It was estimated that the cost for the public insurance system in Chile to cover a high-risk population group is 27 per cent higher than the costs if the individuals had a risk distribution similar to that of the total population.

In spite of all these problems, the Chilean case registers almost universal coverage, where only four per cent of the population is not covered. This is because of the focalization of the fiscal resources on low-income individuals, which could be considered to be one of the main achievements of the reform. The level of financial protection is high and it has benefited not only from fiscal resources focalization, but also from the introduction of catastrophic insurance against co-payment in private insurance schemes.

In spite of the aforementioned problem in Colombia, the public perception of the quality of the services has improved, which could be in part be down to the introduction of choice. Although there has been an increase in coverage since the reform, universality has not yet been achieved. One success to be acknowledged from the Colombian reform is that coverage has increased among low-income groups. This is due to the focalization of subsidies.

There are two main reasons why there is no universal coverage in the Colombian case, and it will be difficult to achieve it. The first is that a large share

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of workers with payment capacity are in the informal or independent sector, and although their affiliation should be compulsory, it is in fact voluntary, as there is no enforcement mechanism. The second reason is that there are not the financial resources to cover those without payment capacity. This lack of resources is also exacerbated, as there has not been any total transformation of subsidies from health supply to health demand.

In fact, one failure in the Colombian reform was the transformation of subsidies from supply to demand. That is, it sought that public hospitals were autonomous in their financing, that is, that the revenues were only raised by the sale of services to the insurer, freeing fiscal resources that were transferred. It was planned to use freed resources to subsidize coverage of low-income individuals. However, only 33 per cent of those resources were transferred. It seems that total transformation has not been possible mainly because there is not universal coverage, and the benefits package from the subsidized regime is limited, and uncovered services could be obtained by individuals in public hospitals. In addition, for reasons of access, public clinics are the only suppliers of services in rural areas or small municipalities and they cannot be closed, even if they are in deficit, and they are still assigned public resources. This leads to two regimes instead of three, the third being the coverage of the uncovered population through public hospitals, leading to an increase in the resources needed for the system to operate. All these are consequence largely of the high level of informality in the country.

Regarding the situation in the Colombian Instituto de Seguros Sociales (ISS), the move from a monopoly with the integration of the insurer and supplier has been complex, especially due to the lack of labor and organizational flexibility in the institute. The ISS has suffered from a sustained reduction in the number of affiliates that, together with high operative costs, has lead to deficits. It was not until 2003, ten years after the reform, that the government decided to restructure the system, splitting insurance from the supply network, and decentralizing services in regional autonomous networks that will be connected through contracts with the insurer.

Finally, the last case study is the USA, where the coverage is focused on certain population groups — those over the age of 65 and low-income individuals — and is financed through fiscal resources and compulsory payroll contributions. As expected, the system does not achieve universal coverage. The case of the United States is included, among other reasons, in order to analyze how it has implemented tools to reduce the health spending in social assistance programs and in those traditional in health social security.

In the Medicaid, system,[1] Patients choose the doctors and hospitals that they use. In 1983, the US government reformed the payment method to Medicaid users. The change was from the payments for services to a scheme of prospective payments, with the objective of reducing costs. Under a prospective payment system, charges are reimbursed on the basis of fixed payments for admission to the hospital, depending of the diagnosis related group (GDR) to which patients are allocated.[2] The result of this policy was a reduction on hospital expenses of about 20 per cent, as a consequence of reductions in hospital admissions and stays.

Each state within the Medicaid[3] program plans and operates its own scheme, with the guidance of the federation. In order to reduce costs, states have to look at alternative plans, like Medicare Managed Care. This program includes mechanisms that limit costs, but also the advance of technology, through selective contracts with suppliers at reduced prices, and mechanisms of per capita payment,[4] and the supervision and limitation of medical services used by patients by the Managed Care managers. The effect of the increase in the use of Managed Care has been a decrease in the use of medical services, as well as a reduction in costs in those areas in which Managed Care is in operation. However, it is not clear whether a decrease in costs has been reflected in a reduction in the insurance premiums. Also, some argue that Managed Care could have a negative effect on the quality of services supplied.

It is important to note that there is a large variation in the per capita health spending among countries in the continent. It is virtually impossible for Latin

1 Medicaid is a program covering individuals over the age of 65, the disabled and individuals with kidney disease in the last stages. This program is financed through compulsory contributions by workers.
2 'The actual prices offered by Medicaid come from a system known as diagnosis related group, where each patient is assigned to a given group from a set of groups (the list today is of 470 GDRs). The payment for each patient in a GDR differs according to region and type of hospital. (e.g. teaching and non teaching hospital), but from the point of view of the hospital the payment is fixed (Phelps, 1997, p. 419).
3 Medicaid is a program that provides coverage to some low-income groups. There are no co-payments, only payroll contributions. Participant suppliers have to accept all patients seeking attention.
4 A share that includes all potential primary level healthcare received by individuals.

American nations to reach the figures of the USA and Canada, and thus the technology and quality levels of health services, independent of the way that social security systems are restructured and of the efficiency achievements in spending that they might achieve. In order to gain some perspective of this, it should be noted that the per capita health spending in the USA in the year 2000 was US$4,499, 13.1 per cent of the GDP. Such spending is close to the total GDP of Chile in the same year, which was about US$4,603. However, it is important to highlight that within the economic possibilities of each country the best possible system should be sought.

IX.2 Final Comments

Discussions on the social security reforms are difficult and most of the time lead to a polarization of opinions. It is common for all participants in the debates to end up rigidly evaluating the facts: it is really good, or really bad.

This report, however, has found that all reforms have positive and negative aspects. -

or example, although the term private individual ccounts is used to refer all pension schemes that ave been subjected to structural reform, the reality s that they all have an important component of ncome redistribution towards less favored opulation groups, through the use of minimum uarantees and state contributions. This is still inanced through the PAYGO.

nother factor to highlight is that the widening of overage in order to achieve universality could only e achieved by committing enough fiscal resources rom general non-contributive sources to finance such enefits.

ne additional conclusion is that, ultimately, all pension ystems are negatively affected by the ageing of the opulation.

his also endangers the financing of the healthcare nsurance, which has also entered into difficulties due o the changes in the type of illnesses that prevail in he modern world, the excessive use of medical ervices, and the rising prices of medicines and reatments. These phenomena are present in all ountries.

hus, it has not been claimed that the evaluations in he report on different aspects of the reforms in the ountries of the continent are final. There would be hose who do not the views reported here. Moreover, ven those who made contributions to the report ould change their minds after discussing different arguments with more experts.

his certainly seems to be one of the unique qualities of social security systems: the economic, political and demographic environments to face are always changing, and therefore, they never finish developing.

For that reason, there would always be those who hope for better performance of the systems.

For those who keep the faith in social security, there will always be progress towards the achievement of the aspirations, no matter how adverse the twists of faith are, it is hoped that the humble effort of the Inter-American Conference on Social Security will be useful in informing opinion about the state of the reformed systems in the continent.

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Calle San Ramon s/n • Col. San Jeronimo Lidice
10100 Mexico, D.F.
Phone: (52 55) 5595 0011
Fax: (52 55) 5683 8224
ciss@ciss.org.mx
http://www.ciss.org.mx

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