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Issues and Options for the World Bank

William McGreevey

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Abstract

This study reviews the findings of a number of background papers on social security in Latin America, sector work done by World Bank staff and other researchers, and a series of three meetings of experts in 1988 and 1989 that explored the major issues facing social security institutions. Latin America's long experience with social security programs has demonstrated that these institutions, whose primary mission is the enhancement of human welfare, enjoy broad political support even in countries and under regimes that have not been widely recognized for their interest in this aspect of domestic policy. In Latin America, social security institutes have been competently managed for the most part and have a proven record of successfully delivering social services to their members.

On the negative side, most are tied to a narrow tax on formal sector labor, which in the poorer countries of the region constitutes a narrow tax base indeed. Pension benefits often include generous replacement rates for earnings as well as early retirement. These characteristics probably cause undesirable reductions in labor force participation, especially in the modern sector of the economy. Health benefits consist for the most part of costly, high-technology, hospital-based services that the healthy working-age population and their children would under normal circumstances use only rarely, if ever. In many cases these benefits are very expensive to provide and induce significant changes in behavior by beneficiaries. The combination of the narrow tax base and generous benefits has in some countries resulted in ruinously high tax rates that spawn evasive efforts by firms and workers. They evade the high costs of the system but temper their evasion to the extent necessary to reap available benefits as early in life as possible.

The central theme of the report is, however, not these efficiency considerations. Rather, it is the great -- and largely untapped -- potential of social security institutions to relieve poverty in Latin America. By taking advantage of the positive characteristics of these institutions and repairing at least some of the efficiency problems, countries could achieve an enhanced level of income security for the aged, better coverage of basic health services, and wider protection from economic disasters for the *whole* population, not just for the modern sector workers currently covered. A wider revenue base would accommodate an increase in coverage of the population if combined with a prudently designed benefit package. There is ample evidence from countries in the region that have experimented with such reforms that they can be made. They are desirable and feasible on economic grounds. Political feasibility is more difficult to assess but can be enhanced by well informed, carefully designed reforms. The World Bank, with its human and financial resources, is in an excellent position to help governments reform social security institutions in a way that enhances their equity-improving features while modifying other attributes that cause efficiency problems.

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Preface

Social security institutes, and the taxes that support them, are a very important part of the social and economic fabric of Latin America. While it is widely recognized that the benefits of social security accrue largely to middle-income groups, the success of these institutes holds out considerable promise for risk sharing and provision of a social safety net for the poor as well.

Since its inception in the 1920s in various Latin America and Caribbean countries, social security has grown to be a major source of risk sharing, health care, and basic income support for a growing urban middle class. Every country of the region has one or more social security institutes that offer three basic services: health care for affiliates and (usually) their families; retirement and disability pensions for workers and their survivors; and social assistance in the form of health care, family allowances, and other minor benefits to some poor who are not contributors.

About 270 million persons (60 percent of the region's population) receive some health care services paid for, and often delivered by the employees of, social security institutes. These institutes will finance in 1990 more than half a billion medical consultations. Some 15 million persons are receiving pensions. On their behalf, over 50 million social security affiliates are currently paying a payroll tax or social contribution that finances the benefits.

Social security institutes thrived until the crisis of the 1980s, and they have survived a difficult decade with most of their programs intact. The Mexican experience may be instructive: IMSS, the Mexican social security institute, experienced a decline in its real income of 32 percent between 1982 and 1987 yet was able to deliver 25 percent more medical consultations, 9 percent more births, and 23 percent more hospital operations, thus demonstrating a capacity to respond to a crisis with efficient management (see Annex Tables 37 and 39).

Economic managers in some countries -- most notably in Chile -- but also in Brazil, Costa Rica, Mexico, and Uruguay, have begun to restructure social security programs to make them more responsive to current needs. The issues these managers face, and the options available, are the subject of this report.

For a detailed discussion of the importance of the economic crisis and its impact on social security institutes in the 1980s readers are referred to World Bank Discussion Paper 106 entitled "Social Spending in Latin America: The Story of the 1980s" prepared by Margaret Grosh for the Latin America Technical Department, Human Resources Division, which should be read in conjunction with the present report. The present report seeks to penetrate beneath the crisis to basic characteristics of social security systems, on the grounds that we can learn more about options for change by concentrating on fundamentals.

This report draws on studies prepared for the World Bank by a number of experts who are specialists in the general area of social security and health care, or with detailed knowledge of specific countries. Their names, and the titles of their reports, are as follows:

Social Security, Toward the Year 2000	Carmelo Mesa-Lago
Health Insurance Under Social Security	John Akin and Charles Griffin
Portfolio Performance of Social Security Systems in Latin America	Carmelo Mesa-Lago
Social Security in Argentina	E. Isuani
Social Security in Bolivia	Walter Schultess
Prospects for Brazilian Social Security Reform	Francisco de Oliveira, Kaizo Beltrao, Thomas LeGrand
Social Security in Dominican Republic	E. Isuani
Social Security in Mexico	James Wilkie
Public Spending on Social Programs [in the Dominican Republic]: Issues and Options	Jorge Rodriguez Grossi

The report also draws on the minutes of meetings on issues in social security held in the World Bank on May 4, 1988, February 28, 1989, and December 6, 1989. Bank staff reviewed an early draft in April 1990 that had been prepared with the help of Ms. K. McKinnon Scott; Louise Fox, Margaret Grosh, Bernardo Kugler, George Psacharopoulos, and Laurence Wolff made particularly valuable suggestions. A subsequent editing, carried out in cooperation with Professor Charles Griffin, University of Oregon, improved many arguments and the quality of the presentation. The author remains responsible for any errors.

William McGreevey
September 1990
Palo Alto, California

Chapter 1. Issues for Bank Policy Dialogue

Mr. Daniel Patrick Moynihan, United States Senator from New York, reopened debate about the future of social security in the U.S.A. early in 1990. Mounting surpluses, which arose from wage tax increases and future benefit limitations, had begun accumulating soon after institution of bipartisan reforms agreed to in 1983. The surpluses, meant to assure future benefits for a baby boom generation that would begin to retire after 2010, were offsetting and disguising a large fiscal deficit in federal government accounts. Mr. Moynihan argued that the surpluses pay for current consumption by government rather than putting in place the investments necessary to fund future benefits. Moreover, he argued, the social security tax is regressive when compared to the general income tax, and thus falls unfairly on lower-income working men and women. Mr. Moynihan's remedy: Cut the payroll tax back to its pre-1983 level, make the deficit more transparent, and hope that fiscal discipline will be restored through imposition of some new, more equitable tax.

The joining of the social security debate in the United States, after more than six years of inattention, has awakened those familiar with Latin American social security institutes to the grave problems those institutions face, far graver and more immediate in some national institutes than they are in the United States with its more ample resources. It is no accident, however, that the main problems confronting U.S. social security, and for that matter the systems of most other advanced countries, are fundamentally similar to those in Latin America.

Background

With their historic origins in Bismarckian Germany, all these institutions, with varying degrees of success and resources, try to protect modern-sector workers and their families from certain social risks. These include lost income associated with disability and aging; illness and its associated costs and treatment; and the special needs of selected groups, especially the poor, for free health care and income protection. In addressing these risks through social insurance, governments everywhere confront moral hazard -- the fact that public benefits once proffered will be taken up by those who may not need them -- greatly inflating the costs of protecting against the risks themselves. In a broader political setting, benefits once proffered come to be regarded as entitlements and hence no longer subject to review even if they fail to serve the objective for which they were created. With the passage of decades (many Latin American social security institutes date from the 1920s) the needs of the populations have evolved and the problems of the poor, especially in rural areas, have become more pointed and explicit. The services offered to urban employees through social security seem luxurious by comparison to what governments are able to do for the poorest segments of society.

It is in this setting that World Bank staff began, in the 1980s, to discuss the operational problems and contradictions associated with Latin American social security institutes. Because these institutes are based on wage taxes that are, for all practical purposes, earmarked for their operations, many of them receive only

the most cursory review by ministries of finance, the entities with which Bank staff normally work in their economic analyses and policy dialogues. Since these institutes have their own sources of finance from employer and employee contributions, none has ever been the recipient of a World Bank loan. It is through the project appraisal and negotiation process that the Bank gains an opportunity to understand the operations of such semiautonomous government organizations, and that process has yet to take place for a social security institute. The initial efforts to become informed about social security institutes in Panama, Chile, and Uruguay, led by a few dedicated Bank staff economists, resulted in a linkage between structural adjustment lending and proposed reforms of these institutes.[1]

The most successful operation was Bank support for restructuring the Chilean social security system. In the early 1980s, despite (or perhaps because of) more than 7 years of military rule, Chile's government was spending over 21 percent of GDP on social services, a larger share than any other government in the region. More than half that amount was devoted to pension and health care benefits for social security affiliates. In a momentous reform, retiree benefit obligations requiring payments exceeding four percent of GDP to at least the year 2000 were accepted by the Chilean treasury. Workers were offered attractive options to affiliate with private insurance companies on a defined contribution basis, so that the government could foresee, in the 21st century, an end to defined-benefit pension obligations that it probably could not, in any case, finance through prospective wage taxes. The Chilean system is not without its problems, some of which will be discussed below, but it has become a model that other countries of the region are now studying with interest.

The least successful of these early Bank efforts was in Panama, where the social security institute was fundamentally corrupt. Conditions related to improved performance by that institute were never met, and the country has, of course, had virtually no association with the Bank in recent years. Bank staff learned much about the Panamanian institute's finances, and they formulated a program of reform that was never implemented. The lesson may be that the knowledge base needed to conduct a successful reform is substantial, and that government commitment is essential.

Structural adjustment lending in Uruguay has been closely linked to potential social security reforms, but conditions concerning reform have not been made explicit because of the extreme political sensitivity of the issue. Uruguay's ratio of contributors to pensioners is the lowest in the Latin America and Caribbean region, so that the tax burden is high. Moreover, the pensioners are of course an important component of the electorate. Uruguay is a salient example of how essential structural reforms aimed at improving economic performance of an economy may conflict with the economic, and hence political, interests of groups that would block reform, even if reform is essential to restart the process of economic growth and development.

Identifying the Major Policy Issues

Many issues associated with social security have been identified and discussed in the course of several years of Bank staff work. In this document, the issues have been broken down into nine areas that are consolidated into the six chapters that follow. They are further consolidated under three headings: inequitable social policy, management of the social security systems, and economic distortions (both macro and micro). In this section, a synopsis of each is provided.

Inequitable Social Policy

Chapter 2: Social security institutes serve only the interest of modern-sector workers and exclude the needs of the poor.

Who pays for social security? In competitive markets, the payroll tax supporting social security would be paid by workers, the ultimate beneficiaries. In the economic environment characterizing most Latin American countries, a significant share of this tax is probably shifted to consumers, who tend to be poorer than the typical beneficiary of the social security system. Systems with partial coverage, which is typical of almost all systems in the region, are consequently likely to transfer resources, at least in part, from the poor to the middle class.

Who benefits from social security? One attractive feature of most social security systems is that every member is entitled to the same medical benefits, based on medical need rather than income. Health benefits consequently tend to be mildly redistributive, at least within the social security system. However, in the partial-coverage systems of Latin America, their comparatively well-off members tend to receive a large share of *total* government health spending because of selective access to social security medical services. The poor, especially the rural poor, are for the most part denied access to this benefit. Pensions benefits, which are generally tied to earnings, tend to be skewed toward those with higher incomes during their working lives and are thus captured disproportionately by higher income groups both within the social security program itself and when compared to the population as a whole.

Who needs social security? Those who need social security tend to be the ones who get the least from existing systems. The poor, the disabled, the chronically ill, children, and the aged poor are most in need of benefits that are captured by the middle class elderly, those who can afford early retirement, and healthy, working-age adults.

Distributive problems are not part of the design of these systems but are exacerbated by some of their characteristics: their narrow tax bases and partial coverage of the population, combined with generous benefits for their middle class members. The most vulnerable groups in society tend to be the ones provided the least protection by existing social security programs in Latin America.

Chapter 3: Dual systems of health care are inherently inefficient and inequitable, and the part of the public health system under social security encourages inefficient dependence on costly, high-technology medicine.

There is considerable overlap across chapters 2 and 3 because health services are the major expense and benefit provided by social security. This is especially true in countries with more recently initiated programs, younger populations, and coverage for a smaller fraction of the population. Inequity in the provision of health-care services is the most pressing problem connected with dual health care systems. In Argentina, this problem is exacerbated by inequalities across services offered by the many separate health-care social funds; in Brazil, a solution is being sought in the complete integration of social security health care and the state health secretariats. In Mexico, successful efforts in the late 1970s and early 1980s to extend basic health services to the rural poor through the social security system have been endangered by severing the institutional and financial connection to social security in many states. Costa Rica has virtually solved the problem of dual health systems -- and achieved dramatic increases in life expectancy and impressive declines in infant mortality -- by integrating the actions of its ministry of health with the social security system in the delivery of health services.

The issue of high-cost medicine in social security systems exacerbates the equity problem but is also independent of it in the sense that high costs would persist and grow even if equal services were available to all. As in the industrial countries, health-care spending has grown as a share of GDP in the past quarter century, and many governments cannot readily afford to devote so much of their resources to health care. The prepayment system of social security offers an excellent way to finance health services for affiliates, but the system provides no effective restraint on demand, nor are there incentives for suppliers to moderate their offer of services since social security institutes pay the bills. In Latin America, social security systems generally fail to participate in the provision of basic health services that would provide benefits to the general public, not just to their own affiliates, despite the fact that most countries in the region have persistent health problems connected to communicable diseases and malnutrition. These public health services are left to institutionally weaker and poorly financed ministries of health. The good health purchased with social security resources is probably less than could be purchased with equivalent resources if current policies were tempered with a greater emphasis on preventive rather than curative care and wider provision of basic services.

Management of Social Security Institutes

Chapter 4: Institutes are costly to run and inefficient. Many fail to achieve a reasonable rate of return on portfolio investment.

In addition to the questionable efficiency of the provision of social security-financed health services, administrative costs as a share of expenditures range from a low of 3 percent in Argentina to 15 percent and more for Ecuador, Honduras, Mexico, Dominican Republic, Trinidad and Tobago, and Venezuela. Many institutes have ample room to improve efficiency and lower costs. Greater efficiency would free up resources that social security institutes could return to their affiliates in the form of greater benefits. In small systems, high administrative costs may represent a fixed cost that could be spread over a larger group as coverage of the population is extended.

Latin America's social security institutes, taken as a whole, receive about 15 percent of their revenues from investments, their funds typically placed in the securities of their own country's federal government. Although the data on investment returns are sparse, social security institutes appear to perform poorly in achieving a reasonable real rate of return on their invested funds. Historically, Argentina, Brazil, and Uruguay -- three of the pioneers in social security -- began as fully funded pension systems that became pay-as-you-go systems principally because of their failure to achieve an adequate return on invested funds.

Even in pay-as-you-go systems, the twin problems of low yields on invested funds and high administrative costs pose serious problems. An example is Mexico, where investments provided only 5.2 percent of revenue in 1983. The real rate of return on invested capital was a *negative* 20.8 percent each year from 1980 to 1987. Administrative costs in the Mexican Social Security Institute were 12.8 percent in 1986. This combination of low yields and high costs in two financial areas over which the social security system could assert more direct control considerably reduces the potential benefits the institutes can deliver for a given level of tax revenues. If social security coverage crowds out private saving, as it almost certainly does, these two problems can also translate into significant economic distortions.

Chapter 5: Actuarial imbalance will cause future problems for the system in several countries.

Underlying demographics -- declines in birth rates and aging populations -- along with a shrinking pool of new wage earners, set the stage for an eventual crisis. Pension payments

will expand, yet worker contributions may actually decline. The problem is still in the future for Mexico, where less than 10 percent of institutes' expenditures pay for pension benefits today; it is more immediate in Brazil, where such payments have accounted for up to 80 percent of social security expenditures in some years of the 1980s. In Argentina and Uruguay, where deficits were typical during the early and middle 1980s, and there are relatively few contributors for each pensioner, this problem is immediate and serious.

Economic Distortions

Chapter 6: ***System financial deficits can undermine fiscal balance and macroeconomic planning for adjustment.***

Deficits are important in selected countries but are not a general region-wide problem today. In the problem countries, the gap between social security expenditures and revenues can be large enough to endanger macroeconomic stabilization programs. From surplus and savings in the 1960s and 1970s, the region's social security institutes entered an era of crisis in the 1980s during which revenues have barely covered benefit payments and health care costs. Federal treasuries have filled the gap. Institutes in Argentina, Brazil, Costa Rica, and Uruguay barely generate enough revenues to pay for their benefits. Brazil's system failed to achieve balance in the early 1980s, and the government responded by raising employer contributions significantly. An issue for macroeconomic planning is whether this gap is going to become a permanent feature for which planning must begin at once. The problem of fiscal balance will grow more severe unless systemic reform reduces the potential obligations of federal treasuries.

Chapter 7: ***Some microeconomic distortions will need attention in the medium term, and their correction can facilitate other policy changes.***

The three main microeconomic distortions introduced by social security systems are: (1) the tax on labor biases the modern manufacturing sector toward capital-intensive technologies and encourages both enterprises and workers to change their economic behavior in order to avoid or evade the taxes; (2) the calculation of pension benefits, rules or legislation governing the age of retirement, and rules governing the character and distribution of medical services can distort the economic decisions that workers make (they create incentives for moral hazard); (3) public contractual savings schemes can limit the development of capital markets by crowding out private insurance and interhousehold gifts aimed at providing support to the sick and elderly.

Every chapter is sprinkled with references to these microeconomic distortions. One of the principal discoveries of this review is that reducing microeconomic distortions is complementary to gains in equity; systems may benefit from considering a package of policy changes that would improve equity and efficiency simultaneously. An example is a restructuring of health services to provide basic services to a broader segment of the population rather than high-cost tertiary care to a narrow socioeconomic group late in life. A second example is the conversion of generous retirement benefits (provided with substantial implicit subsidies from general revenues and future generations to better-off segments of society) into basic income support benefits available to the general population.

A Social Security Policy Matrix for Latin America

Table 1.1 is a policy matrix with these nine issues arranged across the top row of headings (identified by category and chapter). Selected countries in the region are listed along the left side in the first column.[2] The issues are given a crude weighting for each country: 3 signifies a major current issue; 2, an issue

expected to intensify over time; and 1, an issue of lesser priority. Blanks correspond to no weighting -- although each of these policy areas is a concern in every country, the effort here is to identify priorities. The column sums offer crude approximations of the importance and immediacy of each issue for the region as a whole. The row sums help to identify countries that have more or less pressing problems associated with social security. Countries are arranged in descending order by total score.

Ranking the Issues

Looking at the last row of Table 1.1, we get a notion of the relative importance of each policy area. Certainly the implied weights reflect to some degree the author's perspective, but the ranking of issues is so strongly skewed toward equity problems that only a radically different understanding of the issues and their importance could change these rankings. The three policy problems listed under "Inequitable Social Policy" account for 54 percent of the points assigned in the table, and each one individually accounts for just short of a fifth of the points. Among the other issues, those related to the efficiency and management of social security institutes (high administrative costs and actuarial imbalance) are a distant second priority. The other issues have substantially lower weights attached to them for the region as a whole, although in specific countries, they may be high priorities.

It is somewhat surprising, given initial concerns in early Bank work about the macroeconomic implications of social security deficits, that this review leads to the conclusion that achieving greater equity is the highest priority. The concern with equity is directly linked to differential availability of health services between uninsured populations, who are usually the poorest, and social security affiliates drawn from the middle-income groups. Lower rankings for the other issues perhaps indicate that they are much less well understood outside the community of specialist economists than are the more obvious problems of equity, efficiency, and effectiveness.

As is emphasized in the report, however, the isolation of these policy areas as if they were independent of each other is a simplification. Releasing resources to improve equity in the systems may require attention to tax rates, retirement incentives, and internal efficiency. The goal of greater equity is not only consistent with greater efficiency and fewer economic distortions, it will be served by solving these other problems in most countries. Potential macroeconomic distortions will fade as systems become more actuarially sound, investments begin to yield market-rate returns, and microeconomic distortions are removed.

Countries and Issues

Looking at the last column of Table 1.1, Brazil, Mexico, Argentina, and Ecuador emerge as countries facing problems in virtually every policy area, approximately at the level Chile faced in 1980. Their scores lie considerably above the average tally for this group, which is 14. Except for Ecuador, these countries have well developed systems, and it is possible that their higher scores are due in part to the greater depth of analysis available for them. Chile, the only country for which we have ratings at two points in time, reduced its score over the decade by solving its long-term deficit and management problems, but it may not yet have made its system substantially more equitable. Improving the social equity of the system in that country is an obvious priority for the 1990s.

Scores for the rest of the countries lie slightly below the mean. All have nagging problems, but they are not so broad and deep as for the high-scoring group. The countries with low scores, especially Bolivia, the Dominican Republic, Honduras, and Venezuela, are ranked low in part because their coverage is quite limited and the potential economic risks are consequently much lower. On the other hand, these countries' institutes offer little prospect for

Table 1.1
Countries and Issues: A Policy Matrix Using Information from the Late 1980s

	Inequitable Social Policy (Chapters 2 and 3)			Management and Planning of the Social Security System (Chapters 4 and 5)			Macro-economic Distortions (Chapter 6)	Microeconomic: Distortions of Incentives (Chapter 7)		
Country	Limited to Modern Sector Workers	Costly, High-Tech-nology Health Services	Dual Health Care Systems	High Adminis-trative Costs	Low Rate of Return on Investment	Actuarial Imbalance	System Deficits	High Tax Rate	Crowds Out Private Saving	Total
Brazil	3	3	3	3		2	3	2	1	20
Mexico	3	3	3	1	2	2	2	1	3	20
Argentina	3	3	3	3		2	3	1	1	19
Chile, 1980	3	3	3	3		3	3			18
Ecuador	3	2	3	3	3	2		1		17
Colombia	3	3	3	3						12
Uruguay	3	2				3	3	1		12
Venezuela	2	3	3	1		2				11
Chile, 1990	3	3	3		1					10
Costa Rica	1	3			1	2	1	2		10
Dominican Republic	3	1	3	3						10
Honduras	2	2	2	2	1		1			10
Bolivia	1		3	3		2				9
Total	33	31	32	25	8	20	16	8	5	178
Percent Distribution	19	17	18	14	4	11	9	4	3	100

Scoring: 3 = Major current concern
2 = Recognized as important as a future policy concern
1 = Important but of lesser priority

Description of Issues: *Limited to Modern Sector Workers:* Social security institutes serve only the needs of modern-sector workers, leaving other workers and the unemployed exposed to risks.
Costly, High-Technology Health Care: Health care under social security encourages inefficient dependence on costly, high-technology medicine.
Dual Health Care Systems: Dual systems of government health care replicate services and tend to be inequitable because of differential quality and access to funds.
High Administrative Costs: Social security institutes are costly to run and inefficient.
Low Rate of Return on Investment: Social security institutes fail to achieve a reasonable rate of return on portfolio investment.
Actuarial Imbalance: Poor actuarial planning will cause future system deficits.
System Deficits: Financial deficits can undermine fiscal balance and macroeconomic planning for adjustment.
High Tax Rate: Tax on labor biases the modern manufacturing sector toward capital-intensive technologies and encourages enterprises and employees to avoid or evade the taxes.
Crowds Out Private Saving: Public contractual savings schemes limit development of private capital markets and crowd out private transfers to support the sick and elderly.

greater coverage of the poor and are probably regressive in their impact on income distribution. We also have much less information on those systems. Low scores for Costa Rica and Uruguay emerge from their considerable success in extending basic health care to most of their population, an achievement in part due to national social security institutes.

Conclusions and Options for the World Bank

Each chapter contains a section summarizing options for the World Bank. At least two themes emerge from the specific options provided in those sections:

- First, the main impediment to better social policy through social security institutes is a lack of basic knowledge about their financing; their future obligations; how their policies affect the economic behavior of workers, employers, retirees, and consumers of health care; and the distributive aspects of both the tax burdens they impose and the benefits they provide. Sector work and research supported by the Bank must concentrate on developing methods to get the relevant information in a manner and time frame suitable for policy discussions. Some of this information will come from the institutes themselves, but better knowledge of the economic efficiency and equity issues requires sample surveys. A living standards survey, along lines already implemented in Peru and Jamaica, would be a useful tool in analyzing the equity and efficiency of institutes in any of the countries in which such a survey can be conducted.

- Second, a poverty alleviation agenda in Latin America requires that the Bank seek operational involvement in social security programs. Mature social security institutes consume about 10 percent of GDP and account for over a third of government spending. Even in countries with relatively new programs and low coverage of the population, social security institutes account for at least a tenth of *total* government spending and about half of government spending on *health*. In many countries of this region, a poverty alleviation agenda is to a great degree a social security agenda.

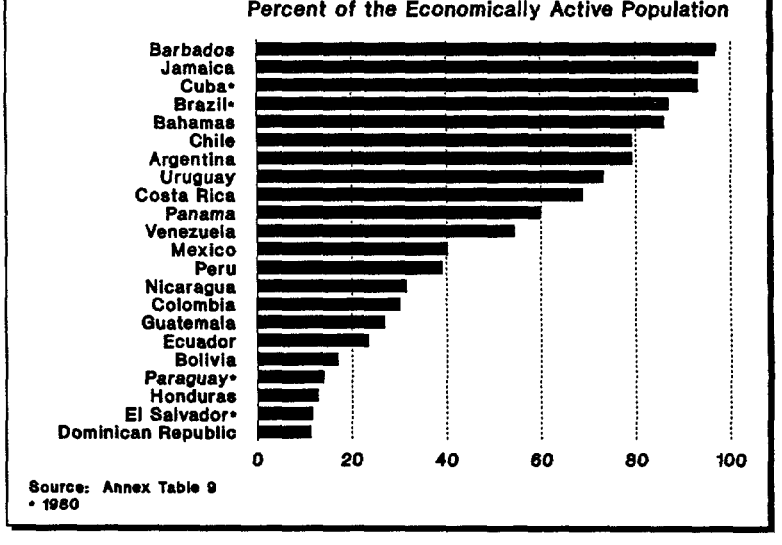
Chapter 2. Social Security and the Poor

Inequity, especially in the provision of health-care services to poor and vulnerable groups, is the most pressing problem associated with Latin American social security services, and it is in turn linked to a finding that dual systems of health care are inequitable. This problem is addressed in greater detail in this chapter, which concludes with options for reform of dual systems of health care and a search for means to include poverty groups in basic pension and disability benefits.

Social security benefits in Latin America, as is true in most industrial countries, are the major means of making transfers via government to households that need protection against specific risks of health impairment, disability, and incapacity to work by reason of advanced age. And, as in the United States, which has the most incomplete benefit system among the industrial countries (leaving some 37 million persons without health insurance coverage), poor and vulnerable groups receive no, or few, benefits from the social security institutes. The share of the population covered by risk insurance that would offer health services or replacement of income in the case of worker disability is less than one quarter for Bolivia, Colombia, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Nicaragua, Paraguay, and Peru. It exceeds two-thirds for Argentina, Brazil (health care only), Chile, Costa Rica, Cuba, and Uruguay (Figure 2.1). Except for Costa Rica and Cuba, the poor and vulnerable remain unprotected by social security, despite the fact that 4 percent to 12 percent of GDP, depending on the country, is spent on services and pension benefits provided to affiliates.

With the notable exceptions of Brazil, Costa Rica, Ecuador, and Mexico, all with social security institutes that developed special programs to direct primary health care to poverty groups in rural areas, health services, the main business of most national institutes, have been offered only to affiliates and their families. Of course, if the affiliates and their employers pay for the services with their payroll tax contributions, then the role of the government in providing such services is simply that of an intermediary. In fact, however, there are ample reasons to conclude, as is discussed

Figure 2.1
Coverage of the Economically Active Population by Social Security Institutes in Latin America, mid 1980s



Source: Annex Table 9
* 1980

below, that although the affiliates and their employers formally pay these taxes, the actual incidence of the tax is passed on to consumers of manufactured goods and public services, many of whom are the poor who have no access to the benefits financed.

Who Pays for Social Security?

There is no question that the poor are excluded from social security systems (with the exception of some special health programs in selected countries) in Latin America. But if these systems operate as perfect insurance schemes, collecting and redistributing payments in a manner consistent with the schemes' objectives, there is little justification to complain about excluding the poor, as their income might, in any case, exclude them from being able to afford the insurance being offered. If the social security institutes have no real subsidy to give, only transfers from the lucky healthy to the unlucky sick, from current workers to pensioners who earned their entitlement to benefits from years of labor, then it may be misguided to insist that the institutes should address poverty problems in the region. They should, perhaps, be as efficient as possible in the execution of their mission of risk pooling, but they should not be burdened with the additional tasks of reducing poverty or protecting the poor. An analysis of payroll tax incidence suggests, however, that consumers, many of them poor, actually pay for social security.

The incidence of payroll taxes that finance social security depends on the elasticities of supply and demand for factors of production and goods produced. If domestic demand for manufactured products is inelastic, so that consumption is little affected by product price, the wage tax is in part passed along to consumers of manufactures (Mesa Lago 1985). A recent review noted the following:

> Institutional rigidities in wage-setting and oligopolistic market structures in the organized sector could result in the tax simply being passed on to consumers.... A study of social security and other government programs in Chile found that prices were determined by average cost plus a mark-up, suggesting that costs, including payroll taxes, would simply be passed on.... When coverage is less than universal, as it is in virtually all Latin American countries, and the system is partly financed out of general revenues, the incidence of the system is probably regressive, because persons excluded from coverage will bear part of the burden of the taxes that finance it. (Mackenzie 1987, 28, 59)

Poor consumers pay a tax hidden in the prices of manufactured consumer goods. If the poor buy the products manufactured by well-paid, modern-sector workers, then the tax may be paid in considerable measure by the poor for the benefit of industrial workers and their families. A study of tax and benefit incidence in Colombia found that the social security tax is only slightly progressive. Given the only slightly pro-poor distribution of benefits in that country, the study concluded that "it would take greater progressivity of the tax-transfer system to achieve the redistribution desired" (Meldau 1980, page 181). A World Bank study found "that some portion of the employer's payroll tax burden is either shifted forward or is borne by capital but the distortionary employment effect from the payroll tax on the poorest is significant" (World Bank 1990c volume 3, page 54). Box 2.1 provides an example of the complex financing of social expenditures in Brazil. The incidence of the taxes supporting that system must be equally complex.

Most Brazilian workers, and in this they may be representative of other Latin American

Box 2.1
Social Contributions in Brazil

The social contributions are earmarked revenues that go directly into the accounts of the social security administration, special funds for education, housing, water and sanitation, and other social purposes, after being collected from employers and employees as paycheck deductions or employer payments. Most social contributions are based on wages paid in the formal sector. They finance a third of public social expenditures but, in the main, are not included in the federal government budget. Revenues of the social funds in 1985, the latest year for which complete data were available for this report, are shown in the table below.

Revenues from Social Contributions in Brazil, 1985

Social Fund	Millions of U.S. Dollars
SINPAS, Social security	10,141
FGTS, Time of Service Guarantee Fund	2,212
PIS/PASEP, Government Employees Fund	1,853
FINSOCIAL, Sales Tax for Social Needs	1,297
Social Security Quota, Lottery Revenues	547
Salary-Education Contribution	555
PIN, Regional Development Fund	254
Rural Development Fund	180
FAS, Social Support, Investments	205
Organized Labor Contribution	23
Total	17,267

Source: Rezende and Azeredo (1987), page 61.

The largest of the social contributions is the social security payment of about 21 percent of wages earmarked for FPAS, the social security fund that supported the social security system (SINPAS). Both employers and employees contribute to this fund that pays for pension benefits (INPS) and health care through social security (INAMPS).

The SINPAS system, managed by the Ministry of Social Security, pays out pension, annuity, and disability benefits to 7.5 million persons. PASEP plays a similar role for public sector employees, collecting contributions and distributing about US$250 million in benefits to public pensioners, retirees, and disabled workers. SINPAS also finances a quarter billion physician consultations and 14 million hospitalizations annually (MPAS, INAMPS 1986). Measured either by its total employment (200,000, of whom about 150,000 work for the medical program of INAMPS) or its expenditures (more than US$12 billion), the social security system is one of the largest enterprises in Latin America; only the Brazilian federal government as a whole, Petrobras, the state petroleum company, and elsewhere in Latin America, the federal government of Argentina, are larger.

A second compulsory wage-based contribution of 8 percent of the wage bill is made by employers to the Time on the Job Guarantee Fund (FGTS). That fund channels resources through the Caixa Economica Federal (CEF) to finance worker benefits, mortgage loans to workers for their own housing, water and sanitation, and other urban services. The education-salary contribution is earmarked for vocational and technical training.

Perhaps as a result of the manner in which these revenues are generated and assigned to social uses, they are not scrutinized with the same care by senior government officials as are the general tax revenues of the federal government. Nonetheless, these salary deductions reduce the after-tax income of households just as indirect and income taxes do.

social security affiliates as well, will not contribute enough to social security funds to pay for their benefits. A contributor joining the system at age 15, earning 1 minimum salary (SM) throughout his working life, retiring at age 65, and collecting benefits until his death at age 75, would pay in 10 SM and receive 2.6 SM in health benefits and 9.5 SM in retirement

benefits, yielding a loss for the system of 2 SM. If the social rate of discount is equal to the rate of growth of per capita income (over 3 percent for Brazil, 1945-80, but much lower since then), then the prior payment of contributions yields a viable system with near term contributions able to compensate for the somewhat larger future benefits in retirement.

But only 1 urban worker in 15 retires at normal retirement age. Two out of 5 workers retire early on the basis of fulfilling the requirement of a minimum number of years of service, or on disability. An early retirement scenario might unfold as follows. Work begins at age 20 for 3 SM and continues to age 50, followed by death at age 75. The worker pays 19 SM in contributions during his 30 working years, receives 9 SM of health benefits and 60 SM of retirement benefits. The system loses 50 SM in this case, an amount too large for any normal discount rate to cover. The social security wage tax thus falls far short of covering the costs of benefits to early retirees (de Azevedo and de Oliveira 1984, 90-92). Few countries offer early retirement based on years of service: Egypt, Ecuador, Iraq, Italy, Kuwait, and Lebanon are examples (de Azevedo and de Oliveira 1984, page 84). Most have less generous terms for benefit entitlement than does the Brazilian program. These comparisons abstract from the additional benefit cost for disability pensions and dependent and survivor benefits that would add costs and reduce receipts beyond those described in the previous two examples.

These benefits and pensions go considerably beyond provision of insurance against risk: They cost far more than the beneficiary and his employer actually pay, and they replace more income than the beneficiary would need to sustain a modest standard of living. Costs of living in retirement are significantly lower than during the working years. Benefits offered need to replace only a fraction of earnings during the working years. Most industrial market economies limit the replacement rate to between 40 percent and 60 percent of earnings. This amount is enough to provide basic protection.

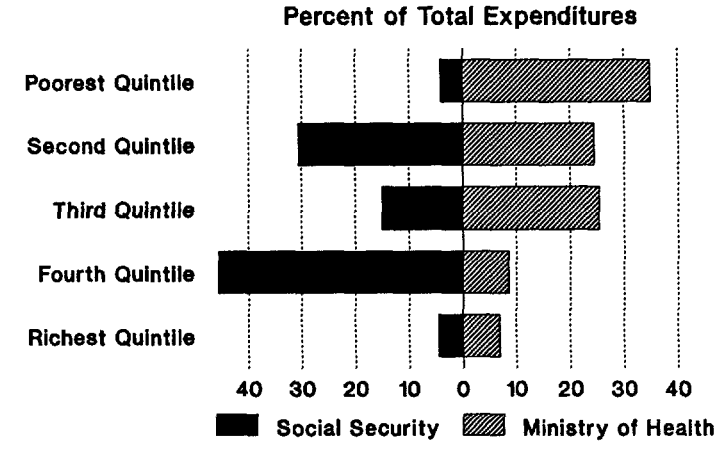
The Brazilian benefit scheme risks moral hazard, in this case the threat that an agreement or contract will itself induce people to behave in a manner they would not behave in if the contract did not exist. If retirement benefits are generous, some people will retire even if they would continue to work in the absence of the benefit. An analysis of male labor force participation in Brazil found that "social security is the only variable found to be consistently and clearly associated with earlier male retirement ages" (LeGrand 1989, page 122). The issue of moral hazard is particularly germane to the early retirement benefit. Suppose a person begins working at age 15 and continues with the same company for 30 years. At age 45 he is eligible for an 80 percent pension; at age 50 he is eligible for the maximum 95 percent pension and has little financial incentive to continue working in that job. He retires with pension benefits and takes another job. It is difficult to imagine that this scenario is consistent with overall development objectives or social policy. Because of moral hazard, the benefit causes perverse behavior.

Who Benefits from Social Security?

Thanks to a number of recent studies much more is known about the distribution of social security payments to households and household income than about the incidence of the tax that finances those payments. Selowsky's (1978) study of Colombia showed that subsidies implicit in public social services did have the effect of redistributing income toward the poor, particularly because of such basic services as primary health care and primary education. Broadly similar studies based on data for Chile (1969), Brazil (1973), and Costa Rica (1978 and 1990) also found a pro-poor redistributive impact of social security expenditures, especially those related to health

care services (see Annex Table 17 and Riboud 1990). In a 1989 survey in the Dominican Republic, most benefits of the social security health system went to middle-income groups, as only 9 percent, divided equally, went to the poorest and richest quintiles (see Figure 2.2 and Annex Table 46).

Figure 2.2
Dominican Republic: Health Care Services Received from the Ministry of Health and Social Security, by Income Group, 1989

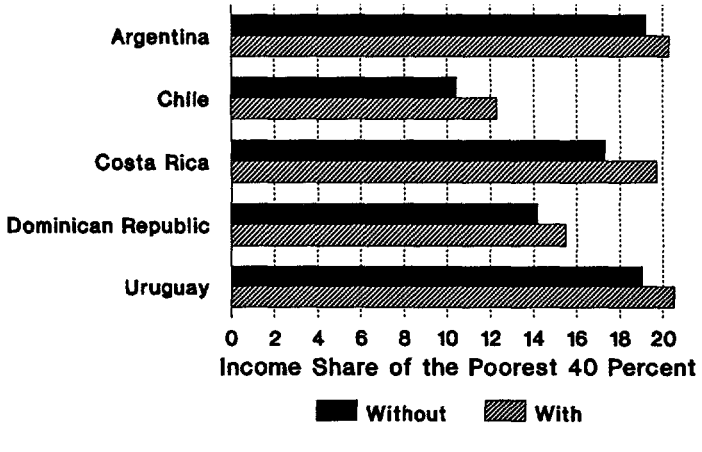


Source: Annex Table 46

The issue of who benefits from public social spending was addressed by Petrei (1987) on the basis of data from five countries in the early 1980s; some of his results are summarized in Annex Table 48; they show that the lowest 20 percent of households by income group received between 4.5 percent of pension benefits (Dominican Republic, 1980) and 10.3 percent of benefits (Uruguay 1983), whereas the highest income quintile received about a third of pension benefits in all cases.

Despite these differences in each income group's share in the benefits, there still was a redistributive impact on after-subsidy income because pre-subsidy income distribution was so skewed in favor of the high-income households. A similar finding is reported for Brazilian social spending as of 1986 (World Bank 1989a). But these pro-poor results emerge from the opposing forces of health-care spending by social security institutes that benefit low-income families with many children, and pension and disability spending that benefit fewer and smaller families of higher income. The pro-poor, redistributive impact of *health* spending by social security institutes is consistent across all five countries in Petrei's sample (see Figure 2.3) and was confirmed in a more recent review of several countries in the region (Grosh 1990).

Figure 2.3
Income Share of the Poorest 40 Percent of Families, with and without Subsidized Health Care, Selected Countries, 1980-82



Source: Annex Table 18

The largest share of pension and disability benefits distributed by Brazilian social security, 28 percent, is paid to early retirees (see Table 2.1). Persons who retire at normal retirement age in the urban program claimed only 7 percent of all benefits distributed in 1985. These data alone would seem to support the conclusion

Table 2.1
Brazil: Percentage Distribution of Social Security Benefits, Urban and Rural, by Value, 1985

	Percent of Total
Urban benefits	
Early retirement	28.2
Retirement for disability	13.7
Survivors' benefits	12.9
Retirement, normal age	7.0
Other urban benefits	22.1
Urban Subtotal	83.9
Rural benefits	
Retirement, normal age	8.4
Survivors' benefits	3.5
Other rural benefits	4.2
Rural Subtotal	16.1
Total	100.0

Source: World Bank (1988b)

that moral hazard is at work in producing perverse results from the pension and benefit system. Another large share of benefits, 13.7 percent of the total, pay for disability pensions. The majority of these payments are legitimately received by persons incapacitated and unable to work, but disability benefits also may involve an element of moral hazard when there is an incentive to describe oneself as disabled.

The costliest benefit per recipient in Brazil is early retirement. The recipients of these benefits are only 9.3 percent of all recipients of social security benefits: Thus, in 1985, 28.2 percent of benefits accrued to only 9.3 percent of claimants. Over a 6 year period, 1979 to 1985, early and special retirement pensioners accounted for 36 percent of new urban retirees; these persons received 60 percent of urban benefits paid to that cohort of retirees. The average value of the benefits received by early retirees was about US$180 monthly, triple the average benefit.

These considerations suggest there is inefficiency in the Brazilian benefit package. The purpose of reducing social risk could be achieved with a much lower replacement ratio (the pension benefit as a percentage of the wage during working years). A 50 percent replacement rate might produce less moral hazard, leading fewer people to retire when they are most productive. Disability pensions, because they are so generous, may also be inducing some workers to claim these benefits, even though they would keep working if the benefits were not available.

Subsequent studies, based in some cases on more recent data and using different analytical approaches, tend to confirm Petrei's findings based on data from the early 1980s, that is, before the economic crisis wreaked havoc with the institutes' finances:

- A 1989 survey in the Dominican Republic shows that both pension and health care benefits offered by IDSS are concentrated in the upper 60 percent of income earning households (Figure 2.4).

- A review of the distribution of public social spending in Brazil showed that only about 7 percent of that spending was received by the lowest quintile of households by level of income (See Box 2.2). This group, many of whom are rural residents of Northeast Brazil, is poorly served by all social programs, but they are particularly unlikely to receive social security benefits (World Bank 1989a).

- A recent survey in Costa Rica found that pension benefits to the elderly are highly skewed toward upper income groups, largely because of special arrangements for about 40 percent of public sector employees; this factor excepted, the benefits of social spending would be equitably shared. Basic health care, offered in part by the Social Security Institute of Costa Rica, does go preferentially to the poor, offsetting the concentration of higher education subsidies on upper income groups (Riboud 1990).

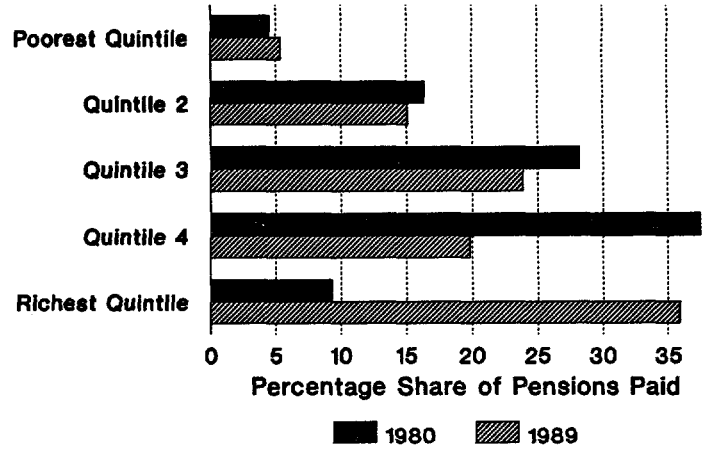
□ A four-country survey of the elderly in Greater Buenos Aires, Colombia, Guatemala, and Panama shows that the elderly are no more poor than the general populations in which they live; pension payments are unnecessary for most of them (Durston 1990).

Brazil's SINPAS offers only partial coverage to the Brazilian population. All are, in principle, eligible for basic medical care (though the rural poor may find no public clinic near their homes); about half the work force are affiliates eligible for disability benefits (but fewer than 10 percent of rural workers hold the *carteira assinada*, a prerequisite to entitlement, compared to 75 percent of manufacturing workers); survivors of urban affiliates qualify for pensions, but those of rural workers do not. Overall, access to benefits is skewed in much the same way as income. Public employees receive much more generous pension benefits, which can be considered as deferred compensation that substitutes for higher current private-sector incomes.

There is a danger that two distinct objectives for social security institutes can become confused: (1) That the institutes help address the income security needs of all persons, especially the poor, and (2) that the institutes provide risk sharing for income security for contributors on a strict basis of their actuarially-determined payments and benefits. Large expenditures on social assistance programs in Brazil and Mexico, both of which allocated about 10 percent of their spending to programs for non-contributors, show that the first objective enjoys some priority when current demands against revenues permit such generosity.

But this question remains: Is a payroll tax the right way to finance a safety net for the poor?

Figure 2.4
Dominican Republic: Share of Pension Benefit by Income Groups, 1980 and 1989



Source: Annex Table 48

Who Needs Social Security?

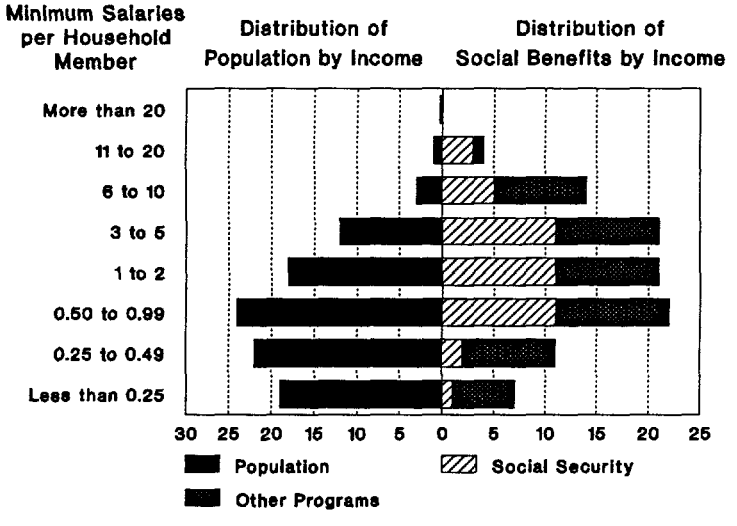
The Latin American countries have the most unequal distributions of income in the world today (for comparative data see the *World Development Report 1990*, pages 236-237). Despite income levels considerably above those in Africa and Asia, there remains massive poverty, particularly in rural areas. Effective macroeconomic policies are designed to create environments in which growth can start again, and in which poverty can gradually diminish as a side-product of that growth. As a complement to the resumption of growth, some system of public support, call it a safety net, could raise current levels of living without destroying growth incentives.

Existing programs of social security institutes, with the notable exception of basic health care services financed by some of those institutes, do little to provide a safety net for the poor. Extension of the current system to cover the total population is infeasible in most countries because of the costliness of the current

Box 2.2
Who Benefits from Brazilian Social Security Spending?

Who receives the benefits of social security programs in Brazil? Other countries have sponsored surveys to see which groups benefit (Selowsky 1979 on Colombia and Meerman 1979 on Malaysia); Brazil has not, so the estimates here are preliminary. Figure 2.5 compares two distributions. The solid bars on the left show the income pyramid for Brazil. The bottom bar, for example, represents those 19 percent of Brazilians who live in households in which average income per household member falls below one-quarter of the minimum salary -- about US$180 per household member in the year 1985 when the survey underlying these data was conducted. The next higher income group, 22 percent of Brazilians, received between US$180 and US$360 in annual income. Those in the highest income group -- 0.3 percent of Brazilians -- earned more than US$14,400.

Figure 2.5
Brazil: Notional Estimates of Social Benefits, by Income Class of Likely Recipients, 1986



Source: World Bank (1988b)

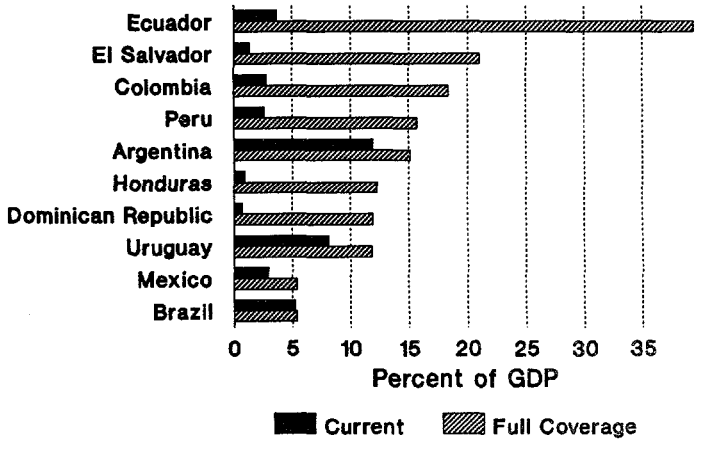
The distribution of benefits from social programs is shown by the bars on the right, divided between social security and seven other programs, which are aggregated into a single category. The largest single program by far is social security. Only 14 percent of the heads of households in the lowest income group were affiliates of the social security system, and they received only 1 percent of all social security benefits. For the two poorest groups, which account for 41 percent of the population, only 18 percent of the heads of household were social security affiliates. These two groups received only about 3 percent of the benefits paid out by social security and only 18 percent of benefits from all social programs.

package of benefits. In calculations based on programs as they existed in 1980, Mesa-Lago shows that extension to all persons could cost 39 percent of GDP in Ecuador, 21 percent in El Salvador, and more than 15 percent of GDP in Argentina, Colombia, and Peru (see Figure 2.6). At such high levels of absorption of total resources, spending for social benefits would probably deter prospects for growth.

The elderly are not necessarily needy. Surveys conducted in Buenos Aires, Colombia, Guatemala, and Panama in 1986 show the following: Between 72 percent and 83 percent of persons aged 65 to 79 function as household heads or spouses and are not dependent members

of another's household. Nine out of ten *portenos* in this age group carry out the full range of daily tasks with no assistance. Income is distributed among the elderly no more unequally than it is among the young and middle-aged. The elderly are not a poverty group. Perversely, however, inequality is greater where social security systems are better developed -- in Greater Buenos Aires and Panama, as shown in the four-country study cited earlier. In Colombia and Guatemala, where social security systems are far less widespread in their coverage, a somewhat larger share of elderly households appear among the upper 40 percent of income-earning households. These facts may suggest that the elderly there work because they must, whereas the elderly in Buenos Aires Province, Argentina, and Panama choose leisure and the lower income of a social security pension because they can (Durston 1990, page 15). These comparisons are consistent with the hypothesis that the moral hazard implicit in the social security contract may induce some among the elderly to work less than they would without social security. In a region that needs to raise aggregate productivity and savings, such outcomes ought to be avoided.

Figure 2.6
Projected Cost of Extending Current Social Security Benefits to 100 Percent of the Population, Selected Countries, 1980



Source: Annex Table 11

Recall, however, that a basic purpose of the social security institutes is to share risks. There might be a much more limited menu of risks that could be financed under social security, with the effect of reducing some of the worst threats to health, income, and life among all persons. Basic health care, minimum pension support during disability, when no alternatives for care by family members are available, and protection for survivors in the event of death of a breadwinner are valuable services, some of which may have to be offered, or at least regulated, by government to avoid adverse selection (see Akin and Griffin 1990). The manner of such risk sharing could operate through a wage tax as a financing base, as is the case for most social security institutes today.

There is little relationship between this vision of comprehensive risk sharing to protect the poor, and social security institutes as they currently operate in most countries of the region for most of the work that they do. Exceptions are the promise of basic health services to all Brazilians who can reach a social security health post or center; the financing of basic rural health care in Mexico through IMSS/Solidaridad, the redefinition of functions and resultant extension of services to all by CCSS and the Ministry of Health in Costa Rica, and the rural social security program in Ecuador. Mexico provides an example of a country intent on addressing its poverty problem yet an estimated 21 percent of the population, most of them rural, lack access to publicly-funded basic health care (see Figure 2.7).

Fundamental restructuring, aimed at assuring limited but effective insurance against the risks most costly to the poor, will be required of virtually all social security institutes in the region if they are to be part of the solution of the problem of poverty. The following paragraphs describe reforms proposed

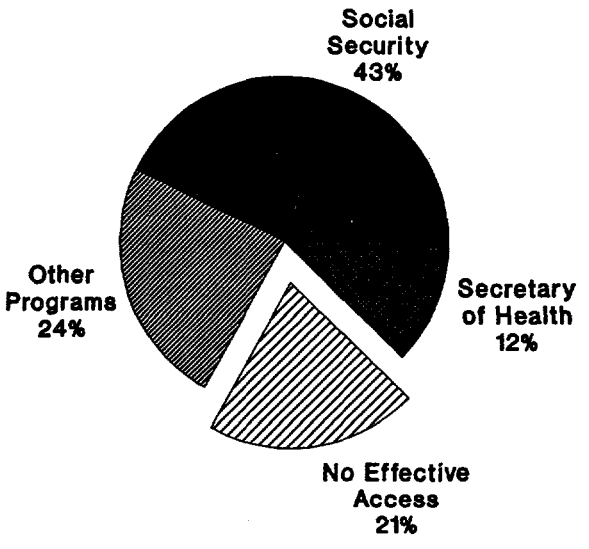
for two countries, Argentina and Brazil.

Under discussion in Argentina are the following options:[3]

- De-link pensions from wages, offer a basic stipend only, and facilitate private contractual savings institutions under public regulation, all aimed at providing a monthly benefit of about US$100 to each of the 3.6 million persons qualifying because of age, disability, or widowhood, at an aggregate cost of 5.2 percent of GDP.

- Extend health insurance to the quarter of the population without it, but limit services covered to basic health care and restrict the quantities of medical services available.

Figure 2.7
Mexico: Coverage of Health Care Services by Provider, 1985



Source: Annex Table 35

Most reform and restructuring proposals are characterized by a need to cut some of the benefits received now or anticipated by the middle-class affiliates of the social security institutes. Such reforms are very unpopular with these beneficiaries who constitute significant voting blocs in many countries. One way to address their concerns is to assure benefits to those now entitled to them by allocating general revenues to finance those benefits; the Chilean reform of 1986 provided for such assurances. Once freed of these historical obligations social security institutes can then reorder their priorities and dedicate resources to priority objectives, including provision of basic services for poor and vulnerable groups.

Some Brazilian Proposals

Brazilian analysts have examined swaps that would permit purchasing more benefits for poverty groups by reducing unwarranted benefits for early retirement. Eighteen benefits are available to urban affiliates, whereas the participants in the rural programs have access to only six. Rural affiliates make up 32 percent of the beneficiaries who receive pension and survivors' benefits, but they received, in 1983, only 15 percent of the value of benefits paid (de Azevedo 1984, page 9). Cutting early retirement benefits now and transferring the savings to pensions for uninsured rural workers would allow the Brazilian government to distribute these transfer payments more equitably without raising social contributions.

Early retirement benefit costs are projected to rise from 4.9 percent of the salary base in 1985 to between 6 percent and 8 percent of the salary base in the year 2000. The costs of disability retirement will rise from 2.9 percent of the salary base in 1985 to between 3.9 percent and 6.2 percent of the salary base in the year 2000 (World Bank 1988b). Eligibility for this important benefit could be carefully monitored to avoid fraudulent applications. In a simulation study, three possible changes in early retirement benefits were examined: limiting early retirement to persons 55 years of age or older; eliminating altogether early retirement based on time of service, and

reducing gradually the entitlements of early retirees. If introduced in 1987, the second option would have produced large savings by the year 2000, reducing total benefits from 21 percent to 15 percent of the wage base. The other options for reducing early retirement benefits would have correspondingly less effect on system costs in that they provide for only partial or gradual reduction of the benefit. This savings of six percentage points of the wage base could be used to pay the cost of extending minimum benefits to all rural workers.

Brazil's rural population is projected to decline from 38 million in 1980 to 35 million in the year 2000. The rural work force will remain between 14 million and 15 million, whereas the number of rural beneficiaries will rise from 2.5 million in 1980 to 6 million in the year 2000. Alternative growth scenarios suggest that the cost of benefits, even for this larger group, will not exceed 3.4 percent of the urban wage bill subject to social security taxes. Compare this 3.4 percent of the wage bill to the potential 6 percent of the wage bill that could be saved from cuts in early retirement benefits. Doubling rural benefits, by extending minimum coverage to those not now eligible, could be financed from the saving in early retirement benefits. Capping the efficiency loss due to moral hazard could finance a much more equitable system *and still save money*.

Options for the World Bank

Among its Programs of Special Emphasis is the World Bank's focus on poverty alleviation. One option for the Bank is to include objectives of social security institutes in its policy dialogue about poverty alleviation. Except for a few countries of the region, country economists and officers do not have enough information about social security institutes, and how they could be restructured to aid the task of poverty alleviation, to include a consideration of them in the dialogue. Except for the studies in Brazil, and those only recently begun in Mexico, there is an inadequate basis for recommendations to governments that could help them use social security institutes for poverty reduction. A first step will be to include social security analyses more explicitly in country economic memoranda and country strategy papers. In its dialogue, the Bank could support those examples, some of which are cited above, of benefit restructuring aimed at targeting transfers for basic security needs.

Social security institutes will never be able to serve the needs of the poor if they continue to promise 70 percent or more replacement of wages during retirement and disability. But if the benefits offered by these institutes were reduced to, perhaps, 40 percent of the basic urban wage, then such benefits could be extended to poverty groups as well as to contributing workers.[4] Similarly, health-care benefits could be restricted to basic health services, with institutes financing only those services that could be afforded for all persons, not just the lucky few. These changes would represent a significant change in the way of doing business for most social security institutes in the region. The Bank could facilitate that change as part of its support to countries seeking to restructure and adjust basic institutions so that they can better serve objectives of growth and equity.

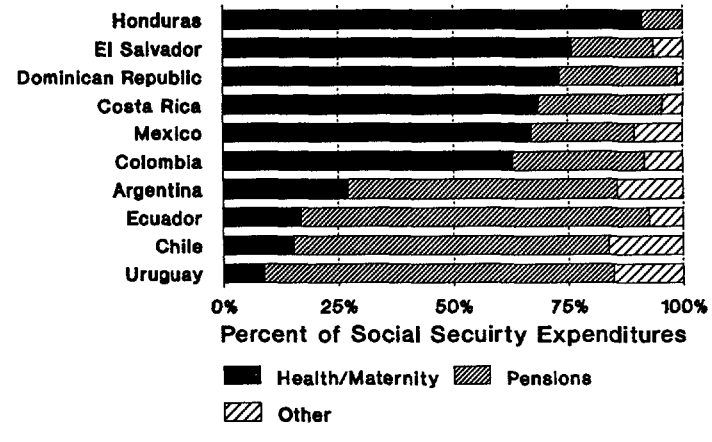
A starting point for such a dialogue is the unbundling of the many different services offered by social security institutes into those that could be extended to the poor and those that are affordable only by middle-income groups. Basic income security at a third of the basic wage probably is affordable for all; full replacement of income certainly is not. Provision of basic health care services, with financing by prepayment through social insurance probably is affordable for all; high-technology medicine based in sophisticated hospitals probably is not. The Bank's policy dialogue could help governments make some of the difficult choices between these extremes. And because that dialogue is an ongoing

process, it can help inform the continuing process of choice as income levels change, as society's objectives evolve with respect, for example, to the age of retirement or the role of women in the labor force, and as technology alters the efficacy and costliness of medical techniques.

Chapter 3. Health Care under Social Security

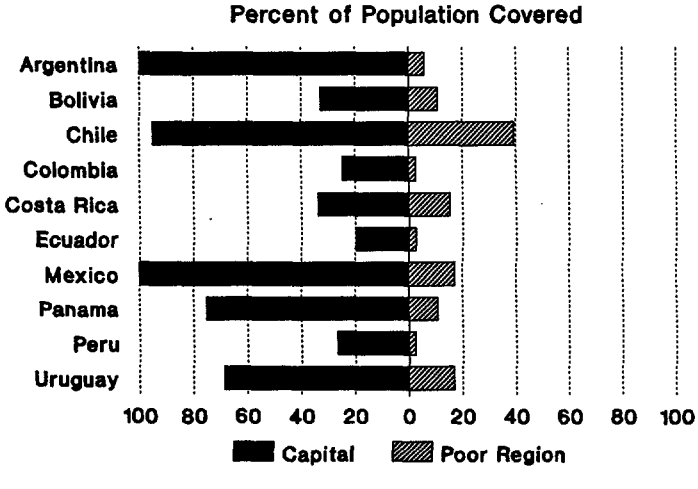
The financing and provision of health care services are the main activities of many social security institutes in Latin America. The share of institutes' spending allocated to health care and maternity services is over 60 percent for Colombia, Costa Rica, El Salvador, Honduras, Mexico, Dominican Republic, and Venezuela, and it is over a quarter of institute spending in many other countries (see Figure 3.1). The health services delivered are provided on a far more equitable basis than are pension benefits. This side of the institutes' activity may thus be a particularly sound base from which to pursue improvements that would improve overall efficiency and equity.

Figure 3.1
Distribution of Social Security Institute Expenditures by Program, Selected Countries, 1983



Source: Annex Table 12

Figure 3.2
Social Security Health Care Coverage in National Capitals and Poor Provinces, 1980s



Source: Annex Table 10

Such improvements could build on impressive performances in delivering good quality care to millions of persons.

Despite these accomplishments, it is widely acknowledged that health care under social security is often inefficient and could certainly be more equitable in many countries (see Box 3.1 on page 23). An examination of geographic inequalities in 11 countries shows that none of them offers to the poorest province even half what the richest has in terms of population coverage by social security, physicians or hospital beds per thousand population (see Figure 3.2). Perhaps because of

the dominant role of physicians, many of whom prefer use of the latest technology, often without respect to cost, there has also emerged a dependence on costly, high-technology medicine in association with social security institutes. This major issue is different from equity per se in that it would persist and grow as a problem of high costs even if equal services were available to all.

Dual Government Health Systems

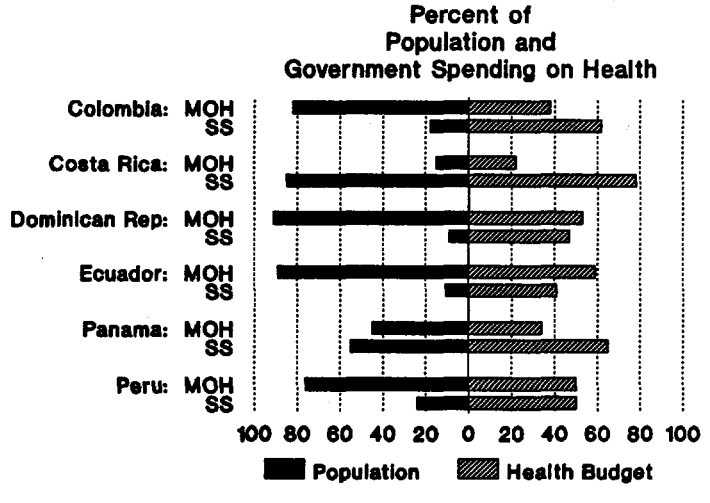
With current dual health systems in most countries (Costa Rica and Chile offer partial exceptions), social security institutes implicitly increase, rather than diminish, inequalities in the availability of health care. In Colombia in 1980, for example, the social security institute used 62 percent of all public health spending (the remaining 38 percent passed through the Ministry of Health) to benefit but 18 percent of the Colombian population. The Dominican Republic and Ecuador were almost equally inequitable in their treatment of affiliates and the uninsured; Costa Rica, Panama, and Peru all had a closer balance between spending for health care among the two groups (see Figure 3.3). There is good reason to believe that *less* should be spent on health care for social security affiliates as they work in the modern sector, are below the age at which infirmity and high health costs begin, and in many countries their spouses and children are still not included. These findings suggest the need for reform to reduce the inequalities associated with dual systems.

As in the industrial countries, health-care spending has grown as a share of GDP in the past quarter century, and many governments cannot readily afford to devote so much of their resources to health care. Thus there is a continuing search among health economists for means to limit health care spending without reducing, too much, the quality of health services. This search has led to examination of payments systems that offer the wrong incentives; third-party arrangements that relieve the patient-doctor relationship of any patient concern about cost; institutional links between central and local governments and the potential advantages of decentralized decision-making, and consideration of HMOs, group medicine, and other mechanisms that can encourage providers to keep costs down.

For example, the prepayment systems of social security offer an excellent way to finance health services for affiliates, but the system provides no effective restraint on demand, nor are there incentives for suppliers to moderate their offer of services since social security institutes pay the bills.

In several countries, Brazil and Costa Rica are leading examples, governments have taken steps to rationalize health care services by integrating social security facilities into systems

Figure 3.3
Share of Population Covered by Social Security and Share of Public Health Spending by Institutes, Circa 1980



Source: Annex Table 6
MOH: Ministry of Health
SS: Social Security Institute

Box 3.1
Brazilian Health Services

Public health spending had a cost to governments (federal, state and local) of about US$44 per person in 1986, a subsidy spread unequally among regions, families, and persons. INAMPS spent twice as much per capita in Southeast as in Northeast Brazil. Northeasterners received only half as many medical consultations per capita as Southeasterners in 1985; 1 in 10 Paulistas receives some form of health care each year, whereas only 1 Northeasterner in 17 receives care.

Public Health Care Benefits and Beneficiary Groups, 1986

Benefit	Beneficiary Group	Number of Beneficiaries (thousands)	Expenditures (millions of US$)	Spending Per Beneficiary (US$)
All Government Health Services	Brazilians	135,000	5,898	44
Social Security - Southeast	Southeast Residents	58,000	1,838	32
Social Security - Northeast	Northeast Residents	40,000	587	15
Hospitals, Public	Public Hospital Patients	1,485	669	451
Hospitals, Private	Private Hospital Patients	12,015	1,546	129

Source: World Bank 1989a

Curative care is emphasized; hospital patients accounted for 40 percent or more of total spending. (Data were not available on hospital spending by state and local governments.) The excellent care available in the outstanding university hospitals cost an average of US$450 per patient although only 1 patient in 10 was lucky enough to have that care; those served in private hospitals received care at a cost of US$130 on average. Anecdotal evidence suggests that the best care goes to middle class groups who have connections to physicians through family and friendship. Upper income groups are also the principal beneficiaries of tax deductions for health care. The well-to-do are adept at obtaining high technology medical care and a university education through the public sector.

The Brazilian medical-hospital system offers a number of services at high cost for a few patients. These include renal dialysis, coronary bypass operations, and intensive-care units. Brazil's government spent more in 1981 on some 12,000 high-cost patients receiving these 3 types of services than on the sum of basic health services and disease control meant to serve the 40 million people of Northeast Brazil.

Were health care a tiny corner of the economy it would not command attention; in fact, however, the value of health services is already half that of agriculture in Brazil. If Brazil emulates the pattern of developed countries, health services will exceed farm output early in the twenty-first century. It may then be a dynamic service sector actively contributing to Brazilian development, or it may be a drag on society unable to achieve health objectives. Productive or feeble, it is almost certain to be large.

operated by health ministries and secretariats. These sectors promise to improve efficiency (eliminating duplication, achieving economies of scale) and equity (equal access by all groups to facilities). There are as yet no analyses of the benefits realized from these managerial changes. The Bank has supported administrative changes in these and other countries.

In Argentina, the equity problem is exacerbated by inequalities between services offered by the more than three hundred separate health-care social funds; in Brazil, a solution is being sought in the complete integration of social security health care and the state health secretariats. Costa Rica has virtually solved the problem -- and achieved dramatic increases in life expectancy and impressive declines in infant mortality -- by integrating actions of its ministry of health and the Caja Costarricense de Seguro Social in the delivery of health services.

Options for the World Bank

Given the enthusiasm in many LAC region countries for integration and decentralization, the Bank could expand its efforts to encourage health management improvements. Sector work could be extended to additional countries, and the Bank could support the costs of achieving integration and decentralization if they are justified by improved efficiency and equity.

Because of its sector work and lending operations in health and population, the World Bank has had a closer involvement with health care under social security than with pension benefits offered by the institutes. Nonetheless, with the exception of structural adjustment loans in Chile and Costa Rica, which provided for reforms of social security and health care services, there has been no close linkage between Bank operations and the institutes in most countries. In Brazil, for example, INAMPS agreed to fund a share of incremental recurrent costs of the Sao Paulo basic health project signed in 1984, but the loan agreement was drawn up between the Bank and the federal and state governments without including the social security institute. It may now be timely to go a further step and to seek more explicit links to social security institutes.

Such links were resisted in the past on two grounds. From the side of the borrowers, the social security institutes often have ample financial resources from proceeds of the payroll tax, and they even can borrow easily on commercial terms. Medical supply houses in the developed countries welcome the chance to sell them high-technology equipment, and export credits often make the terms attractive -- but for the purchase of technologies that work against sector efficiency and equity. From the side of the World Bank, staff work pointed to the need to strengthen basic health care in ministries of health. Social security institutes were considered usually as candidates for merger with public health services (see sector studies of Brazil and Colombia) but not as potential borrowers. The result has been that the institutes survived the crisis of the 1980s in somewhat better condition than ministries of health in most countries, because the institutes have an earmarked payroll tax as their financial base, yet the Bank has not advanced sufficiently in its dialogue with the managers of those institutes, most of whom operate independently of central government oversight, on reallocation of resources toward primary care and away from high-technology care.

It now may be timely to intensify dialogue with the institutes. The growing demands for efficiency and equity make it progressively less acceptable that social security institutes absorb so many financial resources to finance services that the beneficiaries could pay for themselves. Institute managers themselves have grown conscious of the need for reform and restructuring. On the side of the Bank, it has become clear in some countries at least that reallocation within sectors -- from hospitals to health posts in this case -- is an essential part of sector dialogue and lending objectives.

In such countries as Argentina, Bolivia, Chile, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Mexico, and Panama, health sector work and lending operations could be expanded to explicitly include social security institutes. As in the case of Brazil, where a policy dialogue about decentralization (placing responsibility for service delivery at state and local levels) and unification (merger of the health ministry and INAMPS) has produced positive results, other countries need to reexamine their current arrangements and seek new ones that increase efficiency and equity. The role of the Bank will be to support change and facilitate it with analyses and lending operations.

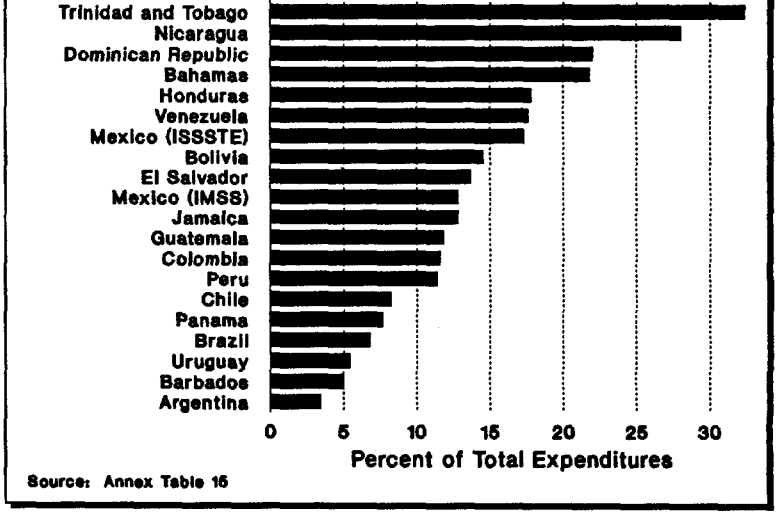
Chapter 4. Cost and Efficiency in Social Security Institutes

Serving millions of people with health care and risk insurance, social security institutes are among the largest organizations in Latin America. Previous analyses have emphasized the large share of GDP in the through-put of social security institutes in Latin America; Brazil's SINPAS (Sistema Nacional de Previdencia e Assistencia Social) is the largest of these.[5] In the Southern Cone countries, the through-put of social security systems exceeds the value of agricultural production. Size and growth have not, unfortunately, yielded efficiency. This chapter describes diverse sources of inefficiency, including high administration costs, excessive benefits, use of public funds to produce private goods, and poor management of investment portfolios.

Administration costs as a share of expenditures range from only 3 percent in Argentina to 15 percent and more for Honduras, Mexico, Dominican Republic, Trinidad and Tobago, and Venezuela. Jamaica manages its social security system, which does not offer health care services, with less than one employee for each thousand affiliates, but Costa Rica, Ecuador, El Salvador, Panama, and Dominican Republic all require more than ten employees per thousand affiliates (Figure 4.1 and Annex Tables 15 and 29). The United States Social Security Administration does its work with less than 0.5 percent administrative costs. These wide differences suggest that many institutes have ample room to achieve greater efficiency.

Efficiency must be viewed, also, from a broader perspective implicit in the question, Do the benefits provided by social security achieve their objectives, or do they, instead, cause overall inefficiencies in the economic system? Some countries -- Brazil is the main example -- offer retirement benefits for time of service without regard to age. Some workers retire before age 45; they may work at different jobs, but it would be hard to deny that encouragement of such retirements can reduce worker productivity. Most institutes provide more generous retirement benefits than do the industrial countries; these benefits may also undermine work incentives and reduce productivity. Perhaps because legally-mandated benefits are so generous, the authorities in Argentina have managed, by delaying benefit payments and cost-of-living adjustments, to keep

Figure 4.1
Administrative Costs as a Share of Total Spending, Selected Countries, Mid 1980s

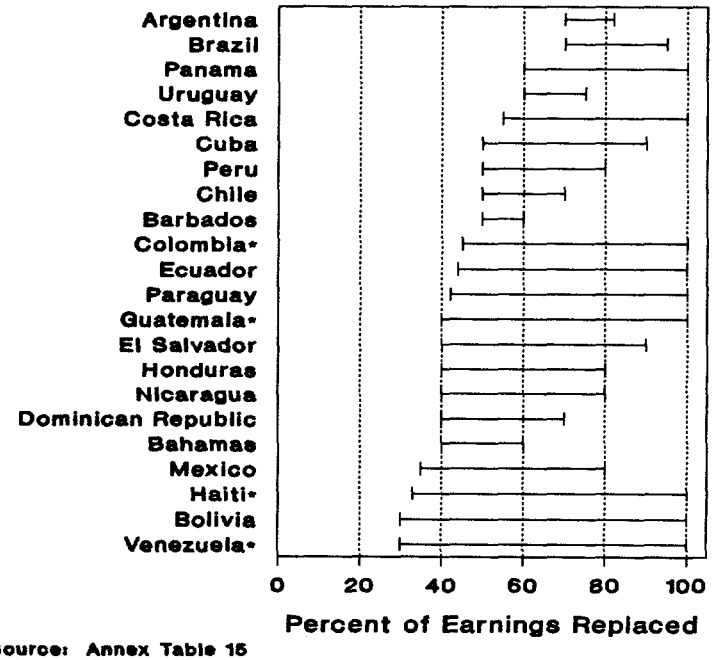


Source: Annex Table 15

actual paid benefits at less than half the level required by law. Inflation permits similar *de facto* benefit cuts in other countries as well. These savings come at the cost of undermining members' confidence in the system and can thus encourage tax evasion, a major problem.

Some countries offer easy conditions to qualify for benefits and very high replacement rates of pensions as a percentage of base salary. The most extreme cases are Argentina, Brazil, Panama, Uruguay and Costa Rica (see Figure 4.2). Recall that in many developed countries a replacement rate nearer to 40 percent is regarded as an adequate retirement stipend. It would not be inappropriate for lower-income countries to provide even less, given their resource limitations. It is difficult to see why such generous benefits as shown in Figure 4.2 are necessary for the objective of providing a basic income in retirement or for disability.

Figure 4.2
Basic and Highest Replacement Rates for Retirement Pensions in Order of Decreasing Basic Rate, Selected Countries, 1985



Source: Annex Table 15
* No legal maximum, 100 percent assumed

Privatization, Efficiency and Equity

Goods and services have economic characteristics that help define the relative roles of governments and private markets in allocating and paying for them. Some goods and services are completely consumed by the person buying them so that other consumers can be excluded from consuming them unless they buy the goods for themselves. Most acute curative health services fall into this category. Private markets tend to allocate such goods and services efficiently. Other goods and services are not completely consumed by the person who pays for them, or it is not sensible to exclude nonpaying consumers from the benefits. Your vaccination benefits me as it reduces the chance of communicable disease spreading through the community, thus you are not able to consume personally all of the benefits of purchasing the vaccination, and I get benefits that I do not pay for. If we live in the same community, and you pay to eliminate an entire disease vector, such as malaria-carrying mosquitos, I benefit at no additional cost. I could be excluded from the benefit by being forced to live elsewhere, but that makes little sense because, at the margin, my benefits are free once you eliminate the mosquitos for yourself. Private markets tend to produce too few vaccinations and too little malaria control as a result of these characteristics; simply put, individuals have too strong an incentive to free ride on their neighbors. Governments must step in to correct these problems, which they often try to do by providing free goods and services. Carefully considered policies would strike a balance between the necessity of public subsidies and consumers' willingness to pay for such services as vaccinations or control of mosquitos. Under most circumstances, in contrast, there is no need

for governments to provide pure private goods. An important exception is the special needs of the poor. Low-income groups may not be able to acquire the basic private goods they need to guarantee a minimum level of living and, especially, development of their children.

A related market problem in developing countries is a lack of markets for many types of risk and poor development of financial markets in general. The failure stems from basic characteristics of poorer countries -- low, irregular incomes; high administrative costs, intermittent employment, and much employment outside of the market economy. Although small risk-pooling arrangements are common, such as large families or close-knit communities, these institutions are inferior to large, diverse groups sharing risks through financial institutions. Governments may have a role to play in creating these institutions when they are poorly developed in the private sector.

The development of social security institutions through government agencies has brought many benefits to the recipients by reducing financial and health risks they and their families must bear. However, the systems pay for many goods that have no external benefits, carry little financial risk if purchased in private markets, and are readily available. Basic retirement benefits in a fully funded system, for example, make considerable sense from the standpoint of risk reduction and because they impose no external costs across generations. Each generation pays for its own retirement benefits and sets those benefits at a level it can afford. In pay-as-you go systems, basic retirement benefits make sense on risk reduction grounds and as a social contract across generations to provide a basic level of support for older citizens. However, generous retirement benefits in a pay-as-you-go system are simply a transfer to the recipient that must be justified on equity grounds.[6]

Basic health care and sanitation make a healthy environment for everyone; your heart bypass operation is good for you, but it raises my tax rates if government pays for it. Your subsidized schooling to receive a medical school degree may help me if there are not enough physicians, but will it help enough to justify my paying for part of it with tax money? This last example illustrates the fact that whether goods are public or private is a matter of degree, affected by time and place. There will be no simple guides to what is public and what is private in many cases. What can be said is that governments will best serve if they give greatest emphasis to goods characterized by strong external benefits and only secondarily are concerned with strictly private goods. Most institutes could save money and improve their efficiency by limiting both pension and health-care spending to those goods and services that private markets fail adequately to provide.

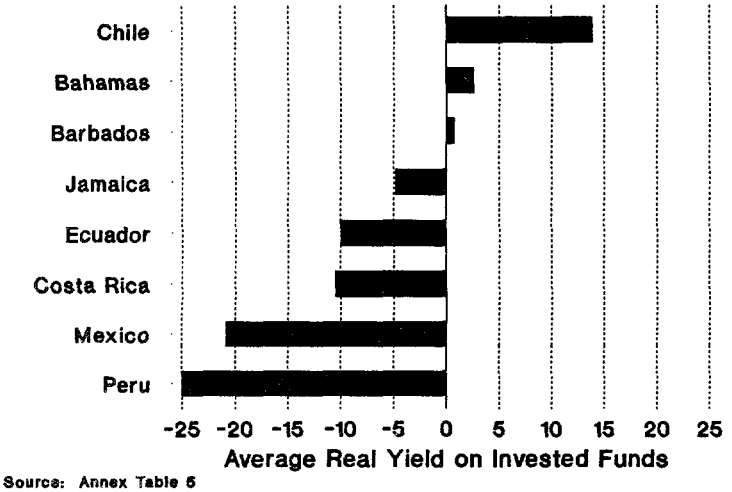
Inadequate Returns on Portfolio Investments

In a survey of investment portfolio performance of eight social security institutes, Mesa-Lago found that real yields were positive and satisfactory in the 1980s only for the Chilean system, which registered a real rate of return on assets of 13.8 percent. There were small positive returns for provident funds in the Bahamas and Barbados, but results for Costa Rica, Ecuador, Jamaica, Mexico, and Peru were all decidedly negative (see Figure 4.3).

This poor performance differs from earlier experience for some institutes. Ecuador's institute, for example, generated 17 percent to 28 percent of all revenues from its portfolio over a score of years beginning in 1965, and Panama produced about 10 percent of revenues from its portfolio (see Figure 4.4 for recent experience for other countries). These cases are exceptional, but they demonstrate that effective management could produce satisfactory results.

Inflation and insistence by governments that social security funds invest in government

Figure 4.3
Rate of Return on Investment Portfolios, Selected Countries, 1980s



Source: Annex Table 6

paper were found by Mesa-Lago to be the basic causes of poor returns. These results confirm that the creation of portfolios for social security institutes will be sound only in those countries committed to economic stabilization and willing to allow the institutes to manage their resources for a reasonable rate of return.

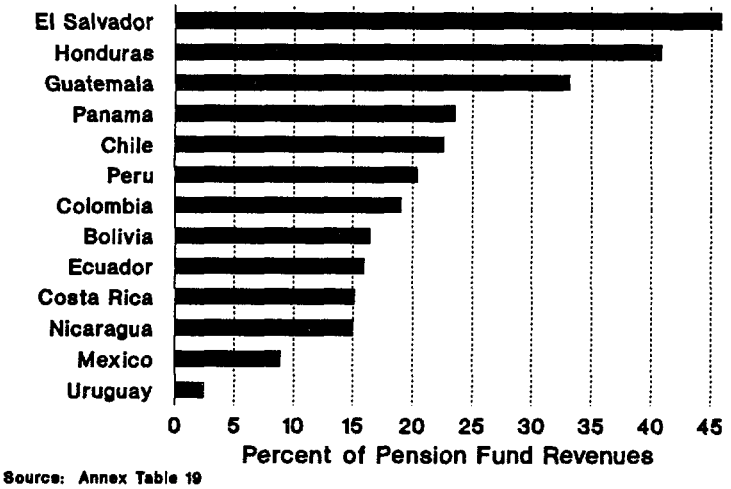
Options for the World Bank

Social security institutes use payroll tax resources to finance services that might alternatively be financed by private households and firms. Some public resources could be saved, with no loss in terms of social services received by households, by encouraging greater direct household purchase or cofinancing of such social services as retirement and dependents' insurance and health care beyond the basic services that benefit the community as a whole. Because public spending may crowd out or substitute for private spending for the same services, interrelations between public and private spending cannot be ignored. Analysis of a Peruvian data set demonstrates that social security payments for health care and pension benefits substitute for and reduce the transfers that households would make among themselves, from middle-aged children to their elderly parents in the typical case, and hence soak up government's limited taxing power without yielding net improvements in welfare (Cox and Jimenez 1990).

Bank economic and sector work could review pension benefits to see whether a lower replacement rate would be feasible. Further analysis could determine whether reduced early retirement rights and less generous pensions for upper income groups could open a financial wedge to pay for minimum rural benefits to achieve greater equity and efficiency. These choices can be examined within a framework of options that would consider their equity and efficiency dimensions.

Social security benefits are too generous in principle and hence, in many countries, honored only in the breach (see the discussion in

Figure 4.4
Portfolio Investment Returns as a Percentage of Institutes' Pension Fund Activities, Selected Countries, 1983



Source: Annex Table 19

Chapter 3 above). In some countries, institutes seek fully to replace income, and they encourage early retirement at an age when many workers are most productive. The benefits package creates incentives for people to retire or to declare themselves physically incapacitated, despite the fact that social policy generally aims to encourage higher productivity. High benefits go preferentially to those with higher income even though contributions are capped and fall well short of paying the costs of the benefits received. The integrity of the system and the confidence of the elderly is then undermined by the institutes' failure to pay the benefits mandated by law. These facts taken together suggest the need for a reform of social security benefits.

Institutes could offer *basic* health care benefits under a standard package, then permit private insurance firms to sell additional insurance covering other services. Other options are considered in the Bank policy study, Financing Health Care in Developing Countries. Similarly, pension, survivor, and disability benefits could be reduced to a basic, credible,and sustainable stipend that tax payments can support. Additional risk insurance could be provided by the private sector under regulations that would assure fairness.

Bank staff have recognized for some time that investment policies imposed on social security institutes have the effect of hiding deficits and falsely reducing the cost of government borrowing by decapitalizing pension funds. Within the framework of a comprehensive review of the impact of social security institutes on economic activity, these faults in the system could now be addressed. As in other sectors, analyses need only point to acceptable practices as a basis for reform and restructuring. The purpose of pension funds is to finance future benefits, and the best way to do that is to secure the best possible rate of return to the portfolio's assets. This conclusion emerged after considerable discussion among Bank staff in a December 1989 seminar. It provides a sound basis for policy dialogue on this topic.

Chapter 5. Actuarial Imbalance

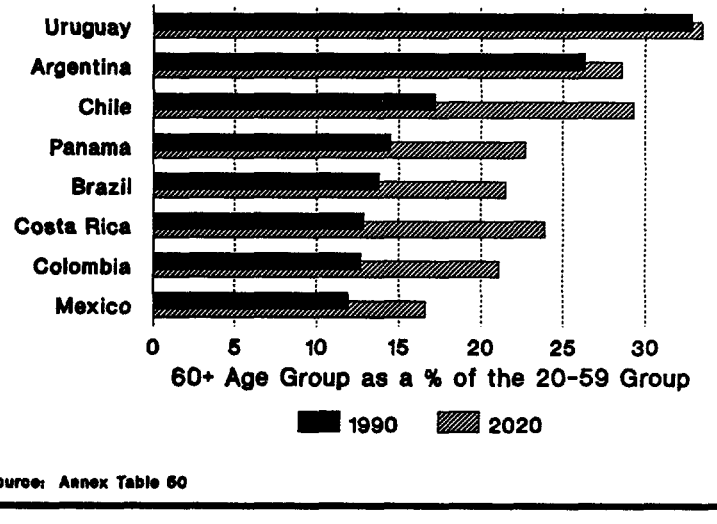
The actuarial imbalance will be a cause of future problems for social security institutes in Argentina and Uruguay, where current deficits were typical of the early and middle 1980s. Their problems are a foretaste of what other governments can anticipate as their populations pass through the demographic transition. An actuarial balance is the calculation of the present value of the stream of expected future revenues and expenditures. A private insurance system is in balance if it could in principle liquidate its assets and pay off all its liabilities. Social security institutes differ fundamentally from private insurance companies in that they enjoy the support of their sponsoring governments, which accept the obligations of the institutes themselves, and hence are ultimately responsible to pay all legitimate benefit claims.

Actuarial imbalance in the case of these institutes refers instead to the imbalance that can exist between revenues, at current and likely future rates of wage taxation drawing from the affiliated population, and expenditures for the benefit of that population. Governments can raise wage taxes, use alternative revenue sources to finance benefits, reduce benefits, and borrow from the future or other programs, financing benefits with an inflation tax. An actuarial imbalance would thus seem correctable by a number of devices. Raising payroll taxes, however, drives workers to the informal sector, and using other revenue sources undermines the principle that workers are paying for their benefits. Borrowing causes inflation and macroeconomic instability. Thus governments and institutes have grown to be tightly constrained during the 1980s and now find the attractive approaches to closing an actuarial deficit to be few.

Demographic Change

Underlying demographics, which include birth-rate declines and population aging, combined with a shrinking pool of potential additions to working groups who can contribute to institutes from current salaries, together set the stage for an eventual crisis. Pension payments will expand yet worker contributions may actually decline. The problem is still in the future for Mexico, where less than 10 percent of institutes' expenditures pay for pension benefits today; it is more immediate in Brazil, where such payments constituted up to 80 percent of social security expenditures in the 1980s.

Figure 5.1
Dependency Ratios, Selected Countries, 1990 and 2020



Source: Annex Table 60

There are striking differences among countries in the likely evolution of dependency ratios. Consider, for example, the changing projected ratio of working-age population to the elderly, an imperfect indicator of the burden on the economy of pension benefit payments (see Figure 5.1). The burden of the elderly in Argentina will grow far less, from a ratio of 26.3 percent in 1990 to 28.6 percent in 2020, than it will in Brazil, 13.8 percent to 21.5 percent, and Mexico, 11.9 percent to 16.6 percent, over the same period. The actuarial implications emerging from this comparison suggest that Argentina is already reaching the peak of its financing problem with retirement benefits (the peak will become a plateau), whereas Brazil and Mexico, with their more youthful populations, face serious problems ahead.

Options for the World Bank

The unfunded obligations of social security institutes, if these are understood in the sense suggested above, represent an obligation of governments analogous to internal debt. Financing these obligations does not pose the same problems as external debt, but the credibility of government stabilization policies may be at stake as pension obligations grow in the future.

A first step for the Bank is to develop much more explicit knowledge about these obligations; given the parallel to internal debt, these topics should perhaps be examined together as part of any forward-looking country economic work. The analyses of scenarios for Brazil's social security obligations, with projections in some cases to 2020, offer one possible model for such work in the future (see Annex Tables 27a, 27b, 28a, and 28b).

Chapter 6. Macroeconomic Balance

Social security system deficits can undermine fiscal balance and macroeconomic planning for adjustment. This review suggests that deficits are important in selected countries, such as Argentina and Uruguay, and were addressed by reform in Chile, but are not yet salient in most. In several countries of the region, social security expenditures and revenues, as well as the gap that could emerge between them in any given period, are large enough to carry implications for macroeconomic policy. Expenditures, as a percentage of both GDP and consolidated central government expenditures, appear in Annex Tables 3, 4, 24, 27, 28, 32, and 39. These figures suggest that for the countries considered here the resources passing through the social security institutes are large relative to both total economic activity, as measured by GDP, and government spending.

Selected Experiences in the Region

The Chilean Experiment

Chile is the one country in the region that has tried to confront the serious macroeconomic implications of imbalance between social security expenditures and revenues by means of overall reform. In 1981, when social security expenditures, primarily for retirement pensions and disability payments, constituted about 12 percent of GDP and over a quarter of central government revenues, the government privatized important parts of the system, with pensions to be administered by private corporations and health-care services to be operated partly by government, in a decentralized fashion, and partly by private health-care organizations.

The treasury continues to subsidize the deficits related to the old pension system and supports welfare pensions, unemployment compensation, and family allowances, which together cost 8.9 percent of GDP in 1986 (Mesa-Lago 1989, page 37). Recent projections suggest that the Chilean government will continue to pay over four percent of GDP to the end of this century, and beyond, to support pension obligations (World Bank 1987b). Costly though this approach might be, it was regarded as preferable to incurring still further obligations that might lead from insolvency for the pension system to virtual bankruptcy of the federal treasury because of unpayable obligations to pensioners.

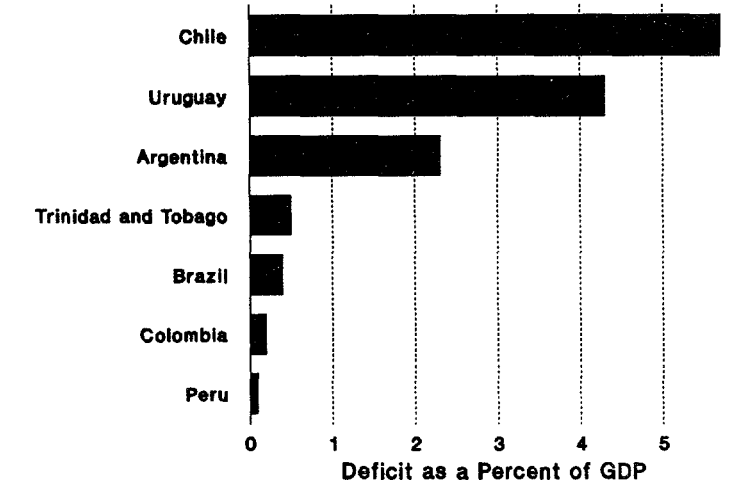
Other countries in the region have not yet undertaken the kind of fundamental reforms that began in 1986 in Chile. Their institutes that cover private-sector employees continue to offer schemes with both defined contributions and defined benefits that, as a consequence, may result in a gap between the two that must be financed from public revenues other than payroll taxes. It is the difficulty in financing the gap that creates the problem of macroeconomic balance. As suggested in the discussion of several countries below, the potential for deficits exceeding a percentage point or more of GDP already exists in these countries, and the problem will grow in the 1990s (see Figure 6.1 and Annex Table 7 on deficits through 1983).

The Pay-As-You-Go Approach

All the social security institutes in the countries listed in Table 1.1 (Chile is an exception since the 1986 reforms) try to operate

on a pay-as-you-go basis, that is, they try in aggregate to balance each year's revenues with expenditures. As long as such an annual balance is achieved, social security institutes will present no unexpected deficits that cause macroeconomic problems. Note, however, that in the 1970s several institutes in the region managed to generate surpluses that added several percentage points of GDP to national savings. Those surpluses have long since disappeared. Today's worker affiliates of social security institutes in Brazil, Costa Rica, and Uruguay barely generate enough revenues to pay for their health care benefits and a combination of pensions and health care for retired persons. Brazil's system failed to achieve such balance in the early 1980s, and the government responded by raising employer contributions significantly. From surplus and savings in the 1960s and 1970s, all these countries entered an era of crisis in the 1980s during which it has barely been possible to cover benefit payments and health care costs with current revenues. Federal treasuries have filled the gap. An issue for macroeconomic planning is whether this gap is going to become a permanent feature for which planning must begin at once. A brief review of the current situation, based on country studies, suggests that the problem of fiscal balance will grow more severe unless systemic reform reduces the potential obligations of federal treasuries.

Figure 6.1
Social Security Institutions' Deficits as a Percentage of GDP, Selected Countries, 1983



Source: Annex Table 7

Argentina

Argentina's three pension systems, covering, respectively, government employees, workers in manufacturing and commerce, and self-employed workers, faced a deficit problem in the crisis of the early 1980s; the solution was to finance over 40 percent of the benefits paid in those years out of general treasury revenues (Isuani 1989). More recently, the Argentine government has been allocating a tax on fuels, equivalent to 1.5 percent of GDP, to pay part of current retirement benefits, despite the fact that the average pension payment has been compressed from around 60 percent of the average wage in the early 1980s to less than 40 percent in 1986 and 1987, with all indications that pensions had still not recovered at the end of the 1980s (Isuani 1989). There is already so much avoidance of the wage taxes that pay for social security that tax increases only have the effect of driving more workers into the informal sector. Nearly 19 percent of all Argentines will be eligible for pension and related benefits in 1990 and there will be about 2.4 workers obligated to pay wage taxes to finance the benefits of each retiree. But because of the potential for evasion, even fewer workers can be expected to contribute to pay for benefits (Isuani 1989, pages 29-31). Further recourse to general revenues or special, additional taxes may be inevitable to maintain benefit payments. If Argentine courts rule that pension payments must be returned to the legally-prescribed levels, which is about double current pension payments in real terms, then the financing problem that faces the Argentine treasury will be graver still.

Brazil

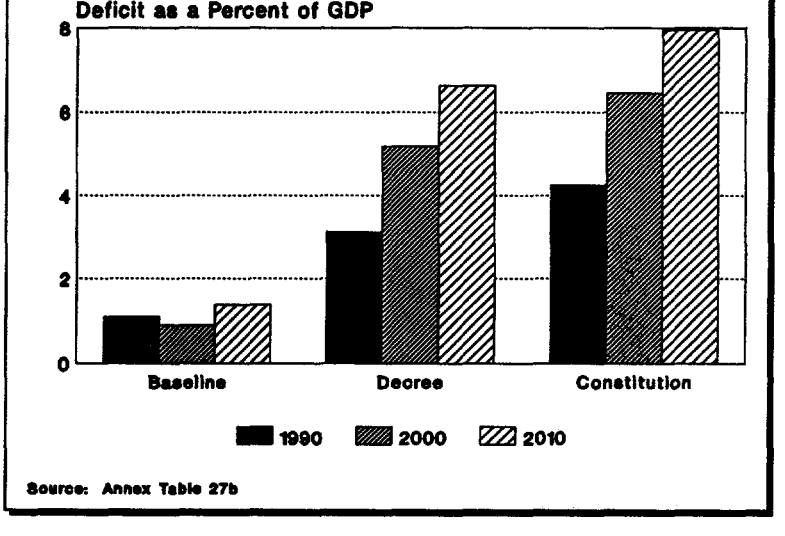
Brazilian authorities closed a potentially large deficit in 1986 by introducing a number of strict cost control measures: (1) The share of system revenues allocated to health care was cut from over 30 percent to under 20 percent, principally by reducing hospital admissions for elective surgery; (2) administrative authorities intensified their review of applications for benefits and effectively slowed the review process, and (3) social security officials reviewed with greater care applications for disability and early retirement to assure that all conditions were met before beginning to disburse benefits. A projected deficit for 1986, estimated at nearly two percent of GDP in the middle of 1985, never materialized because of these, and other, measures that restricted benefit payments enough to balance revenues and expenditures.

Brazil's new constitution, enacted 5 October 1988, and several mandated administrative changes, some of which are still to be enacted, provide for several kinds of benefit enhancements that will be difficult to finance with existing resources (de Oliveira, Beltrao and LeGrand 1989, pages 3-5). The effect of the reforms is to increase expenditures substantially; by 1995, the reforms would increase expenditures by 80 percent to 120 percent relative to a baseline, pre-constitution scenario. Increasing both the minimum wage and the benefits package, as prescribed in legislation implementing the provision of the new constitution, would increase projected benefit distributions in 1995 from around 4.5 percent of GDP in the late 1980s, to between 8 percent and 14 percent of GDP. The gap between expenditures and revenues is projected then to be 3.5 percent to 4.5 percent of GDP, i.e., a gap almost equal to social security expenditures in 1988 (see Figure 6.2, and Annex Tables 27 and 28). Even under an alternative assumption of no increase in the minimum wage, a small deficit in 1990 would grow to about one percent of GDP by the year 2000, and to cover that deficit with further wage taxes would require a 40 percent increase in the urban payroll tax. The result would be even further evasion as more workers move to the informal sector of the economy, with all the attendant costs in terms of lower labor efficiency and productivity. These projections may be conservative because they assume that legislated benefits remain the same while revenues increase.

Costa Rica

Thanks in part to an effective social security program, health coverage grew from 15 percent of the population in 1960 to 93 percent by 1990. The infant mortality rate fell from 70 to 14 deaths per thousand live births, and life expectancy rose from under sixty to over seventy-three years. One way Costa Ricans paid for these impressive gains was that social security spending, especially for health care, multiplied almost five times as a percentage of GDP. Today, over 60 percent of government

Figure 6.2
Brazil: Projected Social Security Deficits as a Percent of GDP under Three Scenarios



Source: Annex Table 27b

spending in Costa Rica goes to the social sectors, and social security itself is responsible for about one-fifth of government spending, with most of that devoted to health care (Mesa-Lago 1990, page 44, and G. Miranda lecture, 1 Mar 90). The Costa Rican system enjoyed surpluses in the 1970s that turned into a small deficit in 1981. As it was in Brazil, this deficit was eliminated by a payroll tax increase. Actuarial projections done in 1985 and 1987 suggested that by the early 1990s, deficits would again appear. The Costa Rican Congress is currently studying possible legal changes that would move the system toward a defined-contribution arrangement for pension benefits.

Because such a large share of spending by the Costa Rican Social Security Institute (CCSS) is devoted to health-care costs (more than 70 percent in 1987), the greatest risks to fiscal balance in this system come from the high costs of curative health care, rather than from pension and retirement benefits. These risks have been addressed by intensive scrutiny of spending for hospital care, renewed emphasis on preventive and primary care, and review of all opportunities to cut costs for health services.

As part of a World Bank structural adjustment loan and related technical assistance loan in 1986, CCSS tightened its approach to cost controls by privatizing some ancillary services (lenses for vision correction, hospital laundry services) and improving occupancy rates. The number of hospital beds has been held constant in the score of years since 1970 and occupancy rates have nearly doubled. Over the decade of the 1980s, CCSS was able to cut the share of its health spending for hospital care from 60 percent to 53 percent.[7] The effectiveness of that effort has had a positive result in damping a tendency toward fiscal imbalance that would have arisen already without stringent cost controls. Compared to Argentina, Brazil, and Uruguay, Costa Rica, as a result of these efforts, appears to have a less immediate problem of macroeconomic balance.

Other countries in the region, with less mature social security systems, younger populations, and slower growth of the dependent elderly, do not yet face an immediate problem of macroeconomic balance. Mexico, for example, spent but 2 percent of GDP through its social security institutes, IMSS and ISSSTE, in 1986. These institutes, when combined with the Secretariat of Health, saw their share in GDP compressed from over 4.6 percent in 1977 to around 2 percent by 1987, demonstrating that health-care costs may be easier to cut during economic crisis than pension benefits, which were less than 5 percent of IMSS outlays through 1985 (see Annex Tables 37, 39). Other countries, Honduras and Venezuela among them, have managed to limit program coverage to small enough segments of the population that pension benefit obligations do not pose an immediate threat to macroeconomic balance.

Options for the World Bank

The federal governments of the countries listed in Table 1.1 have a residual obligation to pay for any differences that arise between the contributions their social security institutes receive and the payments they are obligated to make to beneficiaries or, more broadly, the services of health care those institutes decide to offer to affiliates.

The ministries of finance, obligated to guide overall economic policy, have inadequate information from these institutes on which to base their macroeconomic policies since the institutes can become major factors in excess outlays. A first step is thus to assure that each government's principal economic decision-making authorities be fully informed on the near, medium, and long-term implications for macroeconomic balance of their social security institutes.

Full information will require much better data about costs, likely expenditures, pension obligations, health care benefits, and a host of

other factors that affect institute revenues and expenditures. Among the countries listed above, only Chile and perhaps Uruguay provide adequate information to central decision-making authorities. Ministries of finance in the other countries operate in a virtual information vacuum on such matters as the actuarial balance, options for cost control for medical spending, flows between institutes and ministry facilities that pay for, or fail to pay for, services rendered to social security affiliates, and non-essential spending for recreational facilities, social assistance, and other programs that are not mandated benefits.

The following additional actions should be considered:

- Develop financial plans for at least five years for institute revenues and expenditures;

- Develop sound actuarial studies that trace future obligations and revenues to assess sustainability of benefit programs;

- Identify opportunities for cost reductions where expenditures are excessive.

Chapter 7. Microeconomic Distortions

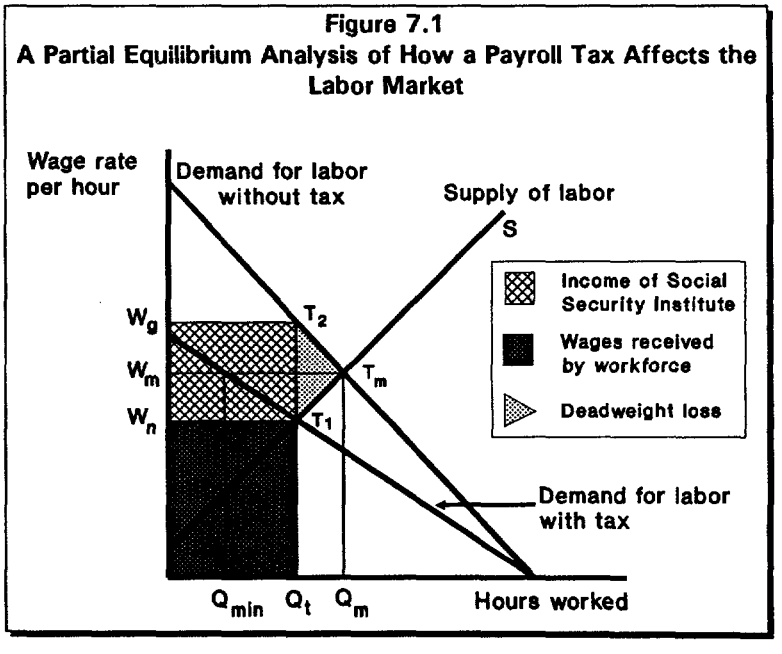
References to the following microeconomic issues, all of which involve distortions in behavior by firms, workers, retirees, and consumers of medical care, have been made throughout this report. The issues include: (1) the tax on labor biases the modern manufacturing sector toward capital-intensive technologies and encourages workers and enterprises to avoid or evade the taxes; (2) poorly designed benefit programs create moral hazard; and (3) public contractual savings schemes limit the development of capital markets by crowding out private insurance and interhousehold gifts aimed at providing support to the sick and elderly. Moral hazard has been discussed adequately in the appropriate contexts. This chapter contains a more explicit discussion of the other two issues.

Economic Distortions Caused by the Payroll Tax

The tax on labor associated with social security can be analyzed in the usual partial equilibrium setup by showing the demand for and supply of labor in terms of hours of work and the wage rate, as in Figure 7.1. Without the tax, the equilibrium use of labor and the market-clearing wage are determined by the intersection of the "Supply of labor" schedule, which is determined by workers' preferences for labor and leisure, and the "Demand for labor without tax" schedule, which is a function of the marginal product of labor. The intersection (T_m) corresponds to Q_m hours worked at the market clearing wage of W_m.

A payroll tax is an *ad valorem*, or percentage, tax on the wage, which rotates downward the demand schedule that workers face. This is shown in Figure 7.1 by the "Demand for labor with tax" schedule. After the payroll tax is imposed, the new market equilibrium is at T_1, corresponding to a gross wage W_g, a net wage W_n, and hours of work Q_t. The *absolute amount* of the tax per hour of work is T_1T_2 (or the difference between W_g and W_n). The *percentage rate* of the tax is T_1T_2/Q_tT_2. As drawn, the tax rate is about 37 percent. As the wage rises, the same percentage tax rate corresponds to a larger absolute amount of tax on each hour, which is why the demand curve rotates instead of making a parallel shift.

Figure 7.1
A Partial Equilibrium Analysis of How a Payroll Tax Affects the Labor Market



Why does the supply curve remain unchanged while the demand curve rotates? Workers' desire for work relative to leisure, which is a primary determinant of labor supply, does not change, but the offered wage effectively falls. Employers pay the pretax wage, W_g, the social security institute takes its bite, T_1T_2, and the worker is left with W_n. The worker makes a decision about hours to work based on W_n, not W_g.

Who bears the burden of the tax? Given the demand and supply schedules in Figure 7.1, the burden of the tax is shared about equally between the firm and the worker. After the tax is imposed, employers are actually paying a higher wage, and workers are receiving a lower wage than before the tax. The price of labor has risen for the firm from W_m to W_g and the wage received by the worker has fallen from W_m to W_n. Note that this distribution of the burden is unaffected by whether the tax is assessed by law on the employer or the employee; as long as the tax is on labor, its burden will be distributed as shown. Naturally some of this burden will find its way into product prices and the return to capital; where it goes depends on elasticities in those other markets. However, economists generally agree that the supply of labor is relatively inelastic with respect to the wage, so it is commonly assumed that the burden of the payroll tax *falls primarily on labor*.

The shaded areas in the figure designate how earnings are distributed. The cross-hatched area is the income of the social security system. Workers receive take-home pay corresponding to the dark rectangle. The shaded triangle is the excess burden of the tax, or the deadweight loss, an efficiency loss from transactions that no longer take place because of the tax. It is income that disappears into thin air because of the tax. To the extent that workers somehow get back the cross-hatched area, that is not a permanent loss to them; however, if administrative costs are a large part of the cost of the system or if the social security system purchases for workers goods and services that they would not otherwise demand, the economic efficiency loss is compounded.

There may be conditions in developing countries that would require some adjustments to this analysis:

- If there is a minimum wage *at or above* the market-clearing wage (W_m), there is no deadweight loss from the tax. In Figure 7.1, for example, if W_m is a legally mandated minimum wage, it is easy to see that the effective "Supply of labor curve" is W_mT_mS, and the "Demand for labor with tax" schedule slides down this supply curve. After the tax, the new equilibrium wage is still the minimum wage (W_m), but employment falls dramatically to Q_{min}. The employer pays the whole tax. However, it is obviously a hollow statement to say there is no deadweight loss, as distortion compounds distortion -- employment, for example, is less than half what it would be with the tax but no minimum wage.

- If workers have other options, such as jobs in the traditional sector or in activities not covered by the payroll tax, the supply of labor will be quite elastic with respect to the wage. In this case, the employer will pay most of the tax. This might be an appropriate depiction of the case in Latin America, at least for unskilled workers. For skilled workers in the modern sector, it is a less likely scenario, but the options available to those workers depends on many other factors, such as the ability of the social security system to enforce taxes uniformly across large firms, small firms, and the self-employed. If taxes can be avoided more easily through self employment, one would expect to see many small firms spring up to do contract work for large firms, possibly even their former employers. Other avenues of avoidance are barter and cash transactions, techniques commonly used in industrialized and developing countries alike.

- If firms and labor unions enjoy monopoly power (as a result of market structure,

legislation, acquisition of licenses, tariff barriers, and so on) it is entirely possible that they could pass much of the tax on to consumers.

The upshot of this presentation is that in a purely competitive world, labor would probably pay most of the payroll tax. This result assumes that labor supply is inelastic. In such a world, it would be irrelevant whether the tax were assessed on employers or laborers; what matters is that it is a function of wages. In the absence of competition in factor or product markets, or if some institutional features such as dual labor markets or incomplete coverage of the tax across occupations is common, the burden of the tax is probably spread more widely. One can be sure that workers and employers will try their best to push it off on consumers. Although the result of this analysis might be that the question of incidence is empirical, it is no small order to get a solid answer from empirical studies.[8]

The payroll tax creates incentives for both workers and employers to shirk it (through retreat to the so-called informal market), and it raises their incentive to organize for protection against competition (both foreign and domestic) in product markets so that they can attempt to shift the tax to consumers. At the very high tax rates that characterize a number of Latin American countries, these effects, plus the deadweight loss, may be large enough that social security revenues would increase with a *lower* tax rate. In combination with the efficiency losses discussed earlier on the benefit side -- moral hazard due to early retirement and high pension benefits -- the total loss of potential income for the social security institute due to the incentives *they* create may be staggering.

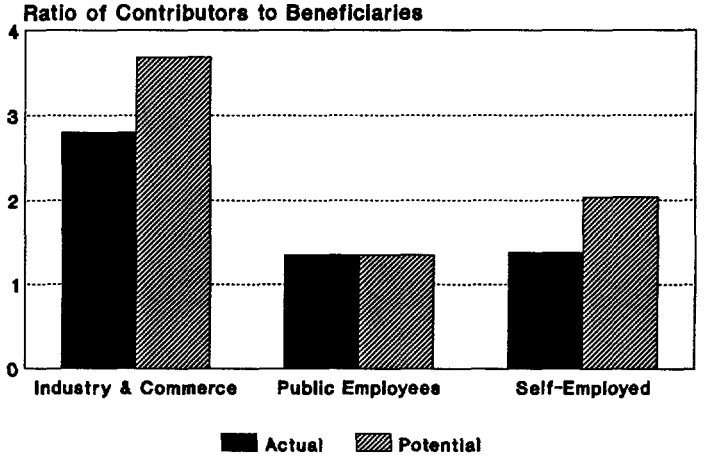
In a general equilibrium context a number of other adjustments will take place. The quantity of labor used after the tax is below the original equilibrium by $Q_m - Q_t$, an amount that approximates the increment to uninsured, informal sector employment plus unemployment. To make up for the smaller amount of labor used the employer makes three kinds of changes: (1) output is reduced because costs are higher and profits lower than if there were no wage tax; (2) more capital is used to replace the relatively more expensive labor; and (3) production shifts to capital-intensive products, the technology of which is better suited to the new capital-labor ratio. Consumer prices and demand patterns also adjust to the change.

The implications of this analysis can be seen in actual behavior in countries with high tax rates, which are shown for selected countries in Annex Table 2. Argentina levies a tax of over 50 percent of the wage base; followed by Uruguay, at 40 percent; Costa Rica, at 33 percent; and Brazil and Paraguay, at 28 percent. Argentine authorities report high levels of evasion of the payroll tax (more than a third of taxes due are not paid), and it is easy to imagine that the wage tax causes harder-to-observe distortions such as reduced demand for labor in the formal sector and uncompetitive exports in covered industries. Figure 7.2 shows the number of contributors per beneficiary in Argentina's three social security funds. Only in the public sector are all employees contributing; in the other funds, there are many fewer actual contributors than would be expected based on employment and statute.

In Brazil, wage-based social contributions, of which social security is the largest, distort factor use, raising returns to capital relative to the return to labor. By shifting part of the burden of the social security tax to profits, and away from wages, the distortions could be reduced. That was the rationale behind a recent legislative change that provides for a profits tax to finance social services. Reliance on direct taxation via the income tax or an indirect tax that does not distort production decisions, such as the value-added tax, would have been even closer to neutrality in its labor-capital choice dimension. There seems to be a preference for social contributions in Brazil, as compared to direct

taxation, a factor that Brazilian governments need to take into account in any plans for tax reform. Options chosen need to consider the disadvantage of taxing labor more than capital and the special burden that a tax levied on the manufacturing sector may place on export capacity.

Figure 7.2
Argentina: Actual and Potential Ratios of Current Contributors to Beneficiaries in the Principal Social Insurance Funds, 1983



Source: Annex Table 23

Workers who contribute to social security institutes receive a significant share of their implicit, post-benefit income in kind -- health care services, housing subsidies, and risk insurance. Because this income in kind comes bundled in a package of benefits, it is safe to assume that some part of it would not have been purchased by at least some of the recipients if they had been given full choice. Growth of the informal sector coincides with this effort to escape from tied purchases and the taxes that pay for them,[9] because the informal-sector workers prefer current to tied or deferred income and services. Payroll taxes are levied on modern-sector manufactures, some of which are tradeable goods made less competitive by the tax. No tax is imposed on farm or informal-sector wages, so there is a bias against manufactured tradeables.

Altruism and Private Sector Capital Markets

In a study of Peruvian household transfers, Bank analysts found that over half of them gave or received some gifts in money or in kind. The study was aimed at determining whether social security payments simply substitute for the natural altruism that occurs between households. Adult children may make payments to elderly parents that could be replaced by public payments for health care or as income supplements. The analysis showed that interhousehold transfers are lower to those elderly who receive social security health care services and pension benefits. However, the transfers are estimated to be reduced by only 20 percent of their potential value so that public payments do not completely substitute for private altruism (Cox and Jimenez 1990).

These findings do suggest that social security is inefficient and ineffective to the extent that it replaces the better targeting and greater sensitivity to need implicit in the interhousehold transfers that go on exclusive of the public program. Program design must take this replacement effect into account if tax resources are going to be put to good use.

Other analysts have identified similar crowding out in the general capital market as a public contractual savings scheme soaks up available capital then misallocates it to offset deficits in other public spending. A financial sector reform study for Mexico has identified means by which pension benefit programs of the public sector could be privatized and have a positive effect on the size and efficiency of the capital market.

Options for the World Bank

In any review of factors that affect productivity, labor market distortions caused by labor taxes should receive prominent attention. Future Bank economic work needs to take payroll taxes into account in any review of productivity, and the policy dialogue should include, where necessary, considerations of wage-tax reductions as a means to decrease distortions.

The above-mentioned Bank-sponsored study in Peru helped identify how public social programs can substitute for private sector transfers. The thrust of Bank policy is to seek means to reduce the role of government in the Latin America and Caribbean to that which it must do -- not to inhibit private action. The Peruvian study should be replicated in more countries where data permit. If the results are similar, there may be justification for significant restructuring of benefit arrangements aimed at reducing the substitution of public for private transfers. These changes would, as in the case of other reforms discussed in this report, require an unbundling of the benefits package, identification and elimination of those benefits that get in the way of private transfers, and a redefinition of benefits and beneficiaries aimed at achieving the equity and efficiency objectives outlined elsewhere. The efficiency criterion in this case would then have been expanded to include a concern about interactions between public and private transfers.

Possible options for the Bank include the following:

- Link social security analysis to a broader program of targeting public subsidies on the poor.

- Continue past programs of individual country studies of social security within the context of country economic work (memoranda and strategy papers). Supplement with regional analyses and comparative studies.

- Specify links of social security reform to conditions associated with Structural Adjustment Loans and Sector Adjustment Loans.

- Identify opportunities for lending to social security institutions aimed at financing reforms to secure greater efficiency and equity.

- The Bank might cofinance investments with local provident funds under conditions (adequate rate of return, sound management) satisfactory to the Bank. To do so, such operations will require analysis of capital markets and financial intermediaries operating in those markets.

- There are a number of options for changes in portfolio management that could reduce current market imperfections and secure funds for development. Options would include bundling private sector investments to reduce risk to the system portfolio; strengthening of the capital markets for longer-term instruments, and reduction of market segmentation that creates unjustified interest-rate differentials.

Notes for All Chapters

1. Bank staff who worked on these Structural Adjustment Loan-related operations include Willy de Geyndt, Juan Giral, Robert Lacey, Paul Meo, Richard Newfarmer, and Christine Wallich. Tarsicio Castaneda was, before joining the Bank, very familiar with the restructuring of the Chilean social security system. Consultants Peter Thullen, Carmelo Mesa-Lago, and Hector Dieguez were among those most helpful in the preparation of the policy analyses linked to the loans.

2. At three internal Bank meetings held in 1988 and 1989, more than sixty staff members indicated, by the emphasis they gave various themes in their discussion and comment, which issues require consideration. Priorities were also discussed in country-focused sector work for Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Honduras, Mexico, Panama, and Uruguay. The ratings in Table 1.1 remain, however, a personal judgement of the author based on his participation in these discussions.

3. See the paper by Isuani (1989) prepared as background for this report and World Bank (1990b). Argentina spends a higher share of GDP on health care (over 7 percent) than any other LAC region country.

4. Personal security accounts, along lines of those developed in Chile, could be offered publicly or privately for those seeking higher levels of protection.

5. There are, besides SINPAS, such major systems in Brazil as PIS/PASEP, funds for public employees separate from SINPAS, and additional contractual savings systems for military and some employees of state-owned enterprises. Some Brazilian states have separate systems as well. In round numbers, the SINPAS through-put is US$13.4 billion (one-quarter for health, most of the rest for pension and survivors' benefits). State and local government pensions cost US$6.6 billion, and federal worker pensions about US$3 billion. This sum approaches 10 percent of GDP. These data refer to 1986 and are found in World Bank (1989a).

6. As demonstrated elsewhere in this document, the effects of generous retirement benefits are often inequitable.

7. To clarify the figures given in this section, the social security system accounts for about 20 percent of all government spending. About 70 percent of that amount was for health care in 1987. In turn, about 53 percent of *that amount* was spent on hospitals by the end of the decade.

8. See any textbook on the theory of public finance for a more complete discussion of payroll taxes. Discussions of different aspects of incidence in developing countries (with no specific treatment of payroll taxes, however) are scattered throughout Newbery and Stern (1987).

9. In effect, some of the cross-hatched area in Figure 7.1 is used to provide goods that workers would not have purchased for themselves.

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Note:

[Items marked with * are internal World Bank studies not available through the Publications Office.]

Annex Tables

Annex Table 1

Ordering and Grouping of Latin American Countries According to the Development of Social Security, 1980

Group / Country	Decades Elapsed Since Initial Pension Law[a]	Percent of the Total Population Covered by the Illness Program	Percent of the Working Population Covered by the Pension Program[b]	Mandated Contribution: Percent of Payroll[c]	Social Security Expenditure as a Percent of GDP	Social Security Expenditure as a Percent of Public Expenditure	Percent of Social Security Expenditure to Pensions	Social Security Deficit or Surplus as a Percent of Revenues[e]	Ratio: Pensioners / Contributors[f]	Population of Age 65 Years or More	Life Expectancy at Birth in Years
	1	2	3	4	5	6	7	8	9	10	11
High Group											
Uruguay[g]	6	69	81	33	11	39	79	-60	0.65	10.4	70
Argentina	6	79	69	46	10	38	55	-13	0.32	8.2	69
Chile	6	67	62	29	11	32	53	17	0.46	5.5	68
Cuba[g]	6	100	93	10	9	13	44	-46	0.21	7.3	73
Brazil	6	96	96	26	5	38	45	-7	0.18	4	64
Costa Rica	4	78	68	27	9	36	21	0	0.06	3.6	71
Range[h]	6	67-100	62-96	26-46	9-11	32-39	44-79	0 to -60	0.18-0.65	4.0-10.4	68-73
Intermediate Group											
Panama	4	50	46	21	7	23	34	-11	0.12	4.4	70
Mexico	4	53	42	18	3	18	21	17	0.08	3.6	64
Peru	5	17	37	21	3	15	35	12	0.09	3.6	58
Colombia[i]	4	12	22	20	4	20	20	-8	0.05	3.5	62
Bolivia	3	25	18	25	3	14	40	8	0.33	3.2	51
Ecuador	5	8	23	21	3	10	48	36	0.15	3.5	60
Paraguay	4	18	14	20	2	22	31	15	0.07	3.4	64
Venezuela	2	45	50	14	3	15	33	26	0.06	2.8	66
Range[h]	3-5	12-1	18-50	18-25	3-7	14-23	20-40	26 to -11	0.05-0.15	3.2-4.4	60-70
Low Group											
Dominican Republic	4	8	14	14	2	16	21	4	NA	2.9	60
Guatemala[g]	2	14	33	20	2	14	14	3	0.06	2.9	58
El Salvador	3	6	12	12	2	12	18	23	0.08	3.4	62
Nicaragua	3	9	19	16	2	13	16	34	0.08	2.4	55
Honduras[j]	3	7	13	14	3	12	7	19	0.02	2.7	57
Haiti	2	1	2	12	1	NA	10	15	NA	3.5	51
Range[h]	2-3	1-9	2-19	12-16	1-2	12-16	7-18	3-34	0.02-0.08	2.4-3.4	51-60

Source: Carmelo Mesa-Lago 1990

Notes: NA Not Available

a Number of decades prior to the 1980s that the first pension law was introduced.

b Percent of the economically active (working) population covered by the pension program.

c Total percent of the payroll that the insured, the employer, and the state must contribute altogether.

d The expenditure in social security includes the total expenditure in health.

e Deficit or surplus that results from subtracting the expenditures from the total revenue of social security, as a percent of revenues.

f Demographic burden: number of passive insured (pensioners) divided by the number of active insured (contributors).

g For Cuba and Uruguay some figures are for 1981, others correspond to 1980.

h Estimated after deleting a maximum of one outlier variable; in most cases no observations are dropped.

i 1979

j 1982

Annex Table 2

Contributions to Social Security in Latin America: 1987-1988 (in Percentages of the Wage or Revenue)

Country	Contribution of the Insured		Employer Contribution	State Contribution[a]	Types of State Subsidies[a]			Total Contribution[c]	Rank[d]
	Wage Earner	Self-Employed			Taxes	Deficit	Other[b]		
Argentina	14	18	33[e]	7.8-10.6			x	54.8-57.6	1
Bahamas	1.7-3.4	6.8-8.8	7.1-5.4				x	8.8	23
Barbados	4.65-6.55	8	4.9-6.8		x		x	9.55-13.35	21
Bolivia	5		15	1				21	10
Brazil	8.5-10	19.2	18.2-20.7		x	x	x	26.7-30.7	4
Chile	20.57-28.53[f]	19.4-27.4	0.85			x	x	21.42-29.38[f]	6
Colombia	4.5-6.17	15-20	14.5-17.8				x	19-24	9
Costa Rica	9	12.25-19.5	23.66	0.75	x			33.41	3
Cuba	0	10	10			x	x	10	22
Dominican Republic	2.5		9.5	2.5		x		14.5	15
Ecuador	9.35-11.35	14-16	9.85-8.85				x	19.2-20.2	11
El Salvador	3.23-5.5	8.75	7.57-8.25	0.5			x	10.8-13.75	18
Guatemala	4.5		10	3			x	17.5	13
Guyana	4.8	10.5	7.2					12.3	19
Haiti	2-6		4-12			x		6-18	20
Honduras	3.5		7	3.5				14	16
Jamaica	2.5[g]	5[g]	2.5		x		x	5[g]	25
Mexico	3.75	13.57	13.44	0.75				17.94	12
Nicaragua	4		11	0.5			x	15.5	14
Panama	7.75-9.25	18-22	12.45-12.75	1.2		x		20.9-23.2	8
Paraguay	9.5		16.5	1.5				27.5	5
Peru	6	18	16					22	7
Trinidad and Tobago	2.8	5.6	5.6[e]				x	8.4	24
Uruguay	13-16		21-29		x	x		34-45	2
Venezuela	4		7-9	1.5			x	12.5-14.5	17

Source: Carmelo Mesa-Lago 1990

Notes:
- a Contribution by the State as such, not as employer.
- b In different countries the state covers: the cost of health services or pensions, the difference in cost from the minimum guaranteed pension, the administrative expenditure, part of the cost of extended coverage of the population.
- c Excludes the contribution to the insurance contribution of the self-employed and the state contribution that is not a percentage of the wage. On some countries not only the main institute is included, but also other important institutions are included.
- d From largest to smallest. When there is a range of two figures, the median has been used to establish the rank.
- e Excludes the premium for professional risks.
- f The lower amount in the new system and the higher amount in the old one.
- g Variable contribution according to the wage; there is also a fixed contribution.

Annex Table 3
Expenditures in the Social Security System as a Percentage of GDP in Latin America, 1965-1983

Country	1965	1975	1980	1983
Antigua and Barbuda	NA	NA	0.9	1
Argentina	NA	6.8	9.3	7.3
Bahamas	NA	NA	0.5	1.1
Barbados	NA	4.9	2.2	3.7
Belize	NA	NA	1.1[c]	1.6
Bolivia	3.6[a]	3.1	2.9	2.1
Brazil	4.3	5.7	4.8	5.6
Chile	12.1	11	10.7	14.3
Colombia	1.1	3.1	2.8	2.2
Costa Rica	2.3	5.1	7.1	6.3
Cuba	8.3	9.7	11.7	11.5
Dominica	NA	NA	0.8	1
Dominican Republic	2.7	2.4	0.7	NA
Ecuador	3.2	3	2.9	3.7
El Salvador	2.2	3.3	1.7	1.8
Grenada	NA	NA	1.7	2
Guatemala	2	2	1.2	1
Guyana	4.3	1.9	1.3	1.8
Honduras	1	NA	0.8	0.9
Jamaica	2.7	3.2	1.4	1.7
Mexico	2.6	3.1	2.7	2.8
Nicaragua	2.1	2.8	2.3	1.1
Panama	6	7.5	5.9	7.7
Paraguay	NA	NA	1.2	NA
Peru	2.5	3.1	2.2	2.1
St. Lucia	NA	NA	0.5	0.6
Suriname	NA	1.7[b]	2.1	4.6
Trinidad and Tobago	2.8	2.4	0.7	2.4
Uruguay	9.6	10.7	7.6	10.6
Venezuela	3.1	3.9	1.3	1.5

Source: Carmelo Mesa-Lago 1990

Notes: NA Not Available
a 1961
b 1978
c 1981

Annex Table 4
Percentage Distribution of Social Insurance Plus Family Allowances by Source in Latin America, 1983[a]

	Percent of Total Revenue					
Country	Insured	Employer	Non-employer State Allocations and Special Taxes	Investment	Other	Revenue as a Percent of GDP
Antigua and Barbuda	29.3	48.8	0	19.2	2.8	3.3
Argentina	34.5	27.2	36	2	0.3	7.5
Bahamas	23.2	38	5.2	33.6	0.1	2.8
Barbados	36.2	37.5	0	22.3	4.1	6.2
Belize	11.6	69.1	0	14.3	5	2.1
Bolivia	25.5	34.8	24.2	12.4	3.1	2.7
Brazil	15.6	74	8.2	0	2.2	5.4
Chile	31.1	2.1	48.9	15.9	2	16.7
Colombia	26.6	62.8	0	10.2	0.4	1.8
Costa Rica	28.4	47	18.6	5.3	0.8	9.2
Cuba	0	44.3	55.7	0	0	11.5
Dominica	27.3	45.6	0	26.2	0.8	3.4
Ecuador	38.6	38.1	1.3	22.1	0	3.6
El Salvador	23.7	55.8	0	20	0.6	1.8
Grenada	48.2	48.3	0	3.3	0.2	1.6
Guatemala	29.5	51	3.6	13.2	2.7	1.4
Guyana	20.6	30.9	0	48.5	0.1	8.5
Honduras	25.9	47.9	7.2	16.8	2.2	1.3
Jamaica	24.3	29.7	7.4	38.5	0.1	2.4
Mexico	19.7	62	12.3	5.2	0.8	2
Nicaragua	22.8	59.9	3.2	12.9	1.2	2.1
Panama	28.8	44.6	3.3	13.3	10	9.9
Peru	29.4[a]	59.0[a]	0	10.3	1.3	2
St. Lucia	43.5	43.5	0	13	0	1.8
Suriname	23.9	9.7	66.4	0	0	1.4
Trinidad and Tobago	18.1	36.2	27.2	18.5	0	2.5
Uruguay	23.5[a]	23.3[a]	49.2	1.6	2.3	8.8
Venezuela	28.6	39.3	13.7	18.3	0.1	1.8
Regional Average	26.5	43.1	14	14.9	1.5	4.5

Source: Carmelo Mesa-Lago 1990
Notes: a Family allowances only in Argentina, Brazil, Colombia, Chile, Suriname, and Uruguay.

Annex Table 5

Significance, Composition, Real Growth, and Real Rate of Return of the Investment Funds of Social Security in Selected Countries of Latin America, 1980-1987

	Significance: Invested Funds 1987[a] as Percent of:				Composition: Percent Distribution of Portfolio								
Country	Money Supply	Gross Fixed Capital Formation	Government Revenue	Gross Domestic Product	Government Bonds	Mortgage Loans	Fixed-Term Deposits	Stocks	Real Estate	Other	Average Inflation Rate 1980-1987	Real Growth of Invested Funds 1981-1987[b]	Average Real Rate of Return to Invested Funds 1980-1987[c]
Bahamas	123.2	66.8	68	11.3	66.3	15.9	17.8	0	0	0	6.6	62	2.6
Barbados	79.3	79.3	52.9	12.7	16	46.9	35.1	2	0	0	7.2	38	0.7
Chile	NA	96.4	54	15.4	45	22.9	26.1	6	0	0	24.3	424	13.8
Costa Rica	39.1	29.4	37.5	5.9	43.7	14.7	35.3	0	5.6	0.7	29.1	45	-10.5
Ecuador	20.4	15.3	20.9	2.8	10.2	83.1	0	3.3	3.2	0.2	25.7	-23	-10
Jamaica	40.5	26.7	20.9	5.8	91	8.8	0.2	0	0	0	16.6	-3	-4.8
Mexico[d]	3.1	1.1	1.5	0.2	13.6	2.6	0	0	83.8	0	69.5	-73	-20.8
Peru	6.7	3.5	8.1	0.7	3.6	6.8	71.8	0	17.8	0	93.4	-18	-20.6 to -29.4[e]

Source: Carmelo Mesa-Lago 1990

Notes: a Bahamas 1985, Ecuador 1986

b Bahamas 1981-85, Chile 1982-87, Ecuador 1981-86

c Bahamas 1980-85, Barbados and Ecuador 1980-86, Chile and Peru 1981-87, Mexico 1981-83

d Includes movables and immovables as invested funds.

e Based on two recent estimates; a third estimate yields -40 percent for 1982-85.

Annex Table 6

Comparison of the Percentage Distribution of Coverage and Health Budgets between the Department of Health and the Social Security in Selected Countries of Latin America, Circa 1980[a]

	Department of Health			Social Security		
Country	Percent of Population Covered	Percent of Total Government Health Spending	Ratio of Budget Share to Coverage	Percent of Population Covered	Percent of Total Government Health Spending	Ratio of Budget Share to Coverage
Colombia	82	38	0.46	18	62	3.44
Costa Rica	15	22	1.47	85	78	0.92
Dominican Republic	91	53	0.58	9	47	5.22
Ecuador	89	59	0.66	11	41	3.72
Panama	45	34	0.76	55	65	1.18
Peru	76	50	0.66	24	50	2.08

Source: Carmelo Mesa-Lago 1990

Notes: NA Not Available

a Excludes the private sector

Annex Table 7
Surplus or Deficit of the Social Security System as a Percentage of GDP in Latin America, 1970-1983[a]

Country	1970	1975	1978	1979	1980	1981	1982	1983
Argentina	NA	0.7	0.3	0.0	-0.4	-3.0	-2.2	-2.3
Bahamas	NA	NA	NA	NA	1.6	2.1	1.3	1.4
Barbados	-0.2[b]	-2.4	0.4	0.5	0.5	0.3	2.0	2.5
Bolivia	0.2[c]	0.3	0.0	0.2	0.0	0.7	0.6	0.1
Brazil	NA	NA	NA	NA	NA	-0.3	0.0	-0.4
Chile	-4.1[b]	-1.0	-1.7	-2.0	-2.0	-2.3	-7.7	-5.7
Colombia	0.2	0.0	-0.2	-0.1	0.0	-0.2	-0.6	-0.2
Costa Rica	0.7	1.6	1.4	1.2	1.0	0.8	0.8	2.5
Cuba	NA	NA	NA	NA	NA	-6.2	-6.4	-6.4
Ecuador	NA	0.6[d]	1.8	2.1	1.7	1.3	1.5	1.3
El Salvador	0.0	-0.3	0.6	0.6	0.4	0.6	0.8	0.8
Guatemala	0.1	0.0	0.4	0.5	0.4	0.4	0.3	0.3
Honduras	-1.2	NA	NA	NA	NA	0.3	0.1	0.2
Jamaica	-0.7	-1.7	0.3	0.3	0.3	0.7	1.0	0.6
Mexico	-0.4	-0.3[d]	NA	NA	0.4	0.4	0.5	0.1
Nicaragua	0.1	0.0	0.0	0.5	0.9	0.7	0.6	0.8
Panama	0.1[c]	1.2	1.0	1.7	1.9	2.7	3.1	2.4
Peru	NA	NA	NA	NA	NA	0.4	0.0	-0.1
Trinidad and Tobago	0.8	0.4	0.3	NA	0.2	0.0	0.0	-0.5
Uruguay	NA	-1.2	-0.5	-0.3	-0.8	-3.7	-5.8	-4.3
Venezuela	-0.7	0.3	0.4	0.2	0.3	0.2	0.2	0.0

Source: Carmelo Mesa-Lago 1990
Notes: NA Not Available
a Excludes the contribution of the state as such
b 1971
c 1972
d 1974

Annex Table 8 Financing Methods of the Pension Funds of Social Security in Selected Countries of Latin America, Late 1980s

Country		Fully Capitalized or Fulled Funded; Fixed Premium	Partially Capitalized with a Scaled Premium that Changes Across Time Periods	Assessment of Constituent Capital	No Capitalization: Pay-As-You-Go
Argentina					X
Bahamas			X		
Barbados			X		
Brazil					X
Chile	Old				X
	New	X			
Colombia	Social Security		X		
	Civil servants				X
Costa Rica	Social Security		X		
	Civil servants				X
Cuba					X
Ecuador			X		
Guatemala			X		
Jamaica			X		
Mexico			X		
Panama				X	
Peru			X		
Uruguay					X

Source: Carmelo Mesa-Lago 1990

Notes: a Full capitalization in theory or law, but scaled premium in practice

Annex Table 9

Actual Coverage of the Economically Active Population and the Total Population by Social Security in Latin America, 1960 through 1985/88

	Percent of the Economically Active Population				Percent of the Total Population	
Country	1960	1970	1980	1985-88	1980	1985-88
Argentina	55.2[g]	68.0[g]	69.1[g]	79.1[f]	78.9	74.3[f]
Bahamas	NA	NA	85.3	85.9	NA	NA
Barbados	NA	75.3	79.8	96.9	NA	NA
Bolivia	8.8b	9.0	18.5	16.9	25.4	21.4
Brazil	23.1	27.0	87.0	NA	96.3	NA
Chile	70.8	75.6	61.2	79.2	67.3	NA
Colombia	8.0	22.2	30.4	30.2	15.2	16.0
Costa Rica	25.3	38.4	68.3	68.7	81.5[h]	84.6[h]
Cuba	62.6[a]	88.7[i]	93.0[d]	NA	NA	NA
Dominican Republic	NA	8.9	NA	11.3	NA	5.9
Ecuador	11	15.8[c]	21.3	23.4[e]	9.4	11.1[e]
El Salvador	4.4	8.4	11.6	NA	6.2	NA
Guatemala	20.6	27.0	33.1	27.0	14.2	13.0
Honduras	3.7	4.2	14.4	12.8[f]	7.3	10.3[f]
Jamaica	NA	58.8	80.9	93.2	NA	NA
Mexico	15.6	28.1	42.0	40.2	53.4	59.7[e]
Nicaragua	5.9	14.8	18.9	31.5	9.1	37.5
Panama	20.6	33.4	52.3	59.8	49.9	57.4
Paraguay	8.0	10.7	14.0	NA	18.2	NA
Peru	24.8[b]	35.6[c]	37.4	39.1	16.6	18.6
Uruguay	109.0[g]	95.4	81.2	73.0	68.5	67.0[e]
Venezuela	11.9	24.4	49.8	54.3	45.2	49.9[e]
Latin America	NA	NA	61.2	NA	61.2	NA
Excluding Brazil	NA	NA	42.7	NA	42.7	NA

Source: Carmelo Mesa-Lago 1990

Notes: NA Not Available

a 1958
b 1961
c 1969
d 1981
e 1983
f 1984
g More than 100 percent due to multiple coverage.
h Includes coverage of "destitute" (welfare or non-contributors).
i Estimate based on the legal coverage and population census.

Annex Table 10
Geographic Inequalities in the Coverage of Health Services in Selected Latin American Countries, 1980s

Country	Region	Total Population Coverage (Percent)	Physicians per 10,000 Inhabitants	Hospital Beds per 1,000 Inhabitants
Argentina (1980)	Federal Capital	123.9[a]	46.8	8.4
	Formosa	6.0[a]	8.1	4.3
Bolivia (1986)	Oruro	32.8	NA	0.9
	Pando	10.7	NA	0.2
Chile (1980)	Magallanes	95.0[c]	5.3	4.8
	La Araucania	39.3[c]	2.1	3.2
Colombia (1984)	Atlantic	24.7	NA	NA
	Choco	2.7	NA	NA
Costa Rica (1979)	San Jose	33.9[b]	12.4	5.7
	Guanacaste	15.2[b]	1.9	1.1
Cuba (1982)	Havana	NA	41.2	11.2
	Granma	NA	7.2	4.1
Ecuador (1979)	Pichincha	19.8	14.4	2.8
	Morona	2.6	4.0	1.6
Mexico (1980)	Federal District	100.4	21.1[d]	3.3[d]
	Oaxaca	17.2	2.4[d]	0.4[d]
Panama (1984)	Panama	75.2	10.7	5.2
	Darien	10.8	4.0	2.7
Peru (1981)	Lima	26.7	19.0	3.0
	Apurimac	2.5	0.3	0.6
Uruguay (1984)	Montevideo	68.7[d]	35.4	3.8
	Rivera	17.0[d]	6.5	1.8

Source: Carmelo Mesa-Lago 1990
Notes: NA Not Available
a 1960
b Excludes Dependents
c Working Population
d 1970
e Affiliated with collective institution, 1986

Annex Table 11
Social Security Expenditures as a Percentage of GDP and Extrapolates Based on Universal Coverage in Latin America, 1980

	Social Security Expenditure as a Percentage of GNP (1980a)	Percentage of Total Population Covered (1980)	Estimated Expenditure for Social Security as a Percent of GDP if Coverage were Extended to 100 Percent of the Population
Argentina	11.9	78.9	15.1
Bahamas	0.7	85.3b	0.8
Barbados	1	79.8b	1.2
Bolivia	2.9	25.4	11.4
Brazil	5.2	96.3	5.4
Chile	11	67.3	16.3
Colombia	2.8	15.2	18.4
Costa Rica	7.5	81.5	9.2
Cuba	8.6	100.0c	8.6
Dominican Republic	0.7	5.9d	11.9
Ecuador	3.7	9.4	39.4
El Salvador	1.3	6.2	21
Guatemala	1.6	14.2	11.3
Honduras	0.9	7.3	12.3
Jamaica	0.4	80.9b	0.5
Mexico	2.9	53.4	5.4
Nicaragua	2.3	9.1	25.3
Panama	6.1	49.9	12.2
Paraguay	1.2	18.2	6.6
Peru	2.6	16.6	15.7
Uruguay	8.1	68.5	11.8
Venezuela	1.3	45.2	2.9

Source: Carmelo Mesa-Lago 1990

Notes:
a Most of the figures were estimated by Mesa-Lago and refer to the coverage of social security agencies, which explains the difference with respect to the figures on social security coverage in other tables.
b Working population covered by monetary benefits; the total population is legally covered by health services by the Department of Health
c Legal coverage
d 1985

Annex Table 12

Percentage Distribution of the Expenditure on Benefits by the Social Security and Family Allowances in Latin America, 1965-1983

Country	Year	Illness / Maternity	Pensions	Professional Risks	Family Allowances	Unemployment	Total
Argentina	1975	14.5	58.3	0.0	27.2	0.0	100.0
	1983	27.1	58.6	0.0	14.3	0.0	100.0
Bahamas	1980	27.4[a]	72.5	0.1	0.0	0.0	100.0
	1983	18.2[a]	81.1	0.7	0.0	0.0	100.0
Barbados	1971	65.4[a]	25.2	9.4	0.0	0.0	100.0
	1983	12.9[a]	82.5	1.4	0.0	3.2	100.0
Bolivia	1961	55.4	13.7	0.0	30.9	0.0	100.0
	1983	40.9	44.7	9.9	3.8	0.7	100.0
Brazil	1970	47.2	40.2	3.4	9.2	0.0	100.0
	1983	33.7	62.3	0.6	3.3	0.0	100.0
Chile	1965	16.6	36.2	0.0	45.9	1.3	100.0
	1983	15.4	68.4	2.6	10.0	3.6	100.0
Colombia	1965	63.3	0.0	1.2	35.4	0.0	100.0
	1983	62.9	28.8	8.3	0.0	0.0	100.0
Costa Rica	1965	77.8	4.7	17.5	0.0	0.0	100.0
	1983	68.6	26.9	4.5	0.0	0.0	100.0
Cuba	1980	13.0[a]	85.2	1.8	0.0	0.0	100.0
Dominican Republic	1977	72.0	25.3	2.7	0.0	0.0	100.0
	1982	73.1	25.7	1.2	0.0	0.0	100.0
Ecuador	1965	18.9	63.3	0.0	0.0	17.8	100.0
	1983	16.9	75.8	1.6	0.0	5.7	100.0
El Salvador	1965	91.2	0.0	8.8	0.0	0.0	100.0
	1983	75.8	17.8	6.4	0.0	0.0	100.0
Guatemala	1970	50.3	0.0	49.7	0.0	0.0	100.0
	1983	42.6	16.4	41.0	0.0	0.0	100.0
Honduras	1965	96.3	0.0	3.2	0.0	0.0	100.0
	1983	91.3	8.7	0.0	0.0	0.0	100.0
Jamaica	1975	0.0[a]	92.0	8.0	0.0	0.0	100.0
	1983	0.1[a]	94.3	5.6	0.0	0.0	100.0
Mexico	1965	73.3	16.7	10.0	0.0	0.0	100.0
	1983	67.0	22.5	10.1	0.4	0.0	100.0
Nicaragua	1965	89.4	4.7	5.9	0.0	0.0	100.0
	1983	27.9	63.7	8.4	0.0	0.0	100.0
Panama	1965	60.4	39.6	0.0	0.0	0.0	100.0
	1983	54.5	41.9	3.3	0.0	0.4	100.0
Peru	1981	60.0	32.1	7.9	0.0	0.0	100.0
	1983	58.7	34.1	7.2	0.0	0.0	100.0
Trinidad and Tobago	1975	21.4[a]	71.4	7.2	0.0	0.0	100.0
	1983	7.3[a]	89.4	3.3	0.0	0.0	100.0
Uruguay	1975	3.6	73.6	1.9	16.9	4.0	100.0
	1983	8.8	76.1	0.0	10.7	4.5	100.0
Venezuela	1965	79.9	0.0	20.1	0.0	0.0	100.0
	1975	65.8	34.2	0.0	0.0	0.0	100.0

Source: Carmelo Mesa-Lago 1990

Notes: a Only monetary benefits; medical-hospital services are not provided by the social security agency

Annex Table 13 Comparison Between the Legal Retirement Age and Average Life Expectancy of Retired Persons in Latin America, 1980-1985

Country	Legal Retirement Age		Required Years of Work	Ranking[a]	Average Life Expectancy at Retirement		Ranking[b]
	Male	Female			Man	Woman	
Argentina	60	55	15	18	16.2	24.2	17
Bahamas	65	65	3	5	NA	NA	NA
Barbados	65	65	3	5	NA	NA	NA
Bolivia	55	50	15	26	17.2	22.2	18
Brazil	65	60	10	10	14.2	18.3	7
Brazil Special Regimes	Any[d]	Any[d]	30	29	24.1	26.9	23
Chile	65	60	15 / 10	9	13.2	19.4	6
Colombia	60	55	10	22	15.6	21.4	13
Costa Rica	65	65	10	3	14	16	4
Costa Rica	57	55	34	17	19.1	24.2	21
Costa Rica Special Regimes	50	50	30	28	25.6	28.6	26
Costa Rica Special Regimes	Any[d]	Any[d]	30	29	25.6[e]	28.6[e]	26
Cuba	60	55	25	16	18.9	24.6	22
Cuba	65	65	35	1	13.2	15.9	2
Dominican Republic	60	60	15	12	16.3	18.2	11
Ecuador	55	55	30	23	20.2	21.2	19
El Salvador	65	60	14	8	14.2	19.9	9
Guatemala	65	65	15	2	13.6	14	3
Haiti	55	55	20	24	17.4	17.9	13
Honduras	65	60	15	7	13.4	13.8	1
Jamaica	65	60	3	11	NA	NA	NA
Mexico	65	65	10	3	14.4	15.7	5
Nicaragua	60	60	15	12	15.8	16.2	8
Nicaragua	60	55	15	18	18.1	19.6	15
Panama	55	50	15	27	21.9	27.8	23
Panama	60	60	15	12	16.2	17.9	9
Paraguay	55	55	20	24	19.9	21.7	20
Peru	60	55	15 / 13	21	15.2	20.7	10
Uruguay	60	55	30	15	16.2	24.1	15
Uruguay Special Regimes	Any[d]	Any[d]	20	31	25.4	28.3	25
Venezuela	60	55	15	18	16.9	23.5	18

Source: Carmelo Mesa-Lago 1990

Notes: NA Not Available

a Ordered by combining oldest age and more years of work required; in other words, the lower the ranking, the stricter the conditions.

b Ordered by lower average years for retirement = (man + woman) / 2; in other words, the lower the number the fewer the years.

c Finance, Public Works, Communications

d Teachers, Public Registrar

e Assumes that the retirement age is 50 years, but technically it could be less; for example, if the entry to the labor force is at 15 years of age, the insured could retire at 45 years. In Uruguay's case, the insured could retire at 35 years.

Annex Table 14
Comparison of the Calculation of Old Age Pensions in Latin America, 1985

Country	Wage Basis (Average)	Basic Rate Percent	Maximum Rate Percent	Rank[a]
Argentina	3 best years of the last 5 years	70	82	20
Bahamas	last month	40	60	15
Barbados	3 best years in last 15	50	60	8
Bolivia	1 or 2 last years	30	100	16
Brazil	last 3 years	70	95	22
Chile	last 5 years	50	70	3
Colombia	last 3 years	45	b	21
Costa Rica	4 best in 5 years	55	90	16
Special Regime	last month[c]	66	100	24
Special Regime	last year[d]	66	100	23
Cuba	5 best years in 10	50	90	12
Dominican Republic	last 4 years	40	70	2
Ecuador	5 best years	44	100	9
El Salvador	last 3 years	40	90	11
Guatemala	last 5 years	40	b	10
Haiti	last 10 years	33	b	6
Honduras	last 5 years	40	80	1
Mexico	last 5 years	35-40	80	4
Nicaragua	last 3 years	40-45	80	12
Panama	3, 4, or 5 best years in last 15	60	100	19
Paraguay	last 3 years	42	100	18
Peru	3, 4, or 5 best years in last 5	50	80	4
Uruguay	last 3 years	60-70	75	12
Venezuela	5 or 10 last years (plus fixed amount)	30	b	6

Source: Carmelo Mesa-Lago 1990

Notes:
a Rank based on the strictest combination of the three rules for calculation.
b The law does not establish a maximum, and for the ordering Mesa-Lago assumed a maximum rate of 100 percent or more.
c Finance, Teachers, and Public Registrar
d Judicial, Communications

Annex Table 15
Administrative Efficiency Variables of Social Security Agencies in Latin America, 1983-1987[a]

Country[b]	Administrative Costs as a Percent of Total Costs (1983-1986)	Employees per 1,000 Insured (1980-1987)
Argentina	3.4	NA
Bahamas	21.8	3.8
Barbados	5	2.4
Bolivia	14.5	6.7
Brazil	6.8	NA
Chile	8.2	NA
Colombia	11.6	7.4
Costa Rica	5	13
Dominican Republic	22.0[f]	20.5
Ecuador	22.5	13.2
El Salvador	13.7	13.5
Guatemala	11.8	7.4
Honduras	17.8	NA
Jamaica	12.8	0.6
Mexico	12.8-17.3[c]	8.9-10.4[c]
Nicaragua	28	4.5
Panama	7.7	11.7
Peru	11.4	7.0 / 10.5[e]
Trinidad and Tobago	32.4[d]	NA
Uruguay	5.4	NA
Venezuela	17.6	4.1

Source: Carmelo Mesa-Lago 1990

Notes: NA Not Available

a Includes family allocations or public employee programs in seven countries.

b There are no statistics for Cuba, Haiti, or Paraguay. In most cases it only includes the social security Agency; in some cases it also include family allocations and / or public employee pensions and / or non-contributor pensions.

c In the two major institutions (IMSS and ISSSTE)

d 8.7 percent if you consider all the programs, including social welfare.

e The lower figure is the official one, and the higher figure is corrected considering an overestimation of population coverage in 1988.

f 41 percent in 1988.

Annex Table 16
Hospital Efficiency Indicators in Selected Countries of Latin America, 1980s

Country	Sector	National Averages of	
		Bed Occupancy Rate	Length of Stay
Argentina (1980)	Public	60.6	7.5-26.9[e]
Colombia[a] (1984)	Public	56.2	5.4
Chile (1985)	Both	75.3	8.5
Costa Rica (1985)	Social Security	81.0	6.3
Cuba (1980)	Public	81.0	9.6
Dominican Republic (1985)	Social Security	51.7	10.4
Ecuador[b] (1979)	Both	58.0	8.2
Mexico[c] (1982)	Social Security	67.0	4.6
Panama (1984)	Both	67.0	7.0
Peru (1985)	Social Security	70.4	11.7
Uruguay[d] (1984)	Public	81.8	13.3

Source: Carmelo Mesa-Lago 1990
Notes: a The social security sector had averages of 61 percent and 7.3 days.
b Within social security, in 1981, the averages were 82.7 percent and 9.3 days.
c IMSS; the averages of the ISSSTE were 70 percent and 5.7 days.
d In Montevideo (excluding chronic disease); in the interior the averages were 51.2 percent and 7.9 days.
e Extreme variation among provinces.

Annex Table 17
Impact of Social Security Health Benefits on the Distribution of Income in Selected Countries of Latin America, between 1969 and 1978

Units of the Minimum Legal Wage	Percentage Distribution of Contributions	Percentage Distribution of Health Services
Brazil (1973)		
Less than 1	17.2	32.4
1-1.9	14.2	22.2
2-2.9	21.1	22.5
3-3.9	12.9	9.5
4-8.9	23.1	10.1
9 or more	11.5	3.3
	100.0	100.0
Chile (1969)		
Less than 1	29.8	33.4
1-1.9	31.6	35.0
2-2.9	17.6	15.7
3-4.9	11.9	9.5
5 and more	9.1	6.5
	100.0	100.0

	Percentage of Family Income	
Family Income Quintiles	Before Health Benefits	After Health Benefits
Costa Rica (1978)		
Poorest Quintile	2.8	4.0
Quintile 2	8.0	8.7
Quintile 3	13.0	13.4
Quintile 4	21.2	21.0
Richest Quintile	55.0	52.9
Total	100.0	100.0

Source: Carmelo Mesa-Lago 1990

Annex Table 18

Effect of Public Expenditure on Health (Subsidies) on Income Distribution of some Latin American Countries, 1980 and 1982

Country and Family Income Quintiles	Percentage Distribution of Health Subsidies	Percentage Distribution of Family Income	
		Before Health Benefits	After Health Benefits
Argentina (1980)			
Poorest Quintile	51.2	7.5	8.5
Quintile 2	17.4	11.7	11.8
Quintile 3	18.8	16.1	16.1
Quintile 4	8.3	22.5	22.1
Richest Quintile	4.3	42.3	41.5
Total	100.0	100.0	100.0
Chile (1982)			
Poorest Quintile	22.3	3.3	4.2
Quintile 2	29.0	7.1	8.1
Quintile 3	21.5	10.4	10.9
Quintile 4	15.9	18.1	18.0
Richest Quintile	11.3	61.0	58.8
Total	100.0	100.0	100.0
Costa Rica (1982)			
Poorest Quintile	30.0	6.1	7.9
Quintile 2	19.0	11.2	11.8
Quintile 3	20.9	14.9	15.3
Quintile 4	16.9	21.4	21.1
Richest Quintile	13.2	46.4	43.9
Total	100.0	100.0	100.0
Dominican Republic (1980)			
Poorest Quintile	41.3	5.1	6.2
Quintile 2	16.1	9.1	9.3
Quintile 3	20.1	13.4	13.6
Quintile 4	13.5	19.7	19.5
Richest Quintile	9.0	52.6	51.4
Total	100.0	100.0	100.0
Uruguay (1982)			
Poorest Quintile	34.0	7.2	8.1
Quintile 2	29.7	11.8	12.1
Quintile 3	16.1	14.8	14.9
Quintile 4	8.4	19.9	19.5
Richest Quintile	11.8	46.3	45.2
Total	100.0	100.0	100.0

Source: Carmelo Mesa-Lago 1990

Annex Table 19

Percentage of Social Insurance, Family Allowances, and Pension Revenue Generated by Investment Returns in Latin America and the Caribbean, 1965-1983

Country	Year(s) of Pension Program(s)[a]	Investment Returns as Percentage of: Social Insurance plus Family Allowances 1965	1970	1975	1980	1983	Pensions only 1983
Latin America	**(1920s-1960s)**						
Pioneers	**(1920s-1930s)**						
Brazil	1920s-30s	0	0	0	0	0	0
Uruguay	1920s-30s	1.1	NA	0.6	1.5	1.6	2.4
Argentina	1930s-40s-50s	NA	NA	1.1	2.2	2	0.2
Cuba	1920s-50s / 1963	0	0	0	0	0	0
Chile	1924 / 1981	2.2	1.1[c]	2	1.8	15.9	22.6
Middle	**(1940s)**						
Mexico	1941	4.9	2.4	1.6[e]	3.6[f]	5.2	8.9
Costa Rica	1943	10.6	12.2	7.6	5.2	5.3	15.1
Ecuador	1930s-42	18.6	24.8[d]	20.3[e]	17.7	22.1	15.9
Panama	1941-54	19.2	11.3[d]	8.3	10.1	13.3	23.5
Colombia	1945-56	0	5.1	6.9	13.5[f]	10.2	19
Peru	1936-61-62	NA	NA	NA	11.1[f]	10.3	20.4
Late Comers	**(mid 50s-60s)**						
Nicaragua	1955	4.8	3.6	5.3	2.8	12.9	15
Bolivia	1959	.9[b]	2.5[d]	3.4	7.9	12.4	16.4
Venezuela	1966	*	5.6	12.2	12.7	18.3	NA
Guatemala	1969	*	1.4	0	7.7	13.2	33.1
El Salvador	1969	2.1	2.4	7.6	13.6	20	45.9
Honduras	1971	2.1	2.8	NA	11.5	16.8	40.8
Non-Latin Caribbean	**(mid 1960s-70s)**						
Jamaica	1966	14.6	14.8	31.4	43.6[f]	38.5	NA
Barbados	1967	*	16.9[c]	28.6	25.4	22.3	NA
Grenada	1969-83	*	*	NA	66.2[f]	3.3	NA
Guyana	1969	*	12.1	20.4	26.7	48.5	49
St. Lucia	1970	*	*	NA	25.3	13	NA
Dominica	1970	*	*	NA	21.3	26.2	26.2
Trinidad and Tobago	1971	*	*	12.9	25.6	18.5	25.4[g]
Antigua-Barbuda	1972	*	*	NA	19.8	19.2	NA
Suriname	1973	*	*	NA	0	0	NA
Bahamas	1974	*	*	NA	26.1	33.6	30.7
Belize	1979	*	*	*	3	14.3	14.6

Source: Carmelo Mesa-Lago 1989

Notes:
- * Not in force yet
- NA Not available
- a Countries ordered by year(s) in which the major pension programs(s) was (were) implemented; when separated by a " / ", it means "old program / new program."
- b 1961
- c 1971
- d 1972
- e 1974
- f 1981
- g Social security only

Annex Table 20

Chile: Amount, Real Yields, and Composition of Invested Assets of AFPs (Pensions), 1981-1988[a]

	1981	1982	1983	1984	1985	1986	1987	1988
Amount and Yields								
Total Net Assets (billion pesos)	14.0	44.9	99.9	162.6	283.0	434.4	644.5	891.7
Invested Assets[b] (billion pesos)	14.0	44.9	99.6	161.8	281.6	432.7	642.5	891.4
Investment Return[c] (billion pesos)	2.8	12.3	29.4	30.9	79.4	96.8	137.9	
Nominal Yield[d] (percent)	20.1	52.7	551.1	26.8	43.6	31.3	29.4	
Rate of inflation (percent)	3.9	20.7	23.1	23.0	26.4	17.4	21.5	10.9
Real Yield[d] (percent)	12.7	26.5	22.7	3.1	13.6	11.8	6.5	
Composition (distribution in percent)								
Government Bonds[e]	30.6	26.0	45.9	42.3	42.6	46.8	45.0	36.4
Mortgage Bonds[f]	8.1	46.8	48.3	43.6	35.8	25.6	22.9	27.0
Fixed-Term Deposits	60.6	26.6	5.2	12.3	20.5	23.0	26.1	28.5
Real Estate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shares	0.7	0.6	0.6	1.8	1.1	4.6	6.0	8.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Carmelo Mesa-Lago 1989

Notes: NA Not available

a End of the year, the year 1981 is July to December.

b Excludes fixed assets.

c Calculated by Mesa-Lago based on other data in the table.

d Based o the formula: $\{[(1+y) / (1+i)]-1\}*100$, where y = nominal yield coefficient and i = inflation coefficient.

e Basically State Treasury and Central Bank, plus public enterprises.

f Emitted by financial institutions; includes a small fraction in banking bonds.

Annex Table 21

Costa Rica: Amount, Composition and Real Yield of Invested Assets of CCSS (Pensions), 1977-1987[a]

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Amount and Yields											
Total Net Assets (million colones)	2,014	2,449	2,940	3,482	4,193	5,248	7,583	9,562	12,030	14,890	17,591
Invested Assets[b]	1,559	1,903	2,755	3,145	3,346	3,857	6,984	8,563	11,066	14,086	16,676
Investment Return (million colones)		146	434	180	250	260	440	821	1,395	2,027	2,348
Nominal Yield[c] (percent)		8.8	20.5	6.3	8.0	7.5	8.5	11.2	15.3	17.5	16.5
Rate of Inflation (percent)	5.3	8.1	13.2	17.8	65.1	81.7	10.7	17.3	11.1	15.4	13.6
Real Yield[c] (percent)		0.6	6.4	-9.7	-34.5	-40.8	-2.0	-5.2	3.8	1.8	2.6
Composition (Distribution in Percent)											
Government Bonds	25.4	20.3	38.5	34.8	32.5	31.6	31.3	27.7	33.3	33.7	43.7
Loans / Mortgages	62.0	68.9	53.8	56.9	59.9	55.2	31.1	26.9	22.1	14.1	14.7
Loans to S-M[d]	35.7	43.7	32.3	37.0	39.9	34.7	16.6	13.2	8.4	0.0	0.0
Mortgages and Others	26.3	25.2	20.5	19.9	20	20.5	14.5	13.7	13.7	14.1	14.7
Fixed-Term Deposits	e	e	e	0.9	0.5	4.9	19	31.1	32.6	42.6	35.3
Shares	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Real Estate	6.5	6.4	3.0	4.4	4.5	3.8	2.2	12.7[f]	9.5[f]	7.0[f]	5.6[f]
Others	6.1	4.4	5.7	3.0	2.6	4.5	16.4	1.6	2.5	2.6	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Carmelo Mesa-Lago 1989

Notes: NA Not available

a At the end of the year; except 1987 at September 30.

b Excludes fixed and net-current assets; the latter includes unpaid state contributions.

c Based on the formula: $\{[(1+y) / (1+i)]-1\}*100$, where y = nominal yield coefficient and i = inflation coefficient.

d SM = sickness-maternity program of CCSS.

e Not disaggregated from others.

f Increment partly due to revalorization of real estate.

Annex Table 22

Argentina: Participation of the National Social Security Funds in the Revenues From Contributions and Late Fees and in the Expenditures on Settled Benefits, 1975-1985

	Industry, Commerce and Civilian Act		State and Public Services Employees		Self-Employed	
Year	Percent of Revenue	Percent of Expenditure	Percent of Revenue	Percent of Expenditure	Percent of Revenue	Percent of Expenditure
1975	68.13	51.8	29.21	27.6	2.66	20
1976	69.11	52	29.62	27.1	1.27	20
1977	68.38	50.2	29.3	29.8	2.32	20
1978	70.56	48.6	24.89	30.8	4.55	20
1979	69.35	46	23.23	32	7.42	22
1980	68.95	46.4	22.24	31	8.81	22.6
1981	63.9	46	16.8	30.8	19.3	23.2
1982	64.22	48.1	16.45	26.4	19.33	25.6
1983	65.98	44	16.57	20.8	17.45	29.2
1984	NA	43.8	NA	20.6	NA	29.2
1985	NA	47.9	NA	26.7	NA	25.4

Source: Ernesto A. Isuani, 1988
Note: NA Not Available

Annex Table 23
Argentina: Contributors / Beneficiaries Ratio by Social Security Fund;
December 31, 1983

Fund	Potential (with full membership and contributions)	Actual
Industry, Commerce and Civilian Activities	3.69	2.8
State and Public Services	1.35	1.35
Self-Employed Workers	2.04	1.38
Total	2.88	2.04

Source: Ernesto A. Isuani, 1988

Annex Table 24
Bolivia: Significance of Social Security in GDP

Years	Total Spending as a Percent of GDP	Short-Term Benefits as a Percent of GDP	Long-Term Benefits as a Percent of GDP
1978	2.9	1.6	1
1979	3.5	2	1.1
1980	2.8	1.4	1.1
1981	2.7	1.2	1.1
1982	2	1.1	0.7
1983	1.9	0.8	0.8
1984	3.5	2	1.1
1985	1.9	1	0.6
1986	1.7	0.7	0.9

Source: Walter E. Schultess, 1988

Annex Table 25
Bolivia: Public Sector Revenue Earmarked for Health, 1980s

Year	Percent to MPSSP	Percent to IBSS	Total
1984	20.6	79.4	100
1985	27.0	73	100
1986	39.6	60.4	100
1987 (x)	36.6	63.4	100
1988 (x)	41.3	58.7	100

Source: Walter E. Schultess, 1988

Annex Table 26
Bolivia: Active Contributors to the National Health Fund by Economic Activity, 1980s

	Percent Distribution Across Sectors		
Economic Activity	1982	1985	1987
Agriculture	0.4	0.5	0.5
Mining	19.6	18.2	9.6
Industry, Commerce, and Services	33.3	27.7	28.6
Government	44.3	50.8	58.3
Security Funds	2.4	2.8	3.0

Source: Walter E. Schultess, 1988

Annex Table 27a

Brazil: Projections of Social Security Finances Based on *2 Percent Annual GDP Growth* After 1989 and a *Constant Real Minimum Wage*

	Base	Baseline Scenario					Constitution Scenario					Decree Scenario				
	1988	1990	1995	2000	2005	2010	1990	1995	2000	2005	2010	1990	1995	2000	2005	2010
Social Security Costs: Total	4.49	4.89	5.29	5.73	6.19	6.73	7.78	9.61	10.58	11.49	12.50	7.78	9.61	10.58	11.49	12.50
Social Insurance: Total	2.51	3.12	3.45	3.80	4.15	4.54	4.80	5.59	6.30	6.93	7.63	4.80	5.59	6.30	6.93	7.63
Benefit Expenditures	2.30	2.74	3.04	3.36	3.68	4.04	4.34	5.07	5.74	6.33	6.98	4.34	5.07	5.74	6.33	6.98
Administration	0.21	0.22	0.24	0.25	0.26	0.27	0.22	0.24	0.25	0.26	0.27	0.22	0.24	0.25	0.26	0.27
Financial Reserve		0.16	0.17	0.19	0.21	0.23	0.24	0.28	0.32	0.35	0.38	0.24	0.28	0.32	0.35	0.38
Social Assistance	0.32	0.30	0.25	0.21	0.18	0.17	0.64	1.14	1.10	1.11	1.12	0.64	1.14	1.10	1.11	1.12
Health Expenditures	1.66	1.47	1.59	1.72	1.86	2.02	2.33	2.88	3.17	3.45	3.75	2.33	2.88	3.17	3.45	3.75
Planned Revenues: Total	4.00	4.51	4.94	5.25	5.56	5.66	6.52	7.00	7.37	7.65	7.84	7.63	8.16	8.55	8.92	9.06
Urban Payroll Tax	3.20	3.25	3.62	3.89	4.16	4.25	3.60	4.00	4.30	4.60	4.70	4.08	4.54	4.89	5.22	5.34
Business Gross Income Tax		0.70	0.70	0.70	0.70	0.70	0.84	0.84	0.84	0.84	0.84	1.40	1.40	1.40	1.40	1.40
Rural Production Tax	0.30	0.32	0.36	0.39	0.42	0.42	0.36	0.40	0.43	0.46	0.47	0.41	0.45	0.49	0.52	0.53
Gross Profits Tax							1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Lottery and Games Taxes	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Treasury Funds	0.04	0.22	0.24	0.25	0.26	0.27	0.22	0.24	0.25	0.26	0.27	0.22	0.24	0.25	0.26	0.27
Other Revenues[a]	0.48															
Projected Deficit (% of GDP)	0.49	0.38	0.35	0.48	0.63	1.07	1.26	2.61	3.21	3.84	4.66	0.15	1.45	2.03	2.57	3.44
Necessary Tax Rate Increase[b]																
Urban Payroll Tax		3.04%	2.51%	3.21%	3.94%	6.55%	9.82%	18.30%	20.94%	23.42%	27.81%	1.18%	10.16%	13.24%	15.66%	20.47%
Gross Business Income Tax		0.27%	0.25%	0.34%	0.45%	0.76%	0.90%	1.86%	2.29%	2.74%	3.33%	0.11%	1.04%	1.45%	1.83%	2.45%
Gross Profits Tax		2.03%	1.87%	2.56%	3.36%	5.71%	6.72%	13.92%	17.12%	20.48%	24.85%	0.81%	7.74%	10.85%	13.70%	18.32%

Source: Francisco E. B. de Oliveira, 1989

Notes: a Includes interest, property rents, fines, etc.

b The additive increase in each tax rate needed to balance the budget. For example, the baseline 1990 payroll tax rate increase of 3.04 percent means that an increase in the mean urban payroll tax rate from 26 percent to 29.04 percent (holding all other tax rates constant) would yield enough revenues to cover the deficit.

Annex Table 27b

Brazil: Projections of Social Security Finances Based on *2 Percent Annual GDP Growth* After 1989 and *a 50% Increase in the Minimum Wage*

	Base	Baseline Scenario					Constitution Scenario					Decree Scenario				
	1988	1990	1995	2000	2005	2010	1990	1995	2000	2005	2010	1990	1995	2000	2005	2010
Social Security Costs: Total	4.49	5.77	6.06	6.40	6.80	7.31	11.03	13.24	14.13	15.02	16.09	11.03	13.24	14.13	15.02	16.09
Social Insurance: Total	2.51	3.67	3.95	4.25	4.57	4.95	6.80	7.60	8.27	8.88	9.61	6.80	7.60	8.27	8.88	9.61
Benefit Expenditures	2.30	3.27	3.51	3.79	4.08	4.43	6.24	6.98	7.61	8.18	8.86	6.24	6.98	7.61	8.18	8.86
Administration	0.21	0.22	0.24	0.25	0.26	0.27	0.22	0.24	0.25	0.26	0.27	0.22	0.24	0.25	0.26	0.27
Financial Reserve		0.18	0.20	0.21	0.23	0.25	0.34	0.38	0.41	0.44	0.48	0.34	0.38	0.41	0.44	0.48
Social Assistance	0.32	0.37	0.29	0.23	0.19	0.17	0.92	1.67	1.62	1.63	1.65	0.92	1.67	1.62	1.63	1.65
Health Expenditures	1.66	1.73	1.82	1.92	2.04	2.19	3.31	3.97	4.24	4.51	4.83	3.31	3.97	4.24	4.51	4.83
Planned Revenues: Total	4.00	4.69	5.11	5.51	5.72	5.93	6.76	7.22	7.67	7.90	8.13	7.90	8.43	8.93	9.20	9.46
Urban Payroll Tax	3.20	3.41	3.77	4.13	4.31	4.49	3.80	4.20	4.60	4.80	5.00	4.33	4.79	5.24	5.47	5.70
Business Gross Income Tax		0.70	0.70	0.70	0.70	0.70	0.84	0.84	0.84	0.84	0.84	1.40	1.40	1.40	1.40	1.40
Rural Production Tax	0.30	0.34	0.38	0.41	0.43	0.45	0.38	0.42	0.46	0.48	0.50	0.43	0.48	0.52	0.55	0.57
Gross Profits Tax							1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Lottery and Games Taxes	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Treasury Funds	0.04	0.22	0.24	0.25	0.26	0.27	0.22	0.24	0.25	0.26	0.27	0.22	0.24	0.25	0.26	0.27
Other Revenues[a]	0.48															
Projected Deficit (% of GDP)	0.49	1.08	0.95	0.89	1.08	1.38	4.27	6.02	6.46	7.12	7.96	3.13	4.81	5.20	5.82	6.63
Necessary Tax Rate Increase[b]																
Urban Payroll Tax		8.23%	6.55%	5.60%	6.52%	7.99%	30.91%	39.43%	38.63%	40.80%	43.79%	19.88%	27.62%	27.30%	29.27%	31.99%
Gross Business Income Tax		0.77%	0.68%	0.64%	0.77%	0.99%	3.05%	4.30%	4.61%	5.09%	5.69%	2.24%	3.44%	3.71%	4.16%	4.74%
Gross Profits Tax		5.76%	5.07%	4.75%	5.76%	7.36%	22.77%	32.11%	34.45%	37.97%	42.45%	16.69%	25.65%	27.73%	31.04%	35.36%

Source: Francisco E. B. de Oliveira, 1989

Notes: a Includes interest, property rents, fines, etc.

b The additive increase in each tax rate needed to balance the budget. For example, the baseline 1990 payroll tax rate increase of 8.23 percent means that an increase in the mean urban payroll tax rate from 26 percent to 34.23 percent (holding all other tax rates constant) would yield enough revenues to cover the deficit.

Annex Table 28a

Brazil: Projections of Social Security Finances Based on *4 Percent Annual GDP Growth* After 1989 and a *Constant Real Minimum Wage*

	Base	Baseline Scenario					Constitution Scenario					Decree Scenario				
	1988	1990	1995	2000	2005	2010	1990	1995	2000	2005	2010	1990	1995	2000	2005	2010
Social Security Costs: Total	4.49	4.81	4.69	4.61	4.51	4.47	7.63	8.55	8.54	8.42	8.31	7.63	8.55	8.54	8.42	8.31
Social Insurance: Total	2.51	3.07	3.06	3.06	3.03	3.02	4.71	4.98	5.09	5.08	5.07	4.71	4.98	5.09	5.08	5.07
Benefit Expenditures	2.30	2.70	2.70	2.71	2.69	2.69	4.26	4.52	4.64	4.64	4.64	4.26	4.52	4.64	4.64	4.64
Administration	0.21	0.22	0.21	0.20	0.19	0.18	0.22	0.21	0.20	0.19	0.18	0.22	0.21	0.20	0.19	0.18
Financial Reserve		0.15	0.15	0.15	0.15	0.15	0.24	0.25	0.25	0.25	0.25	0.24	0.25	0.25	0.25	0.25
Social Assistance	0.32	0.30	0.22	0.17	0.13	0.11	0.63	1.01	0.89	0.81	0.75	0.63	1.01	0.89	0.81	0.75
Health Expenditures	1.66	1.44	1.41	1.38	1.35	1.34	2.29	2.57	2.56	2.53	2.49	2.29	2.57	2.56	2.53	2.49
Planned Revenues: Total	4.00	4.42	4.50	4.40	4.29	4.08	6.44	6.49	6.40	6.23	6.00	7.51	7.63	7.49	7.36	7.10
Urban Payroll Tax	3.20	3.16	3.25	3.16	3.07	2.89	3.50	3.60	3.50	3.40	3.20	3.97	4.09	3.97	3.86	3.64
Business Gross Income Tax		0.70	0.70	0.70	0.70	0.70	0.84	0.84	0.84	0.84	0.84	1.40	1.40	1.40	1.40	1.40
Rural Production Tax	0.30	0.32	0.32	0.32	0.31	0.29	0.35	0.36	0.35	0.34	0.32	0.40	0.41	0.40	0.39	0.36
Gross Profits Tax							1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Lottery and Games Taxes	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Treasury Funds	0.04	0.22	0.21	0.20	0.19	0.18	0.22	0.21	0.20	0.19	0.18	0.22	0.21	0.20	0.19	0.18
Other Revenues[a]	0.48															
Projected Deficit (% of GDP)	0.49	0.39	0.19	0.21	0.22	0.39	1.19	2.06	2.14	2.19	2.31	0.12	0.92	1.05	1.06	1.21
Necessary Tax Rate Increase[b]																
Urban Payroll Tax		3.21%	1.52%	1.73%	1.86%	3.51%	9.54%	16.05%	17.15%	18.07%	20.25%	0.98%	7.15%	8.44%	8.78%	10.57%
Gross Business Income Tax		0.28%	0.14%	0.15%	0.16%	0.28%	0.85%	1.47%	1.53%	1.56%	1.65%	0.09%	0.66%	0.75%	0.76%	0.86%
Gross Profits Tax		2.08%	1.01%	1.12%	1.17%	2.08%	6.35%	10.99%	11.41%	11.68%	12.32%	0.66%	4.91%	5.62%	5.68%	6.45%

Source: Francisco E. B. de Oliveira, 1989

Notes: a Includes interest, property rents, fines, etc.

b The additive increase in each tax rate needed to balance the budget. For example, the baseline 1990 payroll tax rate increase of 3.04 percent means that an increase in the mean urban payroll tax rate from 26 percent to 29.04 percent (holding all other tax rates constant) would yield enough revenues to cover the deficit.

Annex Table 28b

Brazil: Projections of Social Security Finances Based on *4 Percent Annual GDP Growth* After 1989 and a *50% Increase in the Minimum Wage*

	Base	Baseline Scenario					Constitution Scenario					Decree Scenario				
	1988	1990	1995	2000	2005	2010	1990	1995	2000	2005	2010	1990	1995	2000	2005	2010
Social Security Costs: Total	4.49	5.66	5.39	5.17	4.99	4.80	10.82	11.78	11.41	11.01	10.70	10.82	11.78	11.41	11.01	10.70
Social Insurance: Total	2.51	3.60	3.51	3.43	3.35	3.25	6.67	6.77	6.68	6.51	6.39	6.67	6.77	6.68	6.51	6.39
Benefit Expenditures	2.30	3.20	3.12	3.06	2.99	2.91	6.12	6.22	6.15	6.00	5.89	6.12	6.22	6.15	6.00	5.89
Administration	0.21	0.22	0.21	0.20	0.19	0.18	0.22	0.21	0.20	0.19	0.18	0.22	0.21	0.20	0.19	0.18
Financial Reserve		0.18	0.18	0.17	0.17	0.16	0.33	0.34	0.33	0.33	0.32	0.33	0.34	0.33	0.33	0.32
Social Assistance	0.32	0.36	0.26	0.19	0.14	0.11	0.90	1.48	1.30	1.19	1.10	0.90	1.48	1.30	1.19	1.10
Health Expenditures	1.66	1.70	1.62	1.55	1.50	1.44	3.25	3.54	3.42	3.30	3.21	3.25	3.54	3.42	3.30	3.21
Planned Revenues: Total	4.00	4.59	4.68	4.57	4.36	4.17	6.65	6.70	6.61	6.43	6.19	7.80	7.91	7.78	7.51	7.25
Urban Payroll Tax	3.20	3.32	3.41	3.32	3.14	2.97	3.70	3.80	3.70	3.50	3.30	4.23	4.34	4.23	4.00	3.77
Business Gross Income Tax			0.70	0.70	0.70	0.70	0.84	0.84	0.84	0.84	0.84	1.40	1.40	1.40	1.40	1.40
Rural Production Tax	0.30	0.33	0.34	0.33	0.31	0.30	0.37	0.38	0.37	0.35	0.33	0.42	0.43	0.42	0.40	0.38
Gross Profits Tax							1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Lottery and Games Taxes	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Treasury Funds	0.04	0.22	0.21	0.20	0.19	0.18	0.22	0.21	0.20	0.19	0.18	0.22	0.21	0.20	0.19	0.18
Other Revenues[a]	0.48															
Projected Deficit (% of GDP)	0.49	1.07	0.71	0.60	0.63	0.63	4.17	5.08	4.80	4.58	4.51	3.02	3.87	3.63	3.50	3.45
Necessary Tax Rate Increase[b]																
Urban Payroll Tax		8.38%	5.41%	4.70%	5.22%	5.52%	31.00%	36.77%	35.68%	35.99%	37.59%	22.34%	27.88%	26.88%	27.35%	28.66%
Gross Business Income Tax		0.76%	0.51%	0.43%	0.45%	0.45%	2.98%	3.63%	3.43%	3.27%	3.22%	2.16%	2.77%	2.60%	2.50%	2.47%
Gross Profits Tax		5.71%	3.79%	3.20%	3.36%	3.36%	22.24%	27.09%	25.60%	24.43%	24.05%	16.13%	20.65%	19.38%	18.66%	18.42%

Source: Francisco E. B. de Oliveira, 1989

Notes:
a Includes interest, property rents, fines, etc.
b The additive increase in each tax rate needed to balance the budget. For example, the baseline 1990 payroll tax rate increase of 8.23 percent means that an increase in the mean urban payroll tax rate from 26 percent to 34.23 percent (holding all other tax rates constant) would yield enough revenues to cover the deficit.

Annex Table 29

Dominican Republic: Social Security System Expenditure by Type of Benefit, 1977-1982

Category of Benefit	1977	1978	1979	1980	1981	1982
Medical	50.0	47.0	52.9	49.8	48.5	49
Economic	4.0	4.0	4.4	6.1	7.0	8
Pensions	19.0	20.0	18.5	17.1	17.5	20
Work Accidents	2.0	2.0	0.5	0.5	0.8	1
Administrative Costs	25.0	27.0	23.7	26.5	26.2	22
Total	100.0	100.0	100.0	100.0	100.0	100
Medical Benefits Plus Administrative Costs	75.0	74.0	76.6	76.3	74.7	71

Source: Ernesto A. Isuani, 1989

Annex Table 30
Dominican Republic: Old-Age and Invalid Pensions, 1983-1987

Years	Number of pensions		
	Old-Age	Invalidity	Total
1983	10.34	3.94	14.27
1984	10.72	4.41	15.13
1985	11.30	4.55	15.85
1986	11.85	4.62	16.47
1987	12.03	4.57	16.59

Source: Ernesto A. Isuani, 1989

Annex Table 31
Dominican Republic: Social Security Coverage According to Household Income, Santo Domingo, 1987

Monthly Household Income (DR$)	Population Covered	Population Not Covered
Less than 400	89,377	516,873
Between 400 and 799	137,023	411,177
More than 800	167,722	314,337
No Information	19,535	64,533
Total	413,657	1,306,920

Source: Ernesto A. Isuani, 1989

Annex Table 32
Dominican Republic: Social Expenditure by the Public Sector, 1987

Sector	Central Government	Decentralized Public Sector	Total	Percent GDP
Education	321,613,825	7,789,076	329,402,901	1.7
Sports and Recreation	29,318,561	271,931	29,590,492	0.2
Health	206,346,586	99,672,420	306,019,006	1.6
Social Welfare	130,557,327	40,442,500	170,999,827	0.9
Labor	2,425,397		2,425,397	
Housing	258,839,558	166,735,554	425,575,112	2.2
Water and Sewage	107,646,170	49,684,500	157,330,670	0.8
Municipal Services	95,049,299	44,535,800	139,585,099	0.7
Community Services	10,761,455	1,955,741	12,717,196	0.1
Total	1,162,558,178	411,087,522	1,573,645,700	8.2

Source: Ernesto A. Isuani, 1989

Annex Table 33
Mexico: Share of Labor Force Permanently Insured by Social Security, 1969 and 1988*

Year	Labor Force in Millions	Insured in Millions	Insured as a Percent of Labor Force
1969[a]	12.99	2.82[c]	22
1988[b]	22.50	9.65	43

Source: James W. Wilkie, 1989

Notes: * Excludes workers covered temporarily or occasionally, pensioners, and family members.
a 1969-1970
b Mid-1988
c Adjusted here for comparability by deducting .70 million workers covered temporarily.

Annex Table 34
Mexico: Official Estimate of Persons with Access to Government Funded Health Care, Late 1980s

Government Program		Covered Population in Millions	Covered as a Percent of the Total Population
Social Security	IMSS[a]	21.6	27.8
	ISSSTE[b]	6.4	8.3
	PEMEX-PSSS[c]	0.8	1.0
	ISSFAM[d]	0.5	0.6
	Subtotal	29.3	37.6
Covered by Other Government Programs	Secretariat of Health	22.8	29.3
	IMSS-COPLAMAR[e]	10.2	13.1
	Other Agencies[f]	5.4	6.9
	Subtotal	38.4	49.2
Total covered by government programs		67.7	86.9
Total Population[g]		77.9	100.0
Population without access to government health care		10.2	13.1

Source: James W. Wilkie, 1989

Notes:
a IMSS is the Mexican Institute of Social Security
b ISSSTE is the social security agency for civil servants
c PEMEX-PSSS is the social security agency for state petroleum company workers
d ISSFAM is the social security agency for the armed forces
e Including INDS (The Decentralized National Health Institute) and DDF-PM (Federal District Medical Programs)
f General Coordination of the National Plan of Depressed Zones and Marginal Groups under the Mexican Institute of Social Security.
g Official estimate

Annex Table 35
Mexico: Independent Estimate of Persons with Access to Government Funded Health Care, Late 1980s

Government Program		Covered Population in Millions	Covered as a Percent of the Total Population
Social Security	IMSS[a]		
	ISSSTE[b]		
	PEMEX-PSSS[c]		
	ISSFAM[d]		
	Subtotal	35.7[i]	42.9
Covered by Other Government Programs	Secretariat of Health	10.0	12.0
	IMSS-COPLAMAR[e], DIF[f], INI[g]	20.0	24.0
	Subtotal	30.0	36.0
Total covered by government programs		65.7	78.9
Total Population[h]		83.3	100.0
Population without access to government health care		17.5	21.1

Source: James W. Wilkie, 1989

Notes:
a IMSS is the Mexican Institute of Social Security
b ISSSTE is the social security agency for civil servants
c PEMEX-PSSS is the social security agency for state petroleum company workers
d ISSFAM is the social security agency for the armed forces
e COPLAMAR is the General Coordination of the National Plan of Depressed Zones and Marginal Groups under the Mexican Institute of Social Security. This program was broken up in 1983-88. Its health facilities were turned over to the ministries of public health in 14 states but were retained as part of the social security system in 17 states. Other COPLAMAR functions were distributed among eight different ministries.
f DIF is the National System of Family Development, formerly National Institute of Infant Protection.
g INI is the National Institute for Indigenous Americans
h Estimated: labor force of 22.5 million times 3.7 persons (average size of a family). Labor force is economically active population (24 million) less open unemployed (1.5 million).
i Estimated: 9.65 million permanent employees times 3.7 persons per family.

Annex Table 36

Mexico: Share of Municipalities Covered by the Institute of Social Security, 1966-1988

Year End	Total[a]	Inside Valley of Mexico	Outside Valley of Mexico	Sample States			
				Yucatan	Oaxaca[b]	Nuevo Leon	Guerrero
1966	19.8	100.0[c]	19.4[d]	28.2	3.3	36.5	6.9
1972	28.7	100.0[c]	28.2[d]	60.4	4.8	38.5	6.7
1982	57.3	100.0[e]	56.0[f]	91.5	17.3	100.0	46.8
1984	59.5	100.0[e]	58.4[f]	91.5	19.3	100.0	49.4
1988	63.5	100.0[c]	63.3[d]	91.5	19.3	100.0	53.3

Source: James W. Wilkie, 1989

Notes:
a Absolute number of municipalities in 1988 = 2,398.
b Least covered state in 1988.
c Only Federal District.
d Outside Federal District.
e Includes part of state of Mexico.
f Excludes part of Mexico.

Annex Table 37
Mexico: The Institute of Social Security in Time of Economic Crisis, 1982-1987

Category	1982	1987	Percent Change
Income in 1980 Pesos			
Income (billions)	116	79	-31.9
Income as share of GDP (percent)	2.41	1.87	-22.4
Annual average premium for insured workers (thousands)	15,173	8,427	-44.5
Average salary upon which IMSS payroll tax was paid	262	157	-40.1
Services Provided in Thousands			
Permanent workers insured	5,793	7,355	27.0
Persons covered	26,867	34,336	27.8
Pensioned persons	655	1,035	58.0
Medical consultations	59,834	74,707	24.9
Surgeries	777	953	22.7
Births	587	641	9.2
Radiology	4,720	6,427	36.2
Children registered in child care centers	22	35	59.1

Source: James W. Wilkie, 1989

Annex Table 38
Mexico: Actual Medical Expenditures of Public Health Agencies, 1987[a]

Category	Percent Share
Mexican Institute of Social Security (IMSS)	56.7
Plan for Depressed Zones and Marginal Groups under the Mexican Institute of Social Security (COPLAMAR)	1.6
Ministry of Health (SS)	19.9
Civil Servants' Social Security System (ISSSTE)	10.8
National System of Family Development (DIF)	2.2
Decentralized National Health Institute (INDS)[c]	3.9
State Petroleum Company Workers' Social Security (PEMEX-PSSS)	3.9
Federal District Medical Programs (DDF-PM)	1.0
Percent	100
Million Pesos	4,611,450[b]

Source: James W. Wilkie, 1989

Notes:
a Excludes minor agencies such as ISSFAM (military), INI (indigenous population), and STC-PM (Mexico City transport workers).
b Amount = 2.1 billion U.S. dollars, converted at 2227.50 year-end exchange rate.
c The Decentralized National Health Institute (INDS) include National Cancerology Institute, National Cardiology Institute, National Respiratory Illness Institute, National Neurology and Neurosurgery Institute, National Nutritional Institute, National Pediatrics Institute, National Perinatology Institute, Children's Hospital of Mexico, General Hospital of Mexico, and Dr. Manuel Gea Gonzalez General Hospital. This list is from Health Secretariat, Statistical Yearbook, 1985 (p. 385) and 1987 (p. 373).

Annex Table 39

Mexico: The Collapse of Funding for Social Security and Secretariat of Health Programs, 1976-1987

Year	Millions of 1977 Pesos				Percent Change in Total	Total as Percent o GDP
	IMSS[a]	ISSSTE[b]	SS[c]	Total		
1976	31,159.6	13739.0	15001.5	59,900.1	NA	4.57
1977	37,546.0	17,658.7	16,213.6	71,418.3	19.2	4.66
1978	35,181.2	7,685.4	16,778.9	59,645.5	-16.5	3.58
1979	36,659.9	8,604.8	14,339.3	59,604.0	0	3.27
1980	37,398.0	10,456.0	8,639.4	56,493.4	-5.2	2.88
1981	43,183.4	10,072.2	9,136.2	62,391.8	10.4	2.99
1982	36,554.1	7,368.9	8,563.9	52,486.9	-15.9	3.11
1983	34,006.1	6,624.8	13,397.6	54,228.5	3.3	3.19
1984	32,985.8	5,802.4	12,727.6	51,515.8	-5	2.86
1985	32,692.8	6,402.9	12,442.5	51,538.2	0	2.98
1986	28,219.2	5,493.0	6,230.5	39,942.7	-22.5	2.40
1987	23,550.9	4,731.5	2,827.3	31,109.7	-22.1	NA

Source: James W. Wilkie, 1989

Notes: NA Not Available

a IMSS is the Mexican Institute of Social Security

b ISSSTE is the social security agency for civil servants

c SS is the Ministry of Health

Annex Table 40
Ecuador: Costs of the Social Security System, 1975-1988

	Billions of Sucres at Current Prices										
		General Government Current Expenditures	Estimates of the Institute of Social Security's Current Expenditures			Social Security Expenditures as a Percent of:					
Year	GDP		IESS[a]	Thullen[a]	ILO	GDP			Government Expenditures		
	1	2	3	4	5	3/1	4/1	5/1	3/2	4/2	5/2
1975	107.7	28.5	2.9			2.7			10.2		
1980	293.3	80.4	10.8		10.1	3.7		3.4	13.4		12.6
1981	348.7	96.0	13.2	12.2	12.7	3.8	3.5	3.6	13.7	12.7	13.2
1982	415.7	115.5	16.4	14.3	14.6	3.9	3.4	3.5	14.2	12.4	12.6
1983	560.3	149.8	20.0	20.0	23.3	3.5	3.5	4.2	13.3	13.4	15.6
1984	812.6	219.8	23.9	23.9		2.9	2.9		10.9	10.9	
1985	1109.9	351.2	35.8	43.8		3.2	3.9		10.2	12.5	
1986	1383.2	386.0	51.6	62.3		3.7	4.5		13.4	16.1	
1987	1807.5	451.7	57.4	72.0		3.2	4		12.7	15.9	

Source: Carmelo Mesa-Lago 1989

Notes: NA Not available

a Thullen's data also come from IESS (Ecuadoran Institute of Social Security) but differ from those in column 3. Both appear to be budgeted expenditures. Mesa-Lago did not find a complete series for the final budget (actual expenditures).

Annex Table 41
Ecuador: Percentage Distribution of Expenditures for Social Insurance Benefits by Program, 1972-1983

Programs	1972	1974	1980	1981	1982	1983
Pensions	59.2	60.6	76.7	75.2	74.2	75.8
Health-Maternity	29.6	29.1	14.7	16	16.5	16.9
Severance	10.5	9.5	6.4	6.6	7.1	5.7
Occupational Risks	0.7	0.8	2.2	2.2	2.2	1.6
Total	100	100	100	100	100	100

Source: Carmelo Mesa-Lago 1989

Annex Table 42

Dominican Republic: Uses and Sources of Funds in Main Public Social Sectors, 1987

Uses	Expenditure				Sources					
	Current	Capital	Total	Percent of GDP	Payroll Tax	Loans	Own Income	Fiscal Transfer	Others	Total
Social Security	130.17	3.40	133.57	0.70%	40.84			92.73		133.57
IDSS	25.21	0.08	25.29		25.29					25.29
Armed Forces	45.92		45.92					45.92		45.92
Civilian Public Pensions	42.77		42.77		15.55			27.22		42.77
Other Welfare	16.27	3.32	19.59					19.59		19.59
Health Care	211.14	51.18	262.32	1.37%	95.62			162.70	4.00	262.32
SESPAS	124.08	25.59	149.67					149.67		149.67
Armed Forces	11.04	0.45	11.49					11.49		11.49
Police	1.54		1.54					1.54		1.54
IDSS	74.48	25.14	99.62		95.62				4.00	99.62
Education	276.18	45.43	321.61	1.67%		3.67	5.38	312.56		321.61
SEEBAC	211.78	5.68	217.46					217.46		217.46
Presidency	5.09	36.51	41.60					39.75		39.75
Armed Forces	4.28	0.12	4.40					4.40		4.40
Finance Secretary	0.92		0.92					0.92		0.92
University of Santo Domingo	40.62	3.12	43.74			3.67	4.93	36.39		44.99
Other Universities	11.78		11.78					11.78		11.78
Other Institutions	1.71		1.71				0.45	1.86		2.31
Housing	12.23	257.56	269.79	1.40%		0.83	150.38	103.60	14.98	269.79
Decentralized Sector						0.83	150.38	5.15	14.98	171.34
Presidency								98.45		98.45
Total	629.72	357.57	987.29	5.14%	136.46	4.50	155.76	671.59	18.98	987.29

Source: Jorge Rodriguez-Grossi, 1989

Notes: SESPAS Department of Public Health and Social Welfare
SEEBAC Department of Education, Fine Arts and Culture

Annex Table 43

Dominican Republic: Implicit Subsidies in Social Public Expenditure in Social Security, Education, Health Care, and Water Supply, 1987 (million U.S. dollars)

Program	Public Cost Estimation			Total Current Income	Total Gross Subsidies	Total Net Subsidies
	Current Cost	Rent of Capital	Total Cost			
Social Security	33.81		33.81	10.57	33.81	23.24
IDSS	6.55		6.55	6.55	6.55	0.00
Armed Forces	11.93		11.93		11.93	11.93
Public Civil Pensions	11.11		11.11	4.03	11.11	7.08
Other Welfare	4.23		4.23		4.23	4.23
Health Care	54.84	9.66	64.50	24.86	39.64	39.64
IDSS	19.35	1.92	21.26	24.86	-3.60	-3.60
SESPAS	32.23	7.56	39.79		39.79	39.79
Armed Forces	2.87	0.18	3.05		3.05	3.05
Police	0.40		0.40		0.40	0.40
Education	68.19	5.68	73.87	1.17	72.70	72.70
SEEBAC	54.57	4.59	59.16		59.16	59.16
Elementary	36.73	2.83	39.56		39.56	39.56
Secondary	14.85	1.53	16.38		16.38	16.38
Adult Education	2.99	0.23	3.22		3.22	3.22
University of Santo Domingo	10.56	1.09	11.65	1.17	10.48	10.48
Other Universities	3.06		3.06		3.06	3.06
Water Supply	20.08	20.08	40.16	13.30	26.85	26.85

Source: Jorge Rodriguez-Grossi, 1989

Notes: IDSS: Dominican Institute Of Social Security
SESPAS: Department of Public Health and Social Welfare
SEEBAC: Department of Education, Fine Arts and Culture

Annex Table 44

Dominican Republic: Distributive Incidence of Public Social Subsidies, 1980 (in percentages)

	Poorest Quintile	Quintile 2	Quintile 3	Quintile 4	Richest Quintile
Education	10.6	13.6	17.8	24.9	33.0
Elementary	14.2	17.3	22.1	25.8	20.6
Secondary	9.4	12.8	17.3	28.6	31.9
University	0.0	2.3	4.0	18.1	75.6
Health Care	41.3	29.7	16.1	8.4	11.8
Water and Sewage	8.8	12.0	18.4	24.7	36.1
Housing	2.7	1.6	3.1	18.7	74.0
Social Security	8.6	16.4	28.2	37.5	9.3
Share of Total Subsidies	16.6	14.6	22.1	25.3	21.3
Share of Household Income	5.2	9.1	13.4	19.7	52.6
Share of Population	17.5	18.5	19.8	20.8	22.6

Source: Jorge Rodriguez-Grossi, 1989

Annex Table 45

Dominican Republic: Per Capita Medical Visits by Income Group and Source of Care, 1989

Income Group	Free Visits				Paid Visits			Global Total			
	SESPAS	IDSS	Private	Total	SESPAS	Private	Total	SESPAS	IDSS	Private	Total
Visits Per Capita											
Poorest Quintile	0.85	0.01	0.01	0.87	0.08	0.94	1.01	0.93	0.01	0.95	1.89
Quintile 2	0.63	0.14	0.03	0.80	0.08	0.86	0.94	0.71	0.14	0.89	1.74
Quintile 3	0.63	0.04	0.15	0.81	0.06	1.07	1.13	0.69	0.04	1.21	1.94
Quintile 4	0.16	0.11	0.05	0.31	0.09	1.10	1.19	0.25	0.22	1.15	1.61
Richest Quintile	0.18	0.01	0.42	0.61	0.02	1.84	1.87	0.20	0.01	2.26	2.48
Overall	0.49	0.06	0.13	0.68	0.07	1.16	1.23	0.56	0.08	1.29	1.93
Frequency Distribution (Percent)											
Poorest Quintile	97.3	1.1	1.6	100.0	7.7	92.3	100.0	49.1	0.5	50.3	100.0
Quintile 2	78.3	17.7	4.0	100.0	8.7	91.3	100.0	40.8	8.1	51.1	100.0
Quintile 3	77.8	4.4	17.8	100.0	5.2	94.8	100.0	35.7	1.9	62.5	100.0
Quintile 4	49.8	35.5	14.7	100.0	7.8	92.2	100.0	15.4	13.6	71.0	100.0
Richest Quintile	29.4	1.8	68.8	100.0	1.1	98.9	100.0	8.1	0.4	91.4	100.0
Overall	71.7	9.1	19.2	100.0	5.4	94.6	100.0	28.8	4.3	66.9	100.0

Source: Jorge Rodriguez-Grossi, 1989

Notes: IDSS: Dominican Institute Of Social Security
SESPAS: Department of Public Health and Social Welfare

Annex Table 46

Dominican Republic: Distributive Impact of Subsidies in the Health Care Sector, 1984 and 1989

	Poorest Quintile	Quintile 2	Quintile 3	Quintile 4	Richest Quintile
Incidence of Subsidies in 1984	41.3	16.1	20	13.5	9
Incidence of Subsidies in 1989					
SESPAS	34.9	24.4	25.4	8.5	6.9
IDSS	4.2	30.7	15	45.6	4.5
SESPAS and IDSS	32.4	24.9	24.5	11.6	6.7

Source: Jorge Rodriguez-Grossi, 1989

Annex Table 47

Dominican Republic: Retirement Protection Among Workers According to Their Own Assessment

Quintile	Poorest Quintile	Quintile 2	Quintile 3	Quintile 4	Richest Quintile	Average
Percentage	6.2	12.6	15.9	11.1	17.6	13.7

Source: Carmelo Mesa-Lago, 1989

Annex Table 48

Dominican Republic: Distributive Impact of Pensions Compared to Other Latin American Countries, 1980 and 1989

	Percentage Share of Pensions to Each Income Group				
Country and Date	Poorest Quintile	Quintile 2	Quintile 3	Quintile 4	Richest Quintile
Dominican Republic 1980	4.5	16.4	28.2	37.5	9.3
Dominican Republic 1989	5.4	15.1	23.9	19.8	35.9
Other Latin American Countries					
Argentina (1980)	9.9	13.3	19.5	23.0	34.3
Costa Rica (1983)	9.3	9.5	15.7	33.1	32.4
Chile (1983)	6.2	12.3	15.5	23.8	42.3
Uruguay (1983)	10.3	16.1	18.8	23.8	31.1

Source: Jorge Rodriguez-Grossi, 1989

Annex Table 49

Dominican Republic: Total Distributive Impact of Social Subsidies, 1989

Income Group	Education	Health	Social Security	Total
Poorest Quintile	26.6	32.4	5.4	24.7
Quintile 2	23.8	24.9	15.1	22.6
Quintile 3	20.4	24.5	23.9	22.2
Quintile 4	16.5	11.6	19.8	15.6
Richest Quintile	12.7	6.7	35.9	14.9
Total	100.0	100.0	100.0	100.0

Source: Jorge Rodriguez-Grossi, 1989

Annex Table 50
Projections of the Dependency Ratio for Selected Latin American Countries, 1980-2030 (in Percent)

	1980	1990	2000	2010	2020	2030
Argentina	24.1	26.3	26.0	26.1	28.6	30.7
Bolivia	12.7	13.2	12.9	13.0	14.0	16.3
Brazil	13.8	13.8	14.6	16.4	21.5	27.9
Chile	16.7	17.2	19.0	22.8	29.3	36.3
Colombia	12.9	12.7	13.2	15.5	21.1	29.7
Costa Rica	12.6	12.9	14.2	16.6	23.9	33.2
Ecuador	13.4	12.3	12.0	12.5	15.4	20.3
El Salvador	13.1	12.6	11.8	11.7	14.3	18.9
Guatemala	11.1	11.5	11.8	12.5	15.3	19.4
Mexico	13.3	11.9	11.9	13.0	16.6	23.2
Nicaragua	10.5	10.7	10.3	10.3	12.7	16.2
Panama	14.8	14.5	14.8	17.3	22.7	30.4
Uruguay	29.5	32.9	33.9	32.3	33.5	38.7
Venezuela	10.6	11.4	12.3	14.2	19.4	25.5

Source: Vu, My T., World Population Projections 1985, Short-and Long-Term Estimates by Age and Sex with Related Demographic Statistics (Washington: The World Bank).

Note: The dependency ratio for this table is calculated by expressing the population aged 60 or more as a percentage of the population aged between 20 and 59.

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