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Pension system *reform in* Latin America

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When reforming pension systems, the arguments used must be carefully studied, since changes may involve substantial economic, social and political costs. The reforms which are being carried out in the region reflect this dilemma and are the result of various compromises affecting the new system as regards: i) the degree to which the benefits provided by the system and the administration of its reserve funds are isolated from the political process; ii) the necessary regulation and supervision of the markets with which the system interacts in order to effect the financial intermediation of its funds; iii) the appropriate combination of fiscal resources and pension fund surpluses to be used to pay the debt owed to pensioners of the former system and the commitments in terms of minimum pensions; iv) the provision of insurance schemes against disability and survival contingencies and possible fluctuations in the financial market, as well as covering the lifetime annuity option; v) the need to supply information so that members can take free and informed individual decisions, and vi) ensuring a capital market with a suitable combination of financial instruments to protect the system against inflation risks.

I

Introduction

Pension systems in the region have been characterized by the simultaneous existence of different options for the different segments of the labour market; by including a public component operating on the system of flat-rate benefits; by fixing benefits at higher rates than those covered by members' contributions and the capitalization of reserves (usually carried out in an inefficient manner and in poorly developed capital markets), and by low levels of coverage because of the nature of the labour market, which includes substantial proportions of poor workers (who have little or no saving capacity) and own-account workers (who do not respond to the incentives of pension schemes).

In order to make the necessary reforms, important decisions will have to be taken on such matters as isolating the determination of the benefits to be provided by the system from the income redistribution process; linking pension systems to the development of suitably regulated and supervised capital markets on which they can capitalize their reserves; bringing the different schemes in line with each other; providing basic pensions for the poor, and generating incentives for the participation of own-account workers.

The possible reforms range from modification of the existing systems to their replacement with other systems based on individual records of contributions. There are at least four factors which can influence the political and economic cost of the reforms: i) the appropriate combination of fiscal resources and pension fund surpluses to be used to pay the debt owed to pensioners of the former system and the commitments in terms of basic pensions for the poor; ii) the establishment of schemes to make provision for disability and survival contingencies; iii) the provision of instruments to enable the system to protect its funds against inflation risks, and iv) the provision of information to members so that they can take the informed individual or collective decisions called for by the reforms.

Each government's appraisal of these options will allow it to determine the degree of need and urgency for making changes and the institutions that need to be developed to shape the reform of the corresponding pension system.

This article gives examples of some of the options that are being explored by the countries of Latin America. It gives an idea of the resources needed to secure minimum universal coverage under the traditional system of flat-rate benefits and the macroeconomic requirements to enable this system to be sustained over time. It then reviews the diagnostic findings and reform options for the existing pension schemes, most of which are of the flat-rate type, and in conclusion it sums up the main features of the changes which have begun to set in motion a transition from flat-rate systems to those based on the maintenance of records of the individual members' contributions.

II

The macroeconomic and microeconomic efficiency of pension systems

There are two types of persons who can be eligible for the benefits of a pension system: i) those who have made systematic contributions to the system and who receive benefits when they retire or suffer

□ This article analyses 15 case studies made under the project on Pension Systems in Latin America: Diagnoses and Options for Reform, carried out as part of the ECLAC/UNDP Joint Regional Project on Financial Policies for Development. The author wishes to express his gratitude for the comments made by Gunther Held and Daniel Titelman on a preliminary version of this study, although the views expressed in the present article are of course the exclusive responsibility of the author.

TABLE 1

Latin America: Static requirements for the macroeconomic efficiency of a system offering a universal pension equal to the per capita gross domestic product, in the late 1980s and early 1990s
(Percentages)

Countries	Objective in terms of benefits [a]		Wages		Share of pensions in social expenditure	
	Per capita GDP (1980 dollars) (1)	Population over 65, as a percentage of total population (2)	Share of wages in GDP (3)	Contribution rate/wages (2)/(3) (4)	Social expenditure as % of GDP (5)	Pensions as % of social expenditure (2)/(5) (6)
Argentina	3 787	9.11	29.6 (87)	30.8	18.0 (93)	50.6
Bolivia	629	3.63	...	...	4.6 (92)	78.9
Brazil	1 839	4.70	36.2 (85)	13.0	9.7 (91)	48.5
Chile	2 774	6.02	33.0 (85)	18.2	15.3 (93)	39.3
Colombia	1 473	4.21	39.5 (91)	10.7	8.2 (92)	51.3
Costa Rica	1 516	4.25	47.5 (91)	9.0	16.1 (91)	26.4
Ecuador	1 393	3.81	12.8 (92)	29.8	6.1 (91)	62.5
El Salvador	693	3.82	...	...	...	...
Guatemala	945	3.18	...	...	...	...
Haiti	176	4.08	...	...	...	...
Honduras	657	3.27	40.2 (92)	8.1	...	...
Mexico	2 507	3.73	25.8 (91)	14.5	7.7 (91)	48.4
Nicaragua	449	3.00	...	...	...	...
Panama	1 764	4.78	46.4 (92)	10.3	...	...
Paraguay	1 279	3.57	29.7 (92)	12.0	8.1 (92)	44.1
Peru	870	3.80	25.5 (87/91)	14.9	1.8 (91)	111.1
Dominican Republic	1 113	3.37	...	...	...	...
Uruguay	2 426	11.60	42.7 (92)	27.2	18.6 (91)	62.4
Venezuela	3 714	3.74	34.3 (92)	10.9	8.5 (90)	44.0

Source: Prepared by the author on the basis of demographic data from CELADE (1993), national accounts statistics from ECLAC (1994) and social expenditure statistics from Cominetti and Di Gropello (1994). Data on social expenditure include expenditure on social security.

[a] It should be noted that in order to provide a pension equal to the per capita GDP, the requirement (as a percentage of GDP) is equal to the share of the potential beneficiaries (those over 65) in the total population. Thus, if $Y_n = Y/N$ is the per capita product, then if N_r is the number of people over 65 the total amount of pensions to be paid will be $Y_n \cdot N_r$, that is to say, the product of the number of beneficiaries (N_r) multiplied by the amount of the benefit per person (Y_n). This amount, divided by the product (Y) shows that the share in the product corresponds exactly to the number of people over 65 as a proportion of the total population, since $(Y_n \cdot N_r)/Y = (Y/N) \cdot (N_r)/Y = N_r/N$.

some form of disability, or, after their death, their surviving widows or orphans; and ii) those who have not made such contributions but have been declared eligible in line with some criterion of solidarity, such as poverty or some other factor. The benefits granted to these latter persons are financed through transfers from the national budget.

1. Macroeconomic efficiency and the system of financing through payroll deductions or budgetary allocations

Even though the Latin American population is relatively young, the goal of providing universal basic pensions (i.e., to the whole of the population of retiring age) can absorb a high percentage of GDP. On the basis of demographic, national accounts and fiscal statistics, a (static) estimate has been made of the resources required to reach a hypothetical goal in terms of benefits, and these requirements have been compared, respectively, with the total wage bill of the economy and the fiscal budget that each country devotes to social expenditure (table 1). The calculations were made on the basis of a hypothetical flat-rate system designed to provide all those over 65 (whether contributors or not) with a pension equal to the per capita gross domestic product. [1]

[1] This is equal to a pension (measured in 1980 US dollars) of US$316 per month in the best case (Argentina) but only US$15 per month in the worst case (Haiti).

In column 4 of the table, an estimate is given of the rate of contributions as a percentage of the wage bill. This ranges from a minimum of 8.1% in Honduras (where the population is still very young and the share of wages in GDP is high) to a maximum of 31% in Argentina (where the population is older and the share of wages in GDP is low).

On the hypothesis that the funds needed to finance pensions are obtained from taxes, an estimate is given in column 6 of the table of the percentage of the social expenditure budget that would have to be used for that purpose. Among the countries with relatively more comparable statistics (Argentina, Bolivia, Chile, Colombia, Costa Rica, Ecuador, Mexico, Paraguay, Uruguay and Venezuela),[2] this percentage varies considerably. Thus, there is a maximum of nearly 80% in Bolivia (a country whose fiscal budget for social expenditure is very small, especially in the light of a programme of benefits with such broad coverage as that postulated here) and a minimum of 26% in the case of Costa Rica (a country with a high level of social expenditure in view of its tradition of devoting resources to social security in order to achieve broad population coverage).

2. Macroeconomic efficiency and increases in productivity

In order to keep the ratio between pensions and rates of contribution constant over time, percentage changes in real wages must be such as to make up for any percentage changes in the ratio of contributors to pensioners (Larraín and Wagner, 1982). Because of the percentage decline that is expected in the ratio of the number of potential workers (persons between 15 and 65) to that of the passive members of the population (people over 65)[3] over the period 1990-2025, an average 1.5% cumulative annual rate of increase in real wages will be needed (requiring increases in the product per worker). This goal will vary from a maximum of 2.3% in the Dominican Republic, where a very marked change is foreseen in the age structure of the population, to a minimum of 0.02% in Haiti, where the still very high fertility levels will ensure the persistence of a young population.

Since the population of working age will increase by an average of 1.7% per year, the product will have to grow by at least 3.3% per year in the region over the next 35 years, merely in order to ensure productive employment for new entrants into the labour force. If it is also desired to reduce underemployment and poverty, it will be necessary to raise this goal still further.

According to estimates of the Regional Employment Programme for Latin America and the Caribbean of the International Labour Organisation (PREALC/ILO), the structure of the labour market is changing (table 2). The share of jobs in the formal segments of the market is going down, in contrast with the growth of employment in the informal sector and in small enterprises. At the same time, the adjustment policies have barely succeeded in checking the deterioration in real terms of minimum wages and of wages in some sectors of the economy.

3. Macroeconomic efficiency and saving

In order to reverse the above trend and generate productive employment, the product would have to increase by 5% per year and the coefficients of fixed capital formation would have to exceed 22% of GDP. This would make it possible to promote technological development, redistribute income through investment in human capital, and replenish renewable capital so that development can be sustainable. In the light of these demands, the reforms to pension systems are reassessing their economic functions as well as their redistributive (solidary) role and are viewing institutional saving as an important factor for improving the macroeconomic context in which pension systems themselves have to operate. This helps to complete a kind of virtuous circle of conditions needed for their development and functioning (Massad and Eyzaguirre, 1990; ECLAC/UNDP, 1991).

In contrast to this desirable state of affairs, in the 1980s pension systems operated in a kind of vicious circle: there were not sufficient savings to invest; the economies neither grew nor generated productive employment; personal disposable income went down; efforts at reactivation came to nothing, in a climate of stagnation and instability, and the few incentives to increase national saving were compounded by the de-

[2] The figures are not strictly comparable among the various countries, since the coverage varies from one country to another. Special mention may be made of the cases of Peru, which does not include social security in this expenditure, and Brazil, which only includes central government expenditure, although a substantial part of social expenditure is effected on a decentralized basis (Cominetti and Di Gropello, 1994, table A.1).

[3] This ratio is in inverse relation to the ratio of dependency on account of age.

TABLE 2

Latin America: Structure of employment and evolution of real wages, 1980-1992

Countries/ years	Structure of non-agricultural employment (Percentages)							Real wages[a] (Index 1980=100)			
	Informal sector				Formal sector						
	Total	Own-account workers	Domestic service	Small enter-prises	Total	Public sector	Large private enterprises	Minimum	Agri-culture	Construc-tion	Industry
Latin America											
1980	40.2	19.2	6.4	14.6	59.8	15.7	44.1	100.0	100.0	100.0	100.0
1985	47.0	22.6	7.8	16.6	53.1	16.6	36.5	86.4	78.2	84.3	91.0
1993	55.2	26.1	6.8	22.3	44.8	13.9	30.9	64.8	69.4	87.3	93.3
Argentina											
1980	39.4	20.4	6.0	13.0	60.7	18.9	41.8	100.0	100.0	100.0	100.0
1985	42.7	22.9	6.5	13.3	57.3	19.1	38.2	113.1	138.4	61.6	75.0
1993	50.8	26.6	8.2	16.1	49.2	16.8	32.4	45.3	...	61.5	104.6
Brazil											
1980	33.7	17.3	6.7	9.7	66.3	11.1	55.2	100.0	100.0	100.0	100.0
1985	44.7	21.1	9.1	14.5	55.4	12.0	43.4	83.9	100.3	84.5	90.6
1993	55.6	23.4	7.7	25.5	44.4	10.0	34.5	49.2	18.8	93.0	109.6
Chile											
1980	50.4	27.9	8.3	14.3	49.6	11.9	37.7	100.0	100.0	100.0	100.0
1985	53.3	24.4	9.8	19.1	46.7	9.9	36.8	63.4	79.2	54.4	90.4
1993	49.9	22.6	6.6	20.6	50.1	7.9	42.3	83.4	104.2	67.5	117.6
Colombia											
1980	52.5	25.3	6.7	20.5	47.5	13.8	33.7	100.0	100.0	100.0	100.0
1985	55.7	28.0	7.0	20.7	44.2	12.4	31.8	108.0	115.7	104.2	113.5
1993	60.3	25.4	5.9	29.0	39.5	9.9	29.6	102.4	115.0	112.3	116.0
Costa Rica											
1980	36.4	16.3	6.1	14.0	63.6	26.7	36.9	100.0	100.0	100.0	100.0
1985	40.5	17.2	6.2	17.1	59.4	26.3	31.7	112.2	99.9	85.5	105.7
1993	52.5	22.2	5.6	24.7	47.5	21.0	26.5	114.8	...	102.7	106.1
Mexico											
1980	49.1	18.0	6.2	24.9	50.9	21.8	29.1	100.0	100.0	100.0	100.0
1985	51.3	23.5	6.4	21.4	48.7	25.5	23.2	67.0	72.2	84.8	72.0
1993	57.0	30.6	5.5	20.9	43.0	23.0	20.0	38.9	...	55.5	69.0
Venezuela											
1980	34.5	21.2	4.5	8.8	65.4	25.6	39.8	100.0	100.0	100.0	100.0
1985	39.9	21.3	4.9	13.7	60.1	24.5	35.6	95.3	94.6	...	...
1993	52.2	25.1	4.8	22.4	47.8	18.6	29.2	60.1	55.4	...	...

Source: PREALC/ILO, on the basis of household surveys and other official sources (various reports).
[a] The latest figures are for 1992.

cline in disposable income, instability of prices, and the cash deficits of the governments. Thus, the national component of saving efforts was limited by the drop in real levels of disposable national income and the similarly low growth rates of the product, together with high rates of inflation. Furthermore, the relative prices of investment goods increased, while capital formation decreased (Held and Uthoff, 1994).

In the early 1990s, some of the foregoing tendencies began to change in the region. On average, however, although the levels of national saving for financing gross fixed capital formation have recovered somewhat, they are still not high enough to allow the necessary growth rates to be regained (table 3).

4. Microeconomic efficiency: resource management

Let us now look at the yields of a worker's contributions in two optional systems –the traditional flat-rate system and a system of individual pension accounts– over two periods (table 4). In the first period, the

TABLE 3

Latin America (nine countries): Indicators of saving/investment and growth, 1970-1992

Countries/years	Per capita disposable national income (1980 dollars)	Saving and gross capital formation: At current prices: National saving	At current prices: External saving	At current prices: Gross fixed capital formation	At constant prices: Gross fixed capital formation	Growth of per capita disposable national income (%)
Latin America						
1970-1979	1 590	19.8	2.9	22.7	21.9	3.9
1980-1989	1 800	19.6	1.6	21.1	18.9	-0.6
1990-1992	1 756	19.5	0.9	20.4	16.7	-0.4
Brazil						
1970-1979	1 534	19.2	3.5	22.7	24.4	5.3
1980-1989	1 809	18.9	2.0	20.9	18.4	0.3
1990-1992	1 766	19.8	0.6	20.4	14.7	-3.1
Chile						
1970-1979	1 968	12.0	2.9	14.8	15.4	-0.6
1980-1989	1 888	10.4	7.7	18.1	15.1	0.5
1990-1992	2 270	23.0	2.1	25.1	16.2	3.1
Colombia						
1970-1979	1 019	18.2	0.5	18.7	18.5	3.5
1980-1989	1 233	18.8	1.0	19.8	18.5	0.9
1990-1992	1 350	22.6	-4.9	17.7	15.1	0.9
Costa Rica						
1970-1979	1 345	13.2	10.4	23.6	21.6	2.5
1980-1989	1 193	16.1	9.5	25.6	20.5	-2.2
1990-1992	1 179	20.7	5.4	26.0	21.8	-0.0
Ecuador						
1970-1979	1 033	18.0	5.5	23.4	24.0	5.0
1980-1989	1 197	15.3	6.1	21.3	18.7	-2.2
1990-1992	1 055	17.1	2.6	19.7	15.0	-3.8
Guatemala						
1970-1979	1 011	13.5	3.5	17.0	19.5	3.3
1980-1989	949	9.1	4.1	13.3	14.4	-2.3
1990-1992	941	11.1	2.9	13.9	15.9	2.4
Mexico						
1970-1979	2 015	19.7	2.9	22.6	22.7	2.9
1980-1989	2 323	21.6	0.4	22.0	19.6	-0.7
1990-1992	2 257	18.5	3.6	22.1	20.1	1.4
Peru						
1970-1979	1 091	16.6	3.6	20.2	22.1	0.2
1980-1989	1 023	21.3	3.6	25.0	22.1	-1.9
1990-1992	791	16.7	2.6	19.3	22.7	-4.1
Venezuela						
1970-1979	3 143	33.7	-1.1	32.6	17.6	7.0
1980-1989	3 238	22.6	-2.2	20.5	18.8	-4.1
1990-1992	2 905	23.6	-9.1	14.4	13.7	5.0

Source: Held and Uthoff, 1994.

worker makes contributions or saves (at a contribution or saving rate c_1 on his real wage w_1), and in the second period he is a pensioner or beneficiary and receives a pension p. Under the flat-rate system, the pension equals the contributions made by the total number of active workers in the second period ($c_2 \bullet w_2 \bullet T_2$), divided by the total number of workers who paid contributions in the first period (T_1). Under the financial or individual capitalization system, the pension is equal to the worker's total contributions, duly capitalized at the rate of return of the capital market *r*.

TABLE 4

Estimation of yield of two pension systems

	Amount of contributions or saving in period 1 (1)	Amount of pension per participant in period 2 (2)	Yield for individual member (3)=(2)/(1)-1
Flat-rate system (not financed)	$c_1 \cdot w_1$	$(c_2 \cdot w_2 \cdot T_2)/T_1$	$1-(c_2 \cdot w_2 \cdot T_2)/(T_1 \cdot (c_1 \cdot w_1)) \square$ $r_c+r_w+r_T$
Individual capitalization system (financed)	$c_1 \cdot w_1$	$c_1 \cdot w_1 \cdot (1 + r)$	$1-c_1 \cdot w_1 \cdot (1 + r)/(c_1 \cdot w_1) = r$

Source: Prepared by the author.

The preliminary overviews published each year by ECLAC report the figures for 15 countries of the region corresponding to interest rates on deposits and loans (as indicators of the yield of savings in the banking system), the growth rates of the product (which, in the absence of changes in the functional distribution of income, should correspond to the growth rates of the overall wage bill), and the growth rates of real wages.

If possible, the comparison of the yields of the two systems should be carried out over a long period, and should refer to economies which operate efficiently. The available information is not very conclusive, however, as it refers to very short periods and economies in a state of transition, and the results are also sensitive to the (loan or deposit) rate used for the comparison. Between 1990 and 1992, it was observed that in 11 cases the deposit interest rates were lower than the growth rate of the product, which would tend to strengthen the adoption of flat-rate systems. Only in four cases were the two rates equal or the deposit rate was higher than the product growth rate. In nine cases, however, the rate of interest on loans was higher than the GDP growth rate, which would tend to strengthen the adoption of individual capitalization systems.[4]

III

A diagnosis of the present pension systems

Most of the studies published by ECLAC on this matter (Uthoff and Szalachmann, 1991, 1992 and 1994; Iglesias and Acuña, 1991; Schulthess and Demarco, 1993) indicate that the currently operating systems have developed into flat-rate schemes with supplementary individual capitalization components, and are not working well because they are made up of poorly managed multiple schemes of low coverage. The question of strengthening flat-rate systems or changing them into financial (individual capitalization) systems will arise after weighing two types of criteria. On the one hand, it is necessary to take into account the system's efficiency in guaranteeing to contributors that they will receive what is due to them when they reach retirement age; the freedom of contributors to move from one occupation to another and decide who is to manage their contributions or compulsory savings, and the financial discipline displayed in the management of the pension fund. On the other hand, it is necessary to take account of the redistributive capacity of the system and its value as a means of showing solidarity with the under-privileged (i.e., as a means of redistribution).

Thirteen of the 15 countries considered (Bolivia, Brazil, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Paraguay, Trinidad and Tobago, Uruguay and Venezuela) place emphasis on

[4] It is important to note that, in the case of an individual capitalization system, the funds may be invested in assets other than securities or assets traded on the financial system.

the need to correct pension systems in the sense of improving management of their reserve funds but retaining their redistributive functions.

The problems for which solutions must be sought may be divided into seven categories: i) the heterogeneity of the criteria under which the various systems operate; ii) the contradiction between the shortage of productive employment and the ageing of the population and the declining ratio of contributors to beneficiaries; iii) evasion and lags in the payment of contributions; iv) the low yields of the investment portfolios of the reserve funds; v) the low population coverage; vi) the disparities between the benefits received by pensioners and the contributions paid during the working life of members, and vii) inefficient and costly administration of the systems (table 5).

The solutions to these problems are not easy, nor do they depend exclusively on the design of the pension systems. In the studies in question there are recommendations that action should also be taken on other sectors and institutions of the economy (the financial market and its institutions, the labour market and training and technological research institutions, the way the fiscal budget is used for social expenditure, etc.).

As well as correcting the weaknesses in the existing systems, it is suggested that progress should be made towards mixed systems with a basic universal component operating on a flat-rate basis, with capitalization of the reserve funds, and a (voluntary or compulsory) supplementary individual saving component operating on the basis of individual capitalization.

Two studies (Argentina and Colombia) report on reform proposals aimed at the establishment of a mixed system which will retain certain redistributive functions but will add a supplementary individual capitalization component.[5] Only one of the studies (Chile) describes the experience of a transition from a flat-rate system to an individual capitalization system totally divorced from redistributive functions.[6] The three studies in question emphasize the weaknesses of the flat-rate system and advocate a system that can be protected from political pressures.[7]

In the study on Chile (Iglesias and Acuña, 1991), it is noted that before the reform (carried out in 1979) there were a number of non-compatible schemes which reduced labour mobility.[8] The financial situation of these schemes had deteriorated because of the demographic and labour characteristics of the country.[9] There were also serious faults in the way benefits were granted.[10] As a result, serious financing problems arose.[11]

[5] The reform projects in Argentina and Colombia analysed in this article are those which were being proposed at the time when the studies were being carried out. Their subsequent amendment in the legislative bodies and the final form in which they were approved have not been considered here.

[6] Another country which has reformed its system in the same direction is Peru (for an analysis of the Peruvian experience, see Canales-Kriljenko, 1991). After the case studies had been made, Bolivia and Mexico started on similar transitions, involving in the latter case the establishment of the Retirement Saving System (SAR).

[7] These arguments are not always shared by all the political actors, and this has given rise to extensive debates on the reforms which have affected the political viability of some of them (Mesa-Lago, 1994).

[8] There were 32 retirement insurance institutions providing pensions, covering approximately 70% of the labour force. Three of them (Servicio de Seguro Social, Caja de Empleados Públicos and Caja de Empleados Particulares) accounted for 94% of the total insured population. This multitude of institutions gave rise to over 100 retirement systems demanding a wide variety of requisites from members in order to qualify for pensions. This latter aspect also gave rise to big differences between the pensions received by persons with similar personal and professional characteristics.

[9] In the case of the Servicio de Seguro Social, the ratio of contributors to beneficiaries fell from 10.8 to 2.2 between 1960 and 1980.

[10] These faults included the fact that there was an incentive to declare less than the actual taxable earnings during most of a worker's economically active life, since the benefits were determined exclusively on the basis of the average taxable earnings during the last three or five years before retirement (depending on the particular scheme). The benefits were determined without any relation to the actual contributions made during the contributor's whole working life, and the conditions for obtaining benefits were neither clearly regulated nor closely supervised.

[11] The fact that benefits were determined on the basis of the average nominal income during the last three or five years of working life meant that, with inflation running at an average of 20% per year, beneficiaries suffered a reduction of 16 - 28% in their real initial pensions. As there were no automatic indexing mechanisms for pensions but inflation was widespread, the benefits changed significantly in real terms through the discretionary decisions of the State authorities, which were based largely on fiscal policy considerations.

TABLE 5

Latin America: Problems of pension systems based on the flat-rate system, and proposals for reforms

Objective	Problems	Proposals	Instruments to be used
Homogenization	Systems are made up of different mutually exclusive schemes and affect labour mobility between occupations	Place the different schemes on the same footing and ensure similar benefits for all workers with similar eligibility features, regardless of where they work	Equalize contributions and eligibility conditions (retirement age and record of contributions) for obtaining pensions under a single homogeneous system
Labour productivity	Low-productivity jobs; low ratio of contributors to beneficiaries	Aim economic policy at the generation of productive jobs	Investment in human resources, saving, factor productivity, xpansion of markets, and technological development
Greater revenue	Evasion and arrears by employers; State indebtedness; collection of contributions from own-account workers	Establish systems of rewards and punishments in order to promote compliance with the system; make arrangements for the renegotiation of debts owed to the system	Identification of contributors and dependents without any possibility of fraud or error; individual accounts; computerization; trict checks on compliance, with indexed fines and positive real punitive interest rates; readjustable bonds for State debt; simplification of formalities
Investment of reserve funds	Low yield of reserve funds; diversion to other government programmes; lack of indexing mechanisms	Regulate and supervise the composition of the investment portfolio; develop the capital market; keep programmes strictly separate	Establishment of a regulatory and supervisory body and of a risk classification commission;financial intermediation; periodic public balance sheets; preparation of public accounts by programmes
Social solidarity: expansion of population coverage	Systems cover only part of the labour force; some segments of the population lack the capacity to save	Develop mixed systems providinga basic pension and supplement them on the basis of individual saving effort; create incentives to encourage saving by own-account workers	Use of funds to provide credit guarantees for participants; confirmation of a basic minimum pension; financing of additional pensions by the contributors themselves; separation of the pension programme from the fiscal budget
Adapt pensions to individualsaving effort and/or to the capacity of the system	Benefits have no relation to actual contributions made; some beneficiaries are not eligible for the benefits they receive; benefits are indexed on a different basis from the revenue base and other sources of income	Link pensions to established minimum levels and supplement them with additional benefits in keeping with the contributions made by participants during their working life	Retirement age and percentage of former income should be fixed according to life expectancy and umber of years of contributions; more flexible approach to retirement age, subject to duly estimated benefit deductions in line with contributions made; basic pension, plus self-financed supplementary pension; development of assured lifetime annuities; development of indexing mechanisms appropriate for the system; regulation and supervision of eligible dependents; elimination of privileges
Improve management	Excessive management costs and inefficiency	Carry out administrative reforms	Rationalization; separation of programmes; suitable legislation; computerization; training; programme budgeting; personnel policy; standardization; privatization.

Source: Prepared by the author.

In the case of Argentina (Schulthess and Demarco, 1993) the study deals with the Sistema Nacional de Previsión Social (National Social Insurance System - SNPS).[12] Two groups of factors are identified as affecting the financial solvency of the system. The first group are those of a long-term, structural nature,[13] which have resulted in low ratios of contributors to beneficiaries (less than 1.7 in 1990 and expected to continue falling).[14] A second group of factors, which are of a shorter-term nature, includes those which could be put right through small corrections in the way the pension system operates[15] and those which are not so closely connected with the functioning of the system but nevertheless affect its results.[16]

The study on Colombia (Ayala, 1992 and Colombia, Ministerio de Trabajo y Previsión Social, 1992) reports that the pension system is made up of a considerable number of independent pension funds which arose as a result of the past evolution of the system in Colombia and, in particular, the decentralization of public social security institutions.[17] The Colombian system has an extremely low level of coverage;[18] its pension benefits have no relation to the contributions made by each individual;[19] it is considered extremely regressive;[20] it is deemed to be inefficient,[21] and it is estimated that it has helped to raise the cost of hiring workers.[22]

[12] This covers approximately 90% of the economically active population, through two subsystems: one for employees and the other for self-employed persons. Because of its high coverage, the expenditure of the SNPS amounted to nearly 5% of GDP and 31% of total central government expenditure in 1991. Even so, the system has been unable to reverse the tendency towards the deterioration of pensions in real terms.

[13] These factors are: i) the increase in life expectancy, so that an ever-increasing number of persons are reaching retirement age, leading to rapid ageing of the population (demographic factors); ii) the tendency towards a decline in the total participation rate (42% of the population was active in 1970, but only 38% in 1988); iii) the failure to create productive employment in the formal sector (the share of low-productivity jobs in total employment is estimated to have risen from 20% in 1960 to 33% in 1990), and iv) the long-standing decline in labour productivity and real wages (average real wages in 1989-1991 were still below the 1977-1978 level).

[14] The ratio of contributors to beneficiaries is 2.2 for employees and 0.7 for self-employed persons; it is expected that the former figure will continue to fall, while the latter will increase slightly.

[15] Among these shortcomings are the provision of pensions which bear little relation to the total contributions made during the pensioner's active life (due to the adoption of very flexible criteria in order to satisfy political pressures to increase benefits or to widen the range of circumstances in which benefits are payable, without reference to the actual capacity of the system) and the incentives to under-declare taxable income.

[16] Among these, the authors mention the volatility of nominal prices and wages, which affect the collection of contributions and the expenditure of the system, as well as the evolution of these variables and of pensions in real terms.

[17] The author estimates that in the public sector alone, which represents a million workers and 300 000 pensioners, there are more than a thousand institutions providing pension services. The system is also concentrated, however, since only 10 social security institutions and six pension funds cover 70% of the public-sector members. The fact that these institutions are not integrated with each other affects mobility in an extremely heterogeneous labour market.

[18] Only 25% of the population is covered and only one out of every two wage-earners is a member of the system. This is due to a segmented labour market, a high proportion of informal-sector workers, failure to monitor compliance with the labour legislation in the case of employees, and the absence of a set of incentives to encourage compliance by own-account workers.

[19] The compulsory tax of 6.5% of taxable income must be paid by the employer (two-thirds) and the employee (one-third) in the case of employees, but it is voluntary and must be paid entirely by the worker himself in the case of self-employed persons. Pension benefits are calculated on the basis of the nominal income received in the last two years of active life (which gives an incentive to under-declare income during almost the whole working life) and the rate of replenishment is calculated on the basis of the number of years during which a worker has made contributions (but not on the amount contributed). In real terms, the benefits provided were not very significant, and they deteriorated rapidly because up to 1987 they were not subject to any automatic indexing mechanism and were granted to persons who had mostly only completed the minimum length of time required to begin to draw a pension.

[20] Its population coverage is low (it leaves out precisely the poorest 40% of the population), and it provides the rest of the beneficiary population (those with higher incomes) with discretionary benefits (which have no relation to the contributions made and involve big subsidies within the system, which are allocated in a regressive manner). Ayala estimates that after 30 years of paying contributions, the subsidy given to each person varies from a minimum of 10% for those who were earning the equivalent of one minimum wage to a maximum of 87% for a worker who was earning more than ten times the minimum wage.

[21] The author mentions the high administration costs, the corruption which exists at the time of determining the benefits to be given, the lack of any significant relation between the contributions made by an individual and the benefits received, and the incentives to avoid complying with the labour legislation.

[22] In order to adjust to the changes occurring in the ratio of contributors to workers, the system is imposing successive increases in the rate of contributions. The report foresees that this will continue unless reforms are made, thus affecting the cost of hiring labour and the generation of productive employment in the future.

IV

Reforms in pension systems with individual capitalization components

A system of compulsory individual capitalization can restrict the individual freedom of the contributor just as severely as a flat-rate system. In the final analysis, the choice between the two must depend on whether the members of society are in a position to value the possibility of being owners of a right or of a certain amount of capital, the way in which these assets are provided when retirement age is reached, and the way in which participation in the different modalities of a system may restrict the contributor's mobility between various employment options.

Unlike the flat-rate system, the individual capitalization system is based on rules which are the same for all (in contrast with multiple systems); the contributions are definite (in contrast with systems where the benefits are definite); the reserves are built up in individual accounts for each member (unlike the collective capitalization of the reserves of the system), and the systems are managed by firms whose own capital is independent of the funds they manage (unlike the form of management used by State bodies, where the reserves are merged with the operating budget).

It is argued that this proposal i) gives members greater security, because it reduces the effect of demographic changes, brings home to each individual the need to maintain or increase his labour productivity throughout his working life, makes an effort to ensure that the financial system gives members a good yield on their savings, and reduces the incentives for under-declaration of taxable income; ii) promotes greater freedom because it facilitates occupational mobility between sectors which were previously linked to different pension systems with different rules, and also permits additional voluntary saving; iii) improves the financial management of the fund because it does away with the need for pension institutions to manage big reserves for their operation and intermediation, separates the results of the administrative management of such institutions (on the basis of their operating budget or their own capital) from the results of the financial intermediation of the fund, and regulates and supervises the financial market, and iv) transfer the social functions to other State instruments, as it supplements pensions at the cost of the fiscal budget when a member's savings are not enough to obtain a minimum pension, and seeks to solve the problem of low population coverage through incentives for people to participate in the system.

With regard to the financial discipline with which systems are managed, flat-rate systems make promises regarding the rights of their members (definite benefits) which they will only have to fulfil in the future. Promises of improved benefits in an individual capitalization system, in contrast, can only be financed with higher current contributions (definite contributions). As there is no direct relation between contributions and benefits, the flat-rate system suffers from faults which affect the government, since it makes promises (definite benefits) which are not made in the second case (definite contributions). This argument, which is found in almost all the studies on current pension systems, does not mean that the flat-rate system is bad in itself, since it can adapt the offer of better future benefits to what it is doing with members' contributions at present.

The Chilean reform process replaced a flat-rate system with one based on individual capitalization and delegated the redistributive functions to other State institutions. It is therefore important to note its differences from the Argentine and Colombian reform projects, as reported to ECLAC (table 6). These differences are due to the fact that the governments of Argentina and Colombia have assumed the commitment to retain or transfer part of the redistributive functions of the pension system, while maintaining the political viability of the project.

Table 6 gives a brief comparative summary of the reform carried out in Chile and the proposed reforms in Argentina and Colombia, highlighting the features connected with the roles of the public and private sectors, the forms of membership (individual or collective), the nature of the changes made in the former system, the treatment as regards preferential

TABLE 6

Latin America (three countries): Overview of reforms to three pension systems

	Argentina	Chile	Colombia
STRUCTURAL FACTORS			
Ratio of potential workers to beneficiaries (1990-1995)	6.4	9.9	14.0
Growth rate of potential workers (1990-1995)	1.5	1.5	2.5
Proportion of informal sector workers among total workers (%)			
1980	26.4	36.1	32.0
1993	34.8	29.2	30.3
Proportion of workers in small enterprises among total workers (%)			
1980	13.0	14.3	20.5
1993	16.1	20.5	29.0
Indexes of real wages (1980=100)			
Minimum wage (1992)	45.3	83.4	102.4
Wages in industry (1992)	104.6	117.6	116.0
Wages in construction (1992)	61.5	67.5	112.3
Wages in agriculture (1992)	...	104.2	...
Rate of contribution on wage bill for a hypothetical pension equal to per capita GDP and financed by taxes on formal sector workers (%)	30.2	18.2	11.1
DIAGNOSIS OF OLD PENSION SYSTEM			
Coverage of labour force (%)			
Members of system	90.0	90.2	25.0
Contributors to system	42.5	53.5	...
Ratio of contributors to beneficiaries		2.2	13.0
Rate of contributions (exclusively for pensions) (%)	27.0	19.0 (1981)	7.9
Multiple institutions and types of benefits?	Yes	Yes	Yes
Concentrated in a few institutions?	Yes	Yes	Yes
Are individual benefits in line with contributions?	No	No	No
Does the system run an operating deficit?	Yes	Yes	No
YEAR OF IMPLEMENTATION OF REFORMS	1994	1981	1994
MAIN FEATURES OF REFORMS			
Role of public and private sectors			
Does the public sector play a regulatory role in the pension fund management business?	Yes	Yes	Yes
Does the public sector play a supervisory role in this business?	Yes	Yes	Yes
Was a new institution set up for this purpose?	Yes	Yes	No
Can the public sector participate in the financial management of the funds?	To a limited extent	No	Yes
Does the public sector collect the contributions to the system?	Yes	No	Sometimes
Can the private sector participate in the management of funds through existing enterprises?	No	No	Yes, but mus keep separate accounts
Are the following roles entrusted to public institutions?			
Custody of financial instruments	Central Bank	Central Bank	Central Bank
Criteria for risk classification	Central Bank National Securities Commission	Risk and Classification Commission	Superintendency of Banks
Regulation of insurance industry	National Superintendency of Insurance Companies	Superintendency of Securities and Insurance Companies	Superintendency of Banks
Management of the old system	National Social Security Administration	Institute of Social Security Normalization	Institute of Social Security (reformed)

TABLE 6 *(cont. 1)*

	Argentina	Chile	Colombia
Administration of minimum pensions	Idem	Idem	Idem
Are the following roles entrusted to private institutions?			
Management of insurance	Yes	Yes	Yes
Classification of financial risks	Yes	Yes	Yes
Individual or collective membership			
Is membership on an individual basis?	Yes	Yes	Yes
Can members change freely from one pension fund to another?	Yes	Yes	Yes (not more than wice a year)
Are there incentives to change to the new system?			
Yield on investments	Yes	Yes	Yes
Publicity	Yes	Yes	Yes
Replacement or supplementation of the old system			
What happened to the old system?	Modified	Replaced	Replaced and modified
Can the present labour force stay in the old system?	No	Yes	Some workers forced to change
Are new entrants into the labour force obliged to join the new system?	Yes	Yes	Yes
Can those who have elected to join the new system change their minds later?	No	No	No
Are the following incentives provided for changing to the new system?			
Bond in respect of past contributions	Compensatory pension for past contributions	Yes	Yes
Lower social security taxes	No	Yes	No
Increase in net wage or salary	No	Yes	No
Publicity	For capitalization	Yes	Yes
Single, non-discriminatory system			
Does the system fix a single rate for the following contingencies?	Yes	Yes	Yes
What is the rate:?			
Old age pension	8.0	10.0	10.0
Disability/ survivors' insurance	3.0	3.0	3.5
Social solidarity with other beneficiaries	16.0	Paid from general taxes	1.0 for high incomes
Total	27.0	13.0	13.5-14.5
Does the system permit voluntary saving?	By capitalization	Yes	Yes, for benefits above the minimum
Does the system guarantee a minimum pension?	Yes	Yes	Yes
How is the minimum pension financed?	Social solidarity scheme	General taxes scheme	Social solidarity
Do the following factors affect the amount of the beneficiary's old age pension?			
Taxable wage/salary/income	Yes	Yes	No (up to a minimum)
Yield of individual reserves	Yes	Yes	No (up to a minimum)
Bond in respect of past contributions	Compensatory pension for	Yes	No (up to a minimum) past contributions
Voluntary saving	Yes	Yes	Yes (over a minimum)
Do the following factors affect the amount of the disability or survivors' benefits?			
Taxable wage/salary/income	Yes	Yes	No (up to a minimum)
Yield of individual reserve funds	Under system of capitalization	Yes	No (up to a minimum)

TABLE 6 *(conclusion)*

	Argentina	Chile	Colombia
Bond in respect of past contributions	Yes, compensatory pension for past contributions	Yes	No (up to a minimum)
Purchase of insurance	Yes	Yes	No (up to a minimum)
Voluntary saving	Yes	Yes	Yes (over a minimum)
Separation of programmes			
Does the new system provide other benefits as well as old age, disability and survivors' pensions?	No	No	No
How are benefits in respect of other social security contingencies provided?	Separately	Separately	Separately
Separation of resources of the pension fund enterprise from the pension fund itself			
Are the resources of the pension fund enterprise separate from the pension fund itself?	Yes	Yes	Yes
Is the pension fund management firm responsible for providing a certain minimum yield in line with the market?	Yes	Yes	Yes
Is the pension fund management firm obliged to maintain a reserve to guarantee members' rights in extreme cases?	Yes	Yes	Yes
Role of the insurance companies			
Are the following benefits covered by insurance policies taken out individually or collectively?			
Disability	Collective	Collective	Collective
Survivors' benefits	Collective	Collective	Collective
Lifetime annuities	Individual	Individual	Individual

Source: Case studies giving diagnoses and reform options in respect of Latin American pension systems, carried out under the ECLAC/UNDP Joint Project on Financial Policies for Development. For Chile: Iglesias and Acuña (1991); for Colombia, Ayala (1992), and for Argentina, Schulthess and Demarco (1993).

and discriminatory pensions and differential rates of contribution, the relationship between the management of the pension system and the rest of the social security programmes, the relationship between the pension fund and the capital (or budget) of the firms and institutions responsible for managing it, and the forms of insurance against financial risks.

This table shows the following similarities and differences among the three reform processes:

i) All three give the State exclusive responsibility for regulating and supervising the pension system, but they differ as regards the responsibility for the financial management of the pension funds: Chile assigns this responsibility exclusively to the private sector, while the proposals of the other two countries share it between both sectors. They also differ in their approach to the role of the system in terms of solidarity: Chile places this role exclusively within the sphere of public policies, but the other two countries keep it within the pension system. These decisions give rise to important differences in the respective forms of institutional development.

ii) All three reform processes call for individual membership, in order to facilitate labour mobility.

iii) The three reform processes differ in the ways they seek to change the previous system, depending on whether or not they decide to maintain redistributive functions: Chile replaced the old system completely, whereas the other two countries propose to change it in order to progress towards a mixed system under which the old system is supplemented with individual capitalization components. All these elements have important fiscal implications (table 7).

iv) All three reform processes eliminate preferential and discriminatory pensions and differential contribution rates. The rates of contribution and the way benefits are calculated differ in the three cases, however. The financing of social solidarity pensions (for non-contributors) and minimum pensions (for those who have made contributions) also differs in each case: in the Chilean system, only general taxes are considered, while the other two take into account transfers among members or their employers for this purpose. In all three cases, the differences in pensions other than minimum benefits are due to differences in the total amount of contributions made, in the yield achieved in the management of the funds, and in the size of the transfer/length of membership bond or pension granted in respect of contributions made to the old system.

v) All three reform processes separate the management of the pension system from that of the other social security programmes.

vi) All three isolate the pension fund from the capital (or budget) of the firms and institutions responsible for its management.

vii) All three reform processes provide for insurance against financial risks, through policies subcontracted with private insurance companies, either collectively (for survivors' or disability pensions) or individually (for the option of lifetime annuities to be taken out when the contributor retires).

TABLE 7

Latin America (three countries): Actual and estimated fiscal deficits associated with the transition to new pension systems

Year	Chile: Deficit associates with reform *(% of GDP)*			Colombia: Fiscal requirements of reform *(% of GDP)*						Argentina: National Social Security System (SNPS) (public component) *(Millions of 1991 pesos and percentages)*	
	Bond in respect of past contri-butions	Oper-ating deficit	Total	Bond in respect of past contribution		Operating deficit		Total		Cumulative deficit	Total amount of resources
				ISS	SP	ISS	SP	ISS	SP		
1981	0.01	1.19	1.20								
1983	0.17	3.53	3.70								
1985	0.24	3.36	3.60								
1987	0.38	3.42	3.80								
1988	0.36	3.04	3.40								
1989	0.53	4.17	4.70								
1990	0.63	4.13	4.76								
1991	0.71	4.08	4.79								
1995	0.71	3.84	4.55	0.00	0.00	0.20	1.29	0.00	1.29	503 (0.19)	8 019 (2.95)
2000	0.95	3.18	4.13	0.45	0.04	0.75	1.22	1.18	0.76	10 417 (3.00)	14 388 (4.15)
2005	1.11	2.28	3.39	...	...	...	...	...	...	22 610 (5.11)	10 582 (2.39)
2010	0.94	1.47	2.41	0.74	0.83	0.88	0.75	1.62	1.58	36 048 (6.41)	17 617 (3.13)
2015	...	...	...	...	...	...	...	...	...	46 805 (6.50)	25 011 (3.47)
2020	...	...	...	...	...	...	...	...	...	49 142 (3.99)	32 782 (3.57)
2025	...	...	...	0.42	0.78	0.07	0.17	0.49	0.95	46 337 (3.95)	36 000 (3.07)

Source: For Chile: Arrau, 1992. For Colombia, Ayala, 1992. For Argentina, Schulthess and Demarco, 1993. In the case of the latter country, revenue includes personal contributions; employers' contributions; value added tax (VAT); taxes on assets; shared income; assumptions regarding the rate of reduction of the premiums and evasion, and financial income. Expenditure includes total outstanding debt; debt payments; pension payments to current pensioners, and new liabilities in respect of the universal basic and supplementary pensions. Resources include stock in Yacimientos Petrolíferos Fiscales (YPF); capitalization of interest and profits, and Social Security Consolidation Bonds (BOCONs), net of amortization payments. In order to express the figures as percentages of GDP, the 1992 GDP (in 1992 pesos) was projected according to the actual and estimated growth rates for 1993 and 1994, and thereafter at a cumulative annual rate of 5%. The following values (in millions of 1992 pesos) were obtained for the years in question:

1995	271 419	2005	442 113	2015	720 155	2025	1 173 057
2000	346 407	2010	562 261	2020	919 121		

V
Conclusions

Pension systems operate in integration with other important components of the economy: the labour market and its institutions; the public sector and its institutions, and the financial and insurance markets and their institutions. In theory, both the old and the new systems can operate perfectly under ideal conditions. Their functions are to collect funds in line with the probability of certain contingencies among their members, to prevent the leakage of the resources they collect for those purposes, and to provide duly financed benefits. In ideal circumstances, this task would be carried out in conditions of constantly increasing productivity of their active members, since in this way the product would always grow and the system could devote part of that increase to consumption by its beneficiaries. In this respect, the reforms should not only pursue the proper design of the system and the regulation and supervision needed for its proper functioning, but should also supervise the operation of other sectors and markets of the economy with which the system interacts.

The experience of the region shows that, whatever the original design of the pension systems may have been, most of them have ended up operating on a flat-rate basis. This is because of the granting of benefits that exceed the systems' possibilities, the low yield of their reserves because of inflation, the investment of those reserves in non-indexed public sector financial instruments (Jiménez, 1993) and poor management. Furthermore, the flat-rate systems are facing or are about to face actuarial imbalances caused by substantial demographic changes, along with an ongoing decline in labour productivity. The lack of confidence of workers and employers in the existing pension systems has made this situation still worse, because the active members evade making contributions to the system and beneficiaries demand more and better benefits (in line with the promises which they feel were made to them). The impact that pension system deficits can have on the public finances and the corresponding macroeconomic imbalances complete a kind of vicious circle, since they create an adverse environment for promoting saving and the development of capital markets.

The reforms must be designed to break this vicious circle. The key to the problem is to clarify the scope of the redistributive functions that pension systems can have and to make it clear that such functions can only be carried out through the observance of discipline in the financial management of the systems' resources. This means recognizing the importance of developing capital markets, in order to contribute to the achievement of three objectives: facilitating the financial management of the reserve funds obtained from contributions and compulsory savings in order to be able to pay more and better pensions in the future; aiding in the formation of capital for sustained growth of the economies and of productive employment in the region; and eliminating the segmentation of capital markets so that more people can benefit from national saving efforts. Other redistributive purposes should be pursued through fiscal policy, making use of alternative sources of finance (general taxes or other contributions to social security).

The reforms should not necessarily replace the flat-rate systems, but should rather make changes in the existing systems in order to ensure that members receive pensions in line with their actual contributions; to provide greater freedom of choice and occupational mobility; to strengthen the financial management of the reserve funds, and to isolate the system from redistributive pressures.

These assertions are not so self-evident to those responsible for preparing the reform projects. This is clear from comparison of the Chilean reforms with the reform projects in Argentina and Colombia. The decision on how to keep on carrying out some tasks in the areas of redistribution and social solidarity which are based precisely on the political leeway that the old systems enjoyed, is the element that leads to the biggest differences among the schemes currently being tried out in the region. The other differences stem from the way the management of the systems is regulated and supervised (a task which is increasingly left in private hands) and the treatment given to members of the former system, whether active or retired.

When the Chilean experience is compared with the projects for Argentina and Colombia, the important effects of some decisions on the final profile of the reform become clear. Thus, we see that in these three cases:

i) the State is given a role in the regulation and supervision of the system;

ii) there are differences in the responsibilities given to the public and private sectors as regards collecting contributions, exercising financial management, and complying with social solidarity aims;

iii) individual membership is promoted;

iv) there are differences in the extent to which the components of the old system are replaced or supplemented;

v) preferential and discriminatory pensions are eliminated, as are differences in rates of contribution and the existence of multiple systems;

vi) because of the particular features of the respective populations, there are differences in the actual amount of the contributions and the conditions of access to the scheme;

vii) there are differences both in the manner of financing minimum and supplementary pensions and in the way the corresponding resources are obtained (one reform process only uses general fiscal resources for this purpose, whereas the others provide for transfers among members for purposes of solidarity);

viii) the differences in pensions higher than the minimum level are due to similar factors (differences in compulsory or voluntary contributions, in the yield of the reserves accumulated during a member's working life, and in the amount of the transfer bond or pension calculated on the basis of the contributions made under the old system);

ix) the resources of the pension fund management companies are totally separated from those of the pension funds themselves;

x) provision is made for insurance against financial risks through policies taken out collectively with private insurance companies in respect of disability and survivors' pensions, but each member is left free to opt for a lifetime annuity when he retires.

(Original: Spanish).

Bibliography

Arrau, P. (1992): El nuevo régimen previsional chileno, *Regímenes pensionales,* Seminario Internacional de Reforma al Régimen Pensional, Bogotá, Colombia, FESCOL/FAUS/International Development Research Centre (IDRC).

Ayala, U. (1992): Un sistema pensional de capitalización individual para Colombia, in A. Uthoff and R. Szalachmann (eds.), *Sistemas de pensiones en América Latina. Diagnóstico y alternativas de reforma. Bolivia, Brasil, Colombia, Guatemala, México*, vol. 2, Joint ECLAC/UNDP Regional Project on Financial Policies for Development, Santiago, Chile, S. R. V. Impresos S. A., Colección estudios políticos y sociales.

Canales-Kriljenko, J. (1991): *Social Security in Peru: Current situation and reform.* World Bank, preliminary version.

CELADE (Latin American Demographic Centre) (1993): *Demographic Bulletin*, vol. XXVI, No. 51 (LC/DEM/G. 128), Santiago, Chile.

Colombia, Ministerio de Trabajo y Seguridad Social (1992): Proyecto de ley por el cual se crea el sistema de ahorro pensional y se dictan disposiciones en materia de seguridad social, Santafé de Bogotá, D. C., September.

Cominetti, R. and E. Di Gropello (1994): *Gasto social en América Latina: un examen cuantitativo y cualitativo*, Santiago, Chile, ECLAC, Economic Development Division, *mimeo.*

ECLAC (Economic Commission for Latin America and the Caribbean)/UNDP (United Nations Development Programme) (1992): *Pension Systems in Latin America: Diagnosis and Reform Alternatives. Case Studies in Latin America and the Caribbean. Conclusions and Recommendations* (LC/L. 656), Serie financiamiento del desarrollo, No. 9, Joint ECLAC/UNDP Regional Project on Financial Policies for Development, Santiago, Chile.

ECLAC (1994): Statistical Yearbook for Latin America and the Caribbean, 1994 (LC/G. 1853-P). United Nations publication, Sales No. E/S.95.II.G-1. ECLAC, Santiago, Chile. (Bilingual publication, English/Spanish).

Held, G. and A. Uthoff (1994): *Indicators and determinants of savings for Latin America and the Caribbean*, paper submitted to the Conference on Growth and Long-Term Development, El Escorial, Madrid, 11-13 July, *mimeo.*

Iglesias, A. and R. Acuña (1991): *Sistemas de pensiones en América Latina. Chile: experiencia con un régimen de capitalización 1981-1991*, Joint ECLAC/UNDP Regional Project on Financial Policies for Development, Santiago, Chile, S. R. V. Impresos S. A., Colección estudios políticos y sociales.

Jiménez, Luis Felipe (ed.) (1993): *Indización de activos financieros. Experiencias Latinoamericanas. Argentina, Brasil, Colombia, Chile, Uruguay,* ECLAC/Netherlands Government Joint Project on Strengthening Saving in Latin America and the Caribbean, Santiago, Chile, S. R. V. Impresos S. A., Colección estudios políticos y sociales.

Larraín, F. and G. Wagner (1982): *Previsión social: algunas consideraciones,* Documento de trabajo, No. 84, Santiago, Chile, Instituto de Economía, Catholic University of Chile.

Massad, C. and N. Eyzaguirre (eds) (1990): *Ahorro y formación de capital. Experiencias latinoamericanas. Argentina, Brasil, Chile, El Salvador, México,* Joint ECLAC/UNDP Regional Project on Financial Policies for Development, Buenos Aires, Grupo Editor Latinoamericano S. R. L., Colección estudios políticos y sociales.

Mesa-Lago, Carmelo (1994): *La reforma de la seguridad social y las pensiones en América Latina. Importancia y evaluación de las alternativas de privatización,* Quito, INCAE, second edition.

Schulthess, W. and G. Demarco (1993): *Sistemas de pensiones en América Latina. Argentina: Evolución del sistema nacional de previsión social y propuesta de reforma,* Joint ECLAC/UNDP Regional Project on Financial Policies for Development, Santiago, Chile, S. R. V. Impresos S.A., Colección estudios políticos y sociales.

Uthoff, A. and R. Szalachmann (eds.) (1991): *Sistemas de pensiones en América Latina: Diagnósticos y alternativas de reforma. Costa Rica, Ecuador, Uruguay, Venezuela,* Joint ECLAC/UNDP Regional Project on Financial Policies for Development, Santiago, Chile, S. R. V. Impresos S. S., Colección estudios políticos y sociales.

——(1992): *Sistemas de pensiones en América Latina: Diagnósticos y alternativas de reforma. Bolivia, Brasil, Colombia, Guatemala, México,* vol. 2, Joint ECLAC/UNDP Regional Project on Financial Policies for Development, Santiago, Chile, S. R. V. Impresos S.A., Colección estudios políticos y sociales.

——(1994): *Sistemas de pensiones en América Latina y el Caribe: Diagnósticos y alternativas de reforma. El Salvador, Honduras, Jamaica, Paraguay, Trinidad y Tabago,* Joint ECLAC/UNDP Regional Project on Financial Policies for Development, Santiago, Chile, S. R. V. Impresos S.A., Colección estudios políticos y sociales