UN/POP/PD/2005/___
Date:_______________

UNITED NATIONS EXPERT GROUP MEETING ON SOCIAL AND ECONOMIC IMPLICATIONS OF CHANGING POPULATION AGE STRUCTURES
Population Division
Department of Economic and Social Affairs
United Nations Secretariat
Mexico City, 31 August - 2 September 2005

POPULATION AGEING AND SOCIAL PROTECTION SYSTEMS IN LATIN AMERICA

Fabio M. Bertranou*

* International Labour Organization

Of all the world's regions, Latin America has the most unequal pattern of income distribution. This fact is reflected in many socio-economic phenomena, including demographic changes and social protection systems. Thus, social protection should, in theory, be adapted not only to the region's changing age structure, but also to the changes observed in the labour market and the economy as a whole. Moreover, institutions and their evolution play a significant role in determining how these systems will actually perform and how well they can adapt to new circumstances.

Socio-economic insecurity is one of the most worrisome features of daily life for Latin Americans. This circumstance affects people in all social strata, but especially those living in poverty or working in the informal economy. The core problem with social protection[1] systems in the region is that their coverage is low in terms of the number of workers and dependants included in protection schemes and programmes, on the one hand, and the range of contingencies covered and the quality of the protection provided, on the other. This ostensibly simple phenomenon stems from multiple and closely interrelated causes.

Approximately two out of every three people in the region do not have access to basic, high-quality coverage for the most common social risks, such as illness or loss of income due to old age, disability, survivorship or unemployment. Generally speaking, access to certain old-age benefits – retirement and other pensions – is broader. At least one out of every two older persons[2] receives old-age benefits, but this statistic reflects the experience of only a small group of countries. A simple average for all the countries of the region indicates that one out of every three older persons has access to old-age benefits. While older persons have higher rates of coverage than the rest of the population, they are also exposed to certain risks that are harder to cope with financially: those that create a need for health-care services. In addition, recipients of old-age benefits are generally among those individuals who have enjoyed the most advantageous position in the labour market, since access to pension systems is largely based on contribution levels. Demographic changes have played a key role in imposing new financial constraints and redefining traditional sources of protection: the family, the market and the State.

The growth of the over-60 population will speed up in the coming decades, producing an increase in old-age indices and old-age dependency ratios. This raises important questions about the social protection models that countries should adopt and about how they should finance these systems.

This article is intended to provide a stylized summary of some of the principal trends observed in these factors in Latin America, highlighting their interactions and possible effects, as well as the main public policy challenges for the coming years. Adaptations in Latin America's social protection systems have generally lagged behind social and labour-market changes. Shortening this delay in the adaptation process is crucial for optimizing the use of the social resources set aside for the purpose of providing protection against social risks, thereby enhancing social welfare, particularly in the context of the demographic changes that the region will undergo in the next few decades.

The article is structured as follows. First, the principal demographic trends in Latin America are summarized and their chief implications for social protection systems are highlighted. Second, the characteristics and problems of these systems in Latin America are summarized, without losing sight of the major differences observed between different groups of countries, which reflect their varying degrees of socio-economic development. Third, the discussion focuses on one of the most important areas of social protection reform: retirement and pension systems. Lastly, the primary challenges are examined in the light of demographic trends and the current context of social protection systems: the need to restructure the social protection model, taking into account financing issues and the increasing role of non-contributory programmes; the feminization of the elderly population and the gender dimension in relation to pension systems; and the labour market for older persons.

A. DEMOGRAPHIC TRENDS IN LATIN AMERICA AND THEIR IMPLICATIONS

According to the estimates of population trends in Latin America by the United Nations (2005) and the Economic Commission for Latin America and the Caribbean (ECLAC, 2004), the region is now at a stage of declining fertility, which was preceded by a decrease in the mortality rate. The fertility rate fell sharply in the 1970s, while the mortality rate has been declining since the first half of the twentieth century. Since the 1960s, Latin America's under-15 population and total population have grown more slowly, resulting in a decrease in the ratio between the under-15 population and the working-age (15 to 64 year-old) population.

Today, the region is experiencing a pronounced slowdown in the growth of the working-age population and a relative increase in the over-15 population. Thus, the number of children and youths under-15 per working-age person has continued to decline, while the number of older persons per working-age person has begun to increase, slowly at first but with a subsequent sharp acceleration.

In absolute terms, the region's over-60 population will expand from 42.3 million to 100.7 million between 2000 and 2025. This growth will speed up between 2025 and 2050 during which time this age group is expected to increase by a further 88 million, bringing the number of older persons in the region to 188.3 million. This group's five-year growth rate, which stood at 3.2 per cent in 1995-2000, will increase to 3.7 per cent in 2020-2025; this contrasts with the five-year growth rates of 1.6 per cent and 0.9 per cent, respectively, for the total population during these periods. Accordingly, the proportion of older persons out of the total population, which was 8.1 per cent in 2000, will reach 14.5 per cent by 2025 and 24.1 per cent by 2050. In other words, by 2050, one out of every four Latin Americans will be an older adult. Consequently, the population's median age will rise by 15 years between 2000 and 2050, with the result that, by 2050, half the population will be over the age of 40.

The most striking aspect of this overall process of change in the age structure and acceleration of the ageing of the region's population is the wide variation observed across different countries. On the basis of the region's current ageing profile, ECLAC (2004)[3] has grouped the countries into four categories. This makes it possible to analyse demographic variables in conjunction with other social and institutional variables that affect the performance of social protection systems.

The first group of countries is the one with advanced population ageing. Argentina, Chile, Cuba and Uruguay are in this group, together with a number of Caribbean islands, such as Barbados, Guadeloupe, Martinique, Netherlands Antilles, Puerto Rico and the Virgin Islands, which are not considered in this article. In these countries, the proportion of older persons exceeds 10 per cent.

The second group consists of countries with moderate to advanced population ageing, where the proportion of older persons now ranges from 8 per cent to 10 per cent. In these countries, the proportion of older persons will increase rapidly (to between 25 per cent and 30 per cent) in the coming years. Brazil is the only country in the region that fits this description.

The third group consists of countries with moderate population ageing. In these countries, the percentage of people aged 60 or over now ranges from 6 per cent to 8 per cent and is expected to exceed 20 per cent by 2050. The countries in this group are Venezuela, Bolivia, Colombia, Costa Rica, Ecuador, El Salvador, Mexico, Panama and Peru.

Lastly, the group of countries with incipient population ageing consists of the Dominican Republic, Guatemala, Haiti, Honduras, Nicaragua and Paraguay. In these countries, older persons account for a relatively small percentage of the total population (between 5 per cent and 7 per cent), and this percentage is expected to increase to no more than 15 per cent to 20 per cent by 2050. The population ageing process in these countries could speed up in the coming years if the trend towards lower fertility rates would intensify.

What are the most significant implications of these demographic changes for the Latin American countries? Without attempting to draw up an exhaustive list, it may be mentioned that, in the area of public policymaking, and especially the allocation of public resources, social policy priorities and objectives will have to be redefined. This is particularly important in that other population groups, such as children and adolescents, are more vulnerable to poverty and extreme poverty. Another consideration is related to the way in which social insurance is provided – that is, the way in which social risks are "pooled" – and to patterns of intra- and intergenerational transfers, especially those triggered by retirement and pension systems. Moreover, the population ageing process will coincide with other socio-demographic changes related to the increase in women's labour-force participation and to the various kinds of family arrangements and models that have resulted from the higher incidence of separations and divorces over the life cycle.

Another important consideration is the speed at which the ageing process is progressing. As noted earlier, the over-60 is the fastest-growing population group in the region. Even more important, however, is the rapidity of the shift in the age structure. Whereas the process has taken six to ten decades in the developed countries, it is happening in the space of two or three decades in Latin America (Bravo, 2000). This means that the countries of the region will have to move even faster than the developed countries in adapting their social protection systems.

B. CHARACTERISTICS AND PROBLEMS OF SOCIAL PROTECTION SYSTEMS

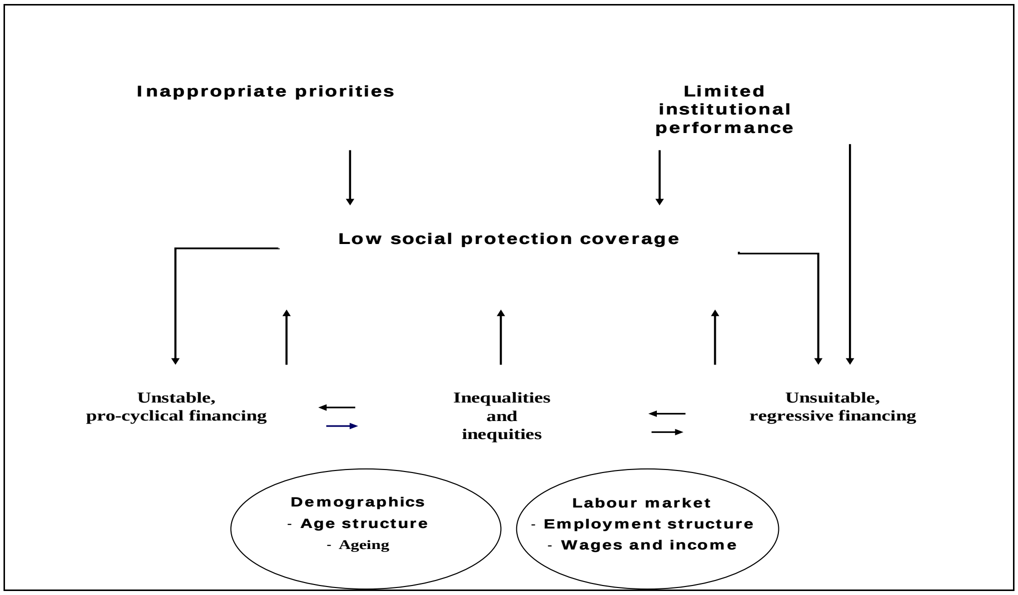
Protection for older persons should be provided by way of schemes and programmes that are more or less integrated into a wider social protection system. However, most Latin American countries do not have a protection "system" as such; rather, they have an assortment of schemes and programmes which, because they were established at different times and for different purposes, tends to be poorly coordinated. This article will outline the principal characteristics and problems of social protection systems in general, and then focus on income protection programmes for older persons, particularly retirement and pension systems.

In practice, the social protection systems currently in place in the various countries of the region, regardless of per capita income, consist of a mix of non-contributory and contributory schemes and programmes. Social protection models and their performance reflect the particular way in which their components have been developed over the years, as well as the prevailing institutional framework, which, in turn, is influenced by different political and organizational factors in different countries.

The biggest problem and challenge facing social protection systems, particularly in Latin America, is low coverage (ILO, 2002; Mesa-Lago, 2004) understood in terms of: (i) the percentage of the population – active and inactive alike – covered by these systems, and (ii) the depth or quality of the protection itself. From this standpoint, low coverage is not an isolated feature; it is a catalyst of a whole series of economic, institutional and political problems. Thus, the six main constraints and general problems (figure I) and the associated challenges are as follows:

- *Low coverage*: In general, both the extent and the quality of coverage under the various social protection programmes are low. It is said that there may be a "protection paradox" in the sense that the least vulnerable population groups are the ones that have the most and best protection. This results from a variety of factors, but a major one is that workers with the highest-quality jobs, e.g. civil servants and employees of big companies, are the ones whose coverage is the most extensive and of highest quality also.

Figure I. Constraints and problems in social protection systems



Source: Prepared by the author

- *Inappropriate priorities*: The priority-setting process is deficient in determining the target populations and priority risks to be covered. One major challenge is to identify the most cost-effective social protection instruments and to generate or adapt instruments to take into account the heterogeneity of the labour market, .he variety of employment arrangements, and the population structure.

- *Insufficient, unstable, pro-cyclical financing*: The social protection system is financially dependent on the macroeconomic cycle, with the result that revenue flows do not behave in accordance with the funding levels of benefit programmes; rather, the reverse is true. The challenge is to generate complementary, counter-cyclical financing mechanisms by means of a prudent fiscal policy and to increase the overall volume of resources allocated to social protection.

- *Unsuitable, regressive financing*: The current financing model for social protection is inappropriate to the region's social situation and labour markets and has a regressive effect on income distribution. The challenge is to change key parameters of the financing model for social protection so that it will promote, or at least not inhibit, job creation. The definition of these parameters is not neutral in terms of incentives for job creation. Basically, two financing mechanisms can be identified: payroll contributions and general taxes. In practice, these two "pure" mechanisms are used in combination and varying proportions by most countries of the region. Under the traditional Bismarckian scheme, which is still followed in many countries, payroll contribution is the main source of financing for social protection benefits. However, this mechanism must be used with care. Although the linkages between the level of contribution and the level of employment are not completely clear, it may be assumed that the correlation will, in general, be negative. Financing based on general taxes will have less impact on the labour market and its impact on efficiency and equity will depend on the particular design of a country's tax system. Because this type of financing is tax-based, it is generally pro-cyclical.

- *Limited institutional performance*: There are deficiencies in the organizational structure and functioning of the relevant institutions. The challenge is to strengthen these institutions with a view to optimizing the management of social protection. Here again, it is necessary to identify cost-effective ways to improve institutions.

- *Sharp inequalities and inequities*: Differences between individuals' work histories and access to social protection generate significant inequalities and inequities. Moreover, the problems outlined above tend to perpetuate – and sometimes exacerbate – situations of inequality. The challenge is to reduce inequalities and inequities in social protection systems by broadening coverage and standardizing programmes, using advocacy and cooperation to open a dialogue on reform, and eliminating regressive financing mechanisms.

Table 1 illustrates the magnitude of the problem by indicating the proportion of workers that contribute to social security and the proportion of the older adult population that receives a significant form of social security coverage, i.e. old-age benefits. Among other things, this table highlights the wide disparities between different countries in the region, which reflect their different social and labour-market situations. These coverage gaps, in turn, stem from the very significant problems caused by unequal eligibility criteria for access to benefits, together with the resulting inequalities and inequities. Levels of employer-provided coverage differ considerably between the population groups under the first and fifth household income quintiles. In some countries, this difference is extraordinarily wide. This situation, in turn, is reflected by disparities in access to social protection in old age. Some countries use non-contributory programmes to try to offset the biases in coverage that contributory systems tend to exacerbate. However, the compensatory effect of these efforts is limited, and differences in the availability and quality of coverage are often only partially corrected. This issue will be examined in a subsequent section.

When the countries are classified according to their stage of population ageing, it becomes apparent that the levels of coverage – through employment and in the older adult population – are usually higher in countries where this process is more advanced. This implies that as the age of the population in a country gets older, higher priority in resource allocation is given to the economic security of older persons. It should be noted, however, that the "greyest" countries are generally the ones with the highest per capita income and that this is a major reason for their higher coverage levels, given that social protection is a superior good. In terms of equity, the "protection paradox" is clearly apparent in countries at the incipient stage of population ageing, since coverage is disproportionately greater in the highest-income quintile than in the lowest-income quintile. This situation explains why the formal protection systems in these countries have a credibility problem. The formal protection systems in these countries are seen as a luxury enjoyed by a privileged few.

TABLE 1. LATIN AMEICA: RETIREMENT AND PENSION COVERAGE

Country	*Employer-provided coverage*				Coverage of older adult population
	Total	*Quintile I*	*Quintile V*	*Indicator of inequality of coverage (QV/QI)*	
			Incipient ageing [a]		
Dominican Republic (2003)……………	n.d.	n.d.	n.d.	n.d.	10.9
Guatemala (2000)………………………	19.9	1.8	42.5	23.6	11.3
Nicaragua (2001)……………………….	19.4	3.1	33.1	10.6	4.7
Paraguay (2003)………………………..	13.9	0.1	38.7	387.0	19.6
			Moderate ageing		
Bolivia (2002)………………………….	10.9	0.5	36.4	72.8	14.7
Colombia (1999)……………………….	26.9	3.2	59.5	18.6	18.6
Costa Rica (2003)……………………...	63.4	22.9	83.2	3.6	36.6
Ecuador (2004)………………………....	27.6	12.1	52.2	4.3	15.2
El Salvador (2003)……………………..	31.8	6.7	63.2	9.4	14.5
Mexico (2002)………………………….	28.4	1.4	53.1	37.9	19.2
Peru (2003)……………………………..	15.2	1.3	42.6	32.8	23.7
Venezuela (2004)………………………	36.8	5.4	57.1	10.6	23.9
			Moderate to advanced ageing		
Brazil (2002)…………………………...	48.3	13.7	72.7	5.3	85.9
			Advanced ageing		
Argentina (2004)……………………….	39.4	2.1	66.7	31.8	68.3
Chile (2003)……………………………	64.7	40.1	73.6	1.8	63.8
Uruguay (2004)………………………...	57.3	13.7	78.9	5.8	87.1

[a] No data were available for Haiti or Honduras.

Source: Prepared by the author on the basis of Rofman and Lucchetti (2005), Rofman (2005) and other sources.

C. RETIREMENT AND PENSION SYSTEMS: REFORMS AND IMPLICATIONS

Retirement and pension systems in Latin America have a long history and they vary widely in terms of their organization, financing, and performance. Demographic changes and the precarious fiscal situation in the countries of the region were compelling arguments for changing these programmes. As a result, this has probably been one of the most intensive and controversial areas of social policy reform in the past two decades.

Since 1981, at least ten Latin American countries have adopted structural reforms; that is, reforms that have not only changed the financing regime by introducing a fully or partially pre-funded (defined contribution) scheme, but have also involved private management of pension funds. All these reforms have also included or entailed reforms defined as parametric, meaning those designed to improve the systems' financial viability through changes in eligibility criteria (such as the retirement age) or financial parameters (such as contribution rates). Reforms in other countries have been non-structural, although they have introduced major changes which, like structural reforms, have required significant economic policy initiatives and negotiations among social stakeholders.

The countries that have implemented structural reforms are Chile (1981), Peru (1992), Colombia (1993), Argentina (1994), Uruguay (1996), Mexico (1997), El Salvador (1997), Bolivia (1998), Costa Rica (2000) and Dominican Republic (2003). Nicaragua (2000) and Ecuador (2001) have passed legislation introducing structural changes but have not implemented the reforms because of legal and administrative reasons. Among the countries with non-structural reforms, the most representative (and therefore most visible) case in the region has been those of Brazil, which introduced reforms for private-sector workers in 1999 and for public-sector workers in 2003-2004. Another country that implemented this type of reform is Panama, which in 2005 introduced non-structural changes, but the new legislation was submitted for further review. Colombia deepened certain aspects of its reform in 2003 and Peru made some additional changes in 2004. Accordingly, in recent years, the trend among the countries that have later adopted reforms is to avoid wide-ranging structural reforms but rather, to pursue parametric reforms. In some cases, like those of Colombia and Peru, the reforms have been made by introducing a private component during the 1990s.

Structural reforms have mirrored many of the features of the 1981 Chilean reform. Another common denominator is that the reforms have reflected the dominant paradigm the 1990s advocated by the World Bank (1994) in its proposal on multi-pillar systems. Despite these similarities, the specific characteristics of the reforms have varied widely from one Latin American country to another. For example, structural reforms have followed different paths. According to the typology put forward by Mesa-Lago (2004) in a number of studies, three models can be identified: substitutive, parallel and mixed. Under the substitutive model, a fully-funded (individual account) scheme completely replaces the defined-benefit, pay-as-you-go scheme. In other words, the contributions paid by workers entering the labour market are allocated in their entirety to the new fully-funded scheme. Under the parallel model, workers have a choice between contributing to a fully-funded scheme or to a publicly-managed defined-benefit, pay-as-you-go scheme. The mixed model is a combination of the other two models; its financing and benefit parameters have also been subject to reforms. Figure II summarizes this typology, which coincides with the one proposed by Mesa-Lago. However, it includes, as a type of mixed model, the Argentine system, in which workers can opt to keep all their contributions in a defined-benefit scheme.

What do Latin America’s pension systems look like in the wake of this reform process? An important point is that, although the reforms have radically changed many aspects of the social security systems’ financing and organization, they have continued to assign a major role to public institutions, primarily in regulation and oversight as well as in management. In doing so, the reformed systems are of a mixed nature. For instance, in Chile, where the purest form of substitutive strategy has been adopted, the State has been involved not only with these functions but also with the administration of the old system during the transition period. Moreover, it plays a significant role in many of the system’s components, particularly the provision of non-contributory benefits as well as basic or minimum benefit guarantees.

In a labour market with an occupational structure dominated by informal jobs and a large proportion of non-wage-earning workers, a contribution-based social security system generates wide disparities in coverage. However, these gaps have been partially closed through non-contributory programmes particularly in countries where social security systems are more highly developed as a result of their economic development and the history of their social institutions. The Latin American countries whose social security systems best exemplify this kind are the so-called social security pioneers in the region. These are Argentina, Brazil, Chile and Uruguay and Costa Rica (Mesa-Lago and Bertranou, 1998). Other countries, such as Colombia, have introduced such schemes more recently, while Bolivia has devised an innovative system of universal benefits for older persons known as Bonosol (World Bank, 2004).

Figure II. Types of retirement and pension reform by allocation of contributions under the reformed system[a]

Allocation of mandatory retirement and pension contributions				
		Type of system	Type of system	
Mandatory contributions	Fully funded	Pay-as-you-go (PAYG) | Fully funded	PAYG | Fully funded PAYG	Fully funded PAYG
	• Bolivia • Chile • El Salvador • Mexico • Dominican Republic	• Colombia • Peru	• Argentina	• Costa Rica • Uruguay
	All contributions go to fully-funded individual accounts.	Workers can choose to pay into individual accounts or the pay-as-you-go system.	Contributions go into a pay-as-you-go system that provides a basic pension. For the complementary pension, workers can choose between individual accounts or pay-as-you-go.	Contributions for the minimum pension go into a pay-as-you-go system; those for the complementary pension go only to individual accounts.

[a] Prepared on the basis of the figure contained in Gill and others (2005).

Table 2 sums up certain features of the Latin American countries in terms of the stage of the population ageing process, level of coverage, type of pension system, and poverty rate of the over-60 population. This information indicates that, despite the pronounced trend towards social security "privatization" in the region, the dominant model incorporates a significant public-sector role. Accordingly, the systems have been grouped into four categories: mixed, mixed-private, mixed-parallel and public.

D. PRINCIPAL CHALLENGES POSED BY DEMOGRAPHIC CHNAGES

This section offers a brief discussion of some of the principal challenges which demographic changes pose for social protection systems. The three main issues covered are the need to restructure the social protection model; the feminization of the elderly population and the gender dimension in relation to retirement and pension systems; and the labour market for older persons.

1. Need to restructure the social protection model

The process of redefining the social protection model has two important and overlapping dimensions: financing, on the one hand, and eligibility criteria for coverage and benefits, on the other. The main task in the area of financing is to determine the mix of financing sources, which essentially consist of payroll contributions, taxes or a combination of the two. In the case of pension systems that have switched to a fully-funded regime, the rate of return on the accumulated funds also becomes important, but because these systems' financing is based primarily on payroll contributions, the returns depend not only on the amount of those contributions but also on the stage of the individual's work history at which they are paid. Another important consideration, which is related to the system's contributory or non-contributory nature, is whether beneficiaries are required to meet minimum standards in terms of the amount of time for which they have paid into the system or for which they have worked in jobs covered by social security, even if the level of contributions does not fully finance the programme.

TABLE 2. LATIN AMERICA: SOCIO-DEMOGRAPHIC AND SOCIAL SECURITY PROFILE

		Socio-economic and institutional characteristics			
Stage of the population ageing process	*Country*	*Pension coverage among older persons*[a]	*Type of pension system*	*Per capita income*[b] *(US$)*	*Poverty rate of over-60 population*[c] *(per cent)*
Advanced	Argentina	High	Mixed-integrated	6 055	9.48
	Chile	High	Mixed-private	5 952	7.89
	Cuba	High	Public	3 965	8.67
	Uruguay	High	Mixed	4 946	
Moderate to advanced	Brazil	High	Public	4 340	10.33
Moderate	Bolivia	Very low	Mixed-private	938	36.59[d]
	Colombia	Low	Mixed-parallel	2 277	29.20[d]
	Costa Rica	Medium	Mixed	3 762	30.38[d]
	Ecuador	Low	Public 5/	1 776	38.39[d]
	El Salvador	Low	Mixed-private	1 761	30.35
	Mexico	Low	Mixed-private	4 690	30.50[d]
	Panama	Medium	Public	3 123	21.71
	Peru	Low	Mixed-parallel	2 376	18.32
	Venezuela	Low	Public	2 796	20.85[d]
Incipient	Guatemala	Low	Public	1 554	45.90[e]
	Haiti	Very low			
	Honduras	Very low	Public	713	24.27
	Nicaragua	Very low	Public[f]	484	18.25
	Paraguay	Low	Public	1 477	24.35
	Dominican Rep.	Very low	Mixed-private	2133	38.09[d]

Source: Prepared by the author using data from the sources cited above.

[a] Coverage: High: over 50 per cent; medium: 30 per cent – 50 per cent; low: 15 per cent – 30 per cent; very low: less than 15 per cent.
[b] Economic Commission for Latin America and the Caribbean (2002). Social Panorama of Latin America.
[c] The poverty rate in old age is defined as the proportion of the over-60 population whose per capita household income is equivalent to less than 50 per cent of the median income. The equivalencies are those used by the Organisation for Economic Co-operation and Development (OECD): 0.5 + (0.5 x Number of adults) + (0.3 x Number of children up to age 16). Source: Gill and others (2005), pp. 202 and 203.
[d] Denotes that the poverty rate is higher in the over-60 population than in the population as a whole.
[e] The poverty rate indicated for Guatemala is for the population aged 65 or over.
[f] Structural reform legislation has been passed but not implemented.

a. Financing

The basic question in this regard is what the limits of contributory financing are in a context marked by certain specific features. Wage employment has little room to grow in the region. Moreover, liberalization and globalization have curtailed the possibility of increasing payroll contributions, which are generally perceived as a labour cost that undermines the competitiveness of companies that produce internationally tradable goods. In addition, in many of the countries the wage bill as a proportion of gross domestic product (GDP) has remained relatively constant or has decreased. Thus, completely "genuine" sources of financing for contribution-based social security systems are limited. Owing to the difficulty of financing all outlays from contributions, social security systems have gradually incorporated tax-based financing. This move was prompted not only by internal and external labour-market constraints, but also by the weaknesses that were apparent in the systems prior to the reforms: loose eligibility requirements, deficient technical bases for the calculation of reserves and poor management of the investments that support them.

The current configuration of the region's social security systems evinces a strong trend towards contributory financing; that is, their financing and/or the eligibility criteria for receiving benefits are based on the contributions made by the individuals covered. However, the composition of this financing differs from one country to another and depends in part on the system's maturity and the type of reform implemented. The most mature systems in countries at an advanced stage of population ageing derive a sizeable share of their financing from general tax revenues. This is the case in Argentina and Uruguay, which have also pursued more aggressive policies of reducing employers' contributions and have therefore had to replace this source of revenue with taxes. Thus, the Latin American countries' social security systems are hard to compare because the composition of their sources of financing has been exogenously altered by the transition processes triggered by the reforms and the financing methods chosen.

The desired level of protection, in terms of both its extent (number of people covered) and quality (amount of benefits), is a parameter that must be considered with a view to setting contribution rates that balance commitments (outlays) with the resources needed to finance them. However, these theoretical "equilibrium" rates are likely to be politically and economically unsustainable, particularly in countries with mature systems and relatively high coverage. Accordingly, the countries that are revamping their systems have opted for mixed financing.

b. Eligibility criteria for old-age benefits and other support from social protection systems

All the social security reforms carried out, whether structural or only parametric, needed adjustments in eligibility criteria for old-age benefits to make the systems financially viable and to adapt them to new demographic circumstances, including the longer life expectancy of the older adult population. The consequence of this policy has been an increase in the proportion of older persons without coverage, as eligibility for benefits is now more restricted. This poses a significant challenge, especially since broadening coverage is now an issue of great interest and the subject of a vigorous campaign in the region. In the past, social security coverage was extended through the loosening of eligibility criteria; however, as "genuine" sources of financing have little flexibility, this strategy proved to be unsustainable over time. The solutions, from a fiscal standpoint, were to change the system's parameters by requiring more years of contributions, enforcing this requirement, and raising the legal retirement age.

Another problem with this tightening of eligibility requirements is that it has resulted in more limited access to other social security benefits such as health insurance. In some cases, this situation is perhaps even more serious than the issue of monetary transfers, given the potentially catastrophic risk that adverse health events can entail for older persons. Thus, the coverage expansion dilemma must also involve the consideration of access to a series of benefits that go beyond the welfare pension or minimum pension paid out by social security systems. The financing of a basic benefits package for older persons to cover the most important catastrophic risks is unquestionably a factor that could compromise the social protection system's financial viability as the population ageing process advances.

c. The role of "non-contributory" programmes and tax-financed pensions

One of the primary justifications for structural reforms was the argument that a closer link should be established between contributions and benefits. Individual accounts, it was said, would give rise to increased coverage, since people would have a greater sense of responsibility and more incentives to keep contributing to the system. However, for a number of reasons, the reformed systems have not brought about an increase in coverage. In fact, in some countries, the coverage of pension schemes based on mandatory contributions and of social security, in general, has declined. One of the main reasons for the stagnation or decline in the coverage of contributory pensions is the sharp downturn in the labour market. When the social security reforms were implemented, it was implicitly assumed that workers would have long-lasting, stable employment and that the retirement process was normal and irreversible. Nonetheless, the informal segment of the labour market currently employs about half the region's labour force. Moreover, as a result of labour deregulation, a growing number of formal-sector workers are hired under precarious employment conditions. Accordingly, pensions financed from general tax revenues have been considered as an instrument for supplementing the coverage of contributory pensions and broadening overall social security protection (Bertranou, van Ginneken, and Solorio, 2004).

Tax-financed pension programmes provide modest, relatively uniform monetary benefits to provide protection against the contingencies of old age, disability and death. In some countries these programmes also cover illness and are a means of access to other benefits such as family allowances. The programmes generally represent a form of social assistance, since they target poor people who have little or no capacity to pay contributions. In Argentina, Brazil, Chile, Costa Rica and Uruguay, these tax-financed programmes benefit a significant proportion of older persons and persons with disabilities. In Brazil and Costa Rica, among other countries, welfare pension benefits are financed in part with cross-subsidies from contributory programmes.

In 2001-2002, non-contributory pension programmes in Argentina, Brazil, Chile, Costa Rica and Uruguay, the five Latin American countries with the most advanced social security systems, had some 8.8 million beneficiaries (including Brazil's rural pensions, which are actually semi-contributory schemes). Some 56 per cent of these beneficiaries were receiving old-age benefits. As compiled in Bertranou, et.al. (2004), various evaluations of the impact of these programmes on poverty have found that tax-financed pensions are powerful means of combating these scourges and an effective instrument of social reintegration for people who have traditionally been excluded from social security and subject to economic vulnerability and insecurity. This conclusion is valid despite the various problems identified in the design and administration of these programmes, as well as their potentially negative impact on incentives to work and on social security contributions.

All five of the above-mentioned countries use some method of targeting the fiscal subsidy for these benefits. With varying degrees of efficiency, they have achieved dissimilar but relatively satisfactory outcomes. The programmes are still limited in scope and have only slightly narrowed the coverage gaps left by contributory programmes. Nonetheless, this effort to protect the most vulnerable members of the older adult population has been significant in certain countries, including Chile and Brazil.

In Chile, in the 1990s the growth of benefit coverage for the over-65 population was attributable essentially to the expansion of the welfare pension programme, while benefit coverage under the contributory system declined slightly. In 1992, contributory benefits covered 67.1 per cent of the over-65 population; by 2000, this percentage had decreased to 64.4 per cent. The coverage of welfare pensions, meanwhile, rose from 8.3 per cent to 14.7 per cent over the same period.

In Brazil, rural pensions account for a substantial share of the increase in coverage over the past decade, but in recent years the growth of their coverage has merely kept pace with that of the over-60 population. Whereas the total population grew by 5.7 per cent between 2000 and 2004, the over-60 population grew by 11.8 per cent. Over the same four-year period, rural old-age pensions grew by 11.2 per cent, while welfare benefits jumped by 36.6 per cent.

A special case is that of Bolivia's Bonosol programme, which follows the model of non-contributory pensions. The programme is not financed through payroll contributions yet seeks to achieve universal coverage. Although this programme suffers from many design problems and financial viability challenges (World Bank, 2004), it was at its inception the only universal programme implemented by a Latin American country to meet the need for transfers to older persons. In 1996, the authorities established a collective capitalization fund that received a transfer from the Government representing 50 per cent of the shares of the capitalized firms formerly owned by the State. The fund was valued at 22 per cent of GDP and provided for the payment of a life annuity to all Bolivians aged 65 or over who had been born before 1975. The benefit amount was set at US$250, which represents about 10 per cent of the wages and is also equivalent to 50 per cent of the per capita income of the poorest sector of the population. On the basis of population estimates, it was originally projected that the number of beneficiaries would reach 300,000; in 1997, however, the number stood at 364,000. It is believed that this discrepancy is due in part to misreporting of the age. The programme's total annual cost is about US$100 million. Although questions have been raised about the programme's viability owing to liquidity problems of the fund used to finance it as well as the administrative problems in weeding out fraudulent claims, this policy of universal benefits is nonetheless noteworthy. Bolivia's experience also demonstrates how a programme that is usually treated in the literature as having the advantage of being relatively easy to administer can turn out to be highly complex in the absence of an appropriate institutional framework.

2. The feminization of the elderly population and the gender dimension in relation to pension systems

Given that women have a longer life expectancy than men, the increase in this demographic variable means that the face of old age is, increasingly, that of a woman. Today, coverage for older women consists primarily of survivor's benefits and non-contributory benefits, since women for the most part did not in the past have high rates of labour-force participation. This is changing rapidly, however. Women are entering the labour market in growing numbers so that in the future they will receive more and more benefits in their own right and not by way of their spouse. At the same time, women's access to the labour market and the problems of inequality and occupational segregation they face have given rise to significant disparities between their income and that of men. Differences in income due to different types of jobs and work histories translate into coverage gaps in pension systems. Moreover, changes in pension systems have generated further inequities, even as they have partially remedied existing ones.

There are other socio-demographic changes that are relevant in this context and that have significant gender implications. Family organization has changed considerably. Couples and their relationships have become more unstable. Most social protection systems were designed in the course of the twentieth century, especially in the early part of that period, when men's and women's roles in the family and the workplace reflected cultural norms that differ significantly from those prevailing today. In the past three or four decades, divorce and separation rates have soared, with profound repercussions for divorced and separated women in terms of income security in old age, especially in the case of women who have not personally contributed to a pension programme through their jobs. For example, if a woman's former spouse remarries, she can lose all or part of her entitlement to a survivor's pension.

As mentioned earlier, the pension-system reforms of the 1990s were based on the "multi-pillar" paradigm. This approach encouraged the introduction of principles that followed the logic of private insurance, in which benefits are tailored to individual or household risks. This principle went hand in hand with the introduction of defined-contribution regimes and individual savings accounts. Benefits are determined on the basis of individual/family risks, identified according to the beneficiary's sex and the family's composition (spouse and dependent children). Under defined-benefit regimes, such as those traditionally provided by public pay-as-you-go systems, benefits are calculated using a formula that establishes a rate of replacement of the labour income that was subject to contributions prior to retirement (the average of the past 10 years' earnings, for example). Usually, these benefits are also adjusted according to the number of years for which the person paid contributions. This formula does not have any parameters that explicitly take gender into account. Differences between the benefit amounts paid to men and women arise as a result of different retirement ages or due simply to differences between individual work histories. Clearly, a significant degree of redistribution from men to women is implicit in the system, since women generally outlive men and receive income at higher effective replacement rates owing to minimum benefit rules. One way to assess this factor is to compare the estimated present value of the contributions made with the amount of benefits received throughout the life cycle. The result of this comparison is, on the average, favourable to women since they generally pay contributions for a shorter period than men (because their retirement age is usually lower) and their retirement lasts longer owing to their longer life expectancy.

The most striking change in social security regimes was the introduction of benefits based on individual savings, which are paid according to a formula that explicitly includes gender-related parameters. The life annuities received as from the retirement age are directly linked to age- and sex-specific life tables. This was characteristic of all the structural pension reforms carried out in Latin America.

A prominent feature of the new social security legislation in Latin America is the establishment of "joint annuities", for which benefits are calculated on the basis of not only the age and sex of the direct beneficiary, but also those of his or her dependants. The concept of joint annuities does not mean that the spouses' savings are "pooled" to determine the benefit amount. Rather, the amount depends on the risk parameters associated with the insured; that is, whether the insured has potential survivors. This way of calculating benefits results in some degree of redistribution within the family, since any discrimination against the woman on account of her longer life expectancy is offset by the lower benefit received by the man because he has a spouse. Accordingly, the biggest differences are observed between the benefits received by single men and women with similar work histories. In the case of spouses, the effects of sex-specific life tables tend to be offset because, by law, women are entitled to survivor's benefits upon the death of their spouse – which entitlement reduces the value of the benefits received by married men – whereas men are less likely to receive survivor's benefits, given their shorter life expectancy.

Rofman and Grushka (2003) evaluate the gender impact of the structural social security reform in Argentina. They estimated the replacement rates that would be generated by all representative benefit levels for male and female workers. With respect to benefits under the fully-funded scheme, they observed two factors that have a differential impact on the two sexes: differences in life expectancy and the impact of the flat fees charged by pension fund managers on the capacity for social security saving, since these fees are more onerous for low-paid workers, the majority of whom are women.[4]

The results of the empirical estimates of replacement rates show that, once the system has matured (that is, for workers who retire in or after 2040), women will generally receive replacement rates that are somewhat higher than those of men under the pay-as-you-go option for the second pillar. This is due to the indirect effect of the universal basic benefit and the neutrality of the amounts paid out as defined benefits. Under the fully funded scheme, however, this effect is the opposite, since the advantage obtained by way of the universal basic pension is more than offset by the smaller life annuity.

As noted earlier, the determination of benefits under the fully funded regime has two specific features. For life annuities, the sex of the insured and the existence of eligible dependants are taken into account. Since benefits are reduced in the case of those who are expected to live longer (women) or to generate survivor's pensions upon their death (men who are married and/or have dependent children), these population groups are at a clear disadvantage. Rofman and Grushka (2003) calculate the representative cases of married and unmarried men and women who retire at the legal retirement age (65 and 60, respectively). With the same level of accumulated funds, for example $100,000, and assuming that the man is five years older than the woman, a man will receive a life annuity of $552 if he is married and $724 if he is single, whereas a woman will receive $583 if she is married and $621 if she is single.

Another important consideration is the contribution period required in order to obtain public benefits or minimum pension guarantees; this period is generally long in all the countries. This restriction affects men and women differently because women's contribution density is likely to be lower than men's, limiting their ability to qualify for coverage under these programmes.

As a result of the systems' history and of more recent changes, social protection in old age, measured in terms of the payment of old-age pensions, is generally lower for women than it is for men in Latin America. This is because the systems are eminently contribution-based, as discussed earlier, and because men and women tend to have different work histories. Women continue to have lower labour-force participation rates and lower incomes, which means that their social security savings and entitlement to public benefits and guarantees are also lower.

One phenomenon that runs counter to this trend is the opportunity that fully-funded systems provide for people who have paid contributions for short periods of time. Such individuals can recoup their contributions plus the returns earned on them. Under the old pay-as-you-go systems, these contributions were lost at the level of individual contributors, particularly in the case of women whose participation in the formal labour market was brief and unstable. Thus, the "individual profitability" of these contributions has risen substantially because they can be fully recouped; this situation works to the advantage of people with very low contribution density.

3. The labour market and older persons

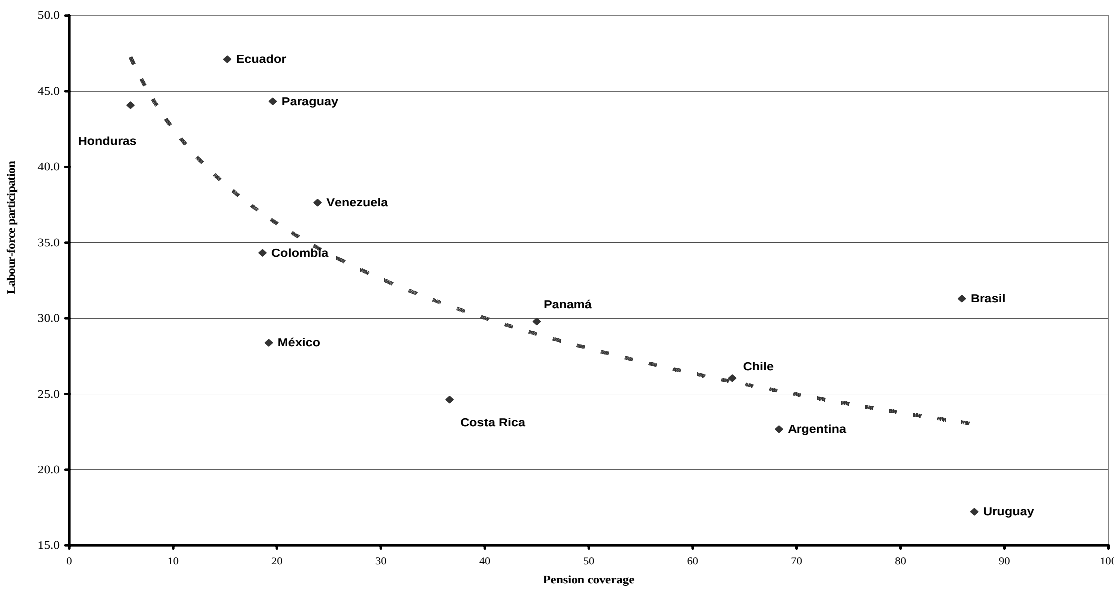
For many households that include older persons, the labour income of such persons represents either the sole source of household income or a sizeable share of it. This situation is reinforced by the limited coverage of social security benefits or the modest level of benefits received through pension systems. On the basis of household surveys, Rofman (2005) reports that, in households that include at least one person over the age of 65, the average share of social security income out of total household income ranges from 38.4 per cent in Peru to 70.6 per cent in Argentina; in households consisting solely of persons over the age of 65, the share of retirement and pension benefits out of total income ranges from 52 per cent in Peru to 89 per cent in Brazil.

Labour-force participation trends among older persons (60 or over) and their linkage to social protection, particularly retirement and pension programmes, have attracted considerable attention in the past decade in developed countries, but little attention in Latin America. The stylized facts observed in many OECD countries show that the trend towards early retirement from the labour force has declined or held steady (Auer and Fortuny, 2002). Moreover, it appears that the older population's economic activity rate has stopped falling. These circumstances, together with a new ageing paradigm that emphasizes the need for "active ageing", have given rise to a debate as to whether these trends have reversed themselves and what public policies should be implemented to reflect this process, in a context of strong pressure to extend the period of economic activity and restrict early access to social security benefits, in the light of financing problems.

In Latin America, studies on the labour situation of older persons are few and far between because public policy initiatives have tended to focus on other population groups, such as young people. The economic and social problems accompanying the population ageing process have made it necessary to pay more attention to the labour situation of older persons, particularly in countries that are at an advanced stage of population ageing or where the ageing processes will progress rapidly in the next two decades. In other countries, the debate is just beginning since the demographic transition is, for them, a new phenomenon.

Figure III shows the close correlation between older persons' social security coverage and their labour-force participation, based on cross-sectional data of the older population in twelve countries of the region. Lack of social security coverage is not the only determinant of labour-force participation, but it seems to be a significant factor in explaining it. Differences within the region (such as those between Brazil and Uruguay) are probably due, in large part, to differences in benefit amounts, as well as to socio-cultural factors and labour regulations influencing the labour-force participation of the over-60 population.

Figure III. Labour-force participation and social security coverage of the population aged 60 or over 2000-2003[a]

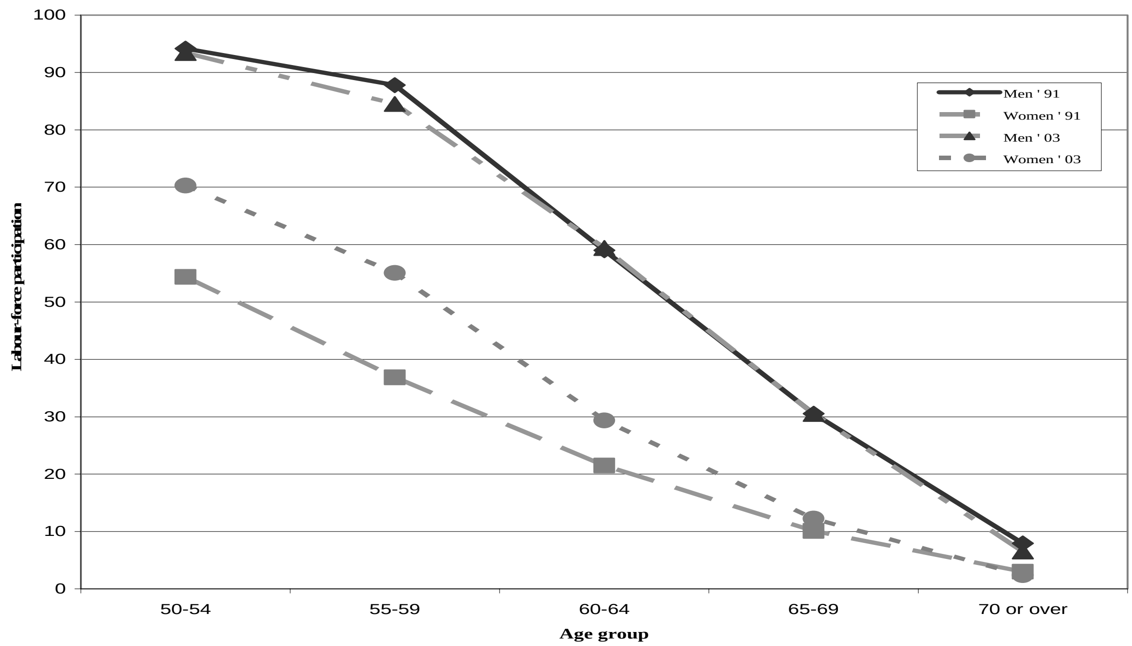


[a] Prepared by the author on the basis of data from Bertranou and Velasco (2005) and Rofman (2005).

Overall trends in labour and social protection indicators since the early 1990s for older persons in twelve Latin American countries reveal the following stylized facts (Bertranou and Velasco, 2005): (i) participation rates have tended to rise, owing primarily to the increase in women's participation; (ii) the over-60 population has low but rising unemployment rates; (iii) most workers over the age of 60, especially men, find employment in the informal sector; (iv) wage employment is relatively uncommon among older persons and is on the decline; and (v) employed persons over 60 gradually work fewer hours as they get older. Another important consideration is the way in which workers make the transition from employment to retirement, since there are institutional factors that either encourage or discourage labour-force participation of older persons. As noted earlier, the pension-system reforms of the 1990s have "toughened" the eligibility requirements for pensions, with the result that older persons with social security coverage tend to receive their benefits later in life.

As in the case of all other socio-economic variables in the region, these findings represent general trends and do not reflect the wide variety of workforce participation patterns and employment trends among people at or near the retirement age. As an example of this, figures IV and V compare the participation levels of different population groups that are either approaching or beyond the age of 60. To illustrate this point, the two figures contain information on the situation in two countries, Uruguay and Honduras. These countries are at opposite ends of the curve in figure III, which shows the proportion of older persons with pension coverage and their participation rates. The most noteworthy findings are the following: (i) in both countries, the labour-force participation rate is high among men, although in Uruguay the rate drops sharply as workers become older, from 90 per cent initially to 10 per cent among men over the age of 70; (ii) women's participation rate is higher in Uruguay and also declines markedly as women get older, from 70 per cent to 10 per cent (2003), whereas in Honduras women's participation is lower and declines from 45 per cent to 15 per cent in the same age groups; and (iii) there were no major changes in men's participation rates between the early 1990s and 2003, but participation rates for women of all ages increased in both countries during the period.

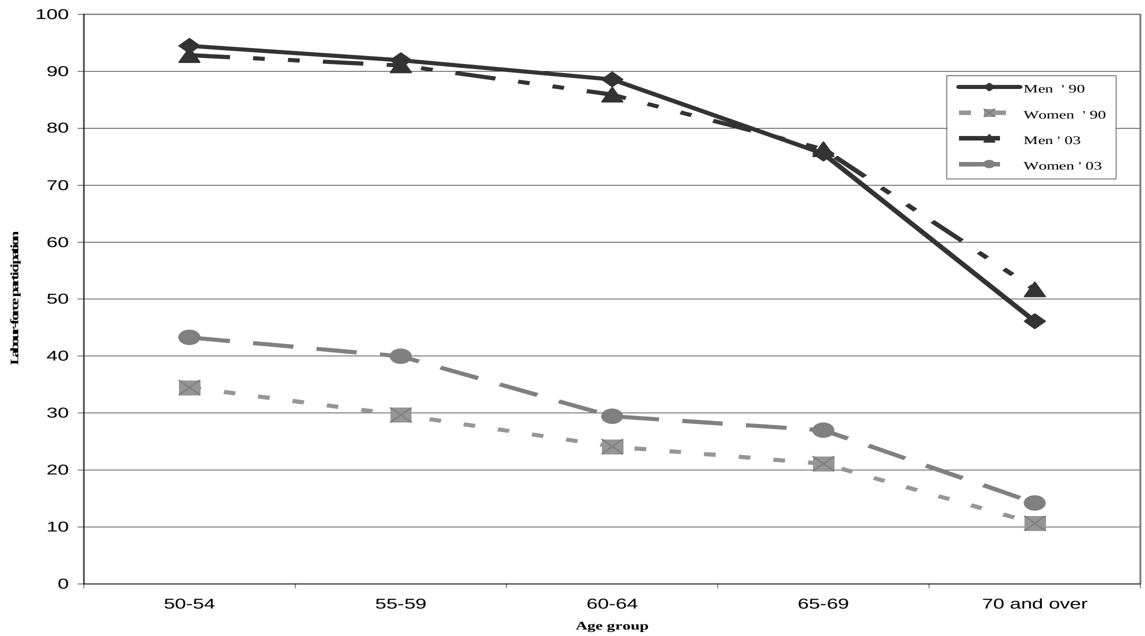
Figure IV. Labour-force participation among men and women aged 50 or over in Uruguay 1991-2003



Source: Bertranou and Velasco (2005).

Lastly, it should be mentioned that there is not enough empirical evidence to account for trends in the labour supply consisting of older persons in the Latin American countries or to identify or predict the effect of regulatory changes in terms of encouraging or discouraging economic activity on the part of this population group. Traditionally, labour policies have reflected the deep-rooted belief that older persons' withdrawal from the labour market leaves more room for the employment of young people; however, the evidence in this regard is not conclusive, particularly in labour markets as segmented as the ones found in most of the Latin American countries. A considerable amount of work is needed on the study and design of interlinked, consistent policies on the labour-force participation and social protection of older persons.

Figure V. Labour-force participation among men and women aged 50 or over in Honduras 1990-2003



Source: Bertranou and Velasco (2005).

E. FINAL REMARKS

A sizeable share of the social protection received by workers and their families in Latin America comes from contributory schemes. This means that individuals' eligibility to receive benefits largely depends on their history of contribution payments to social security programmes, with the result that access hinges on each worker's employment conditions throughout his or her working life. The upshot, for the region, is a "social protection paradox": the workers with the best employment conditions are the ones who receive the most and best protection. An overview of coverage rates among older persons confirms this: the ones with the best coverage are those who had the best opportunities and performance in the labour market during their working lives.

Conversely, the availability and scope of non-contributory, welfare-based social protection programmes are more limited, with the result that the coverage gaps left by contributory programmes are not being closed by non-contributory schemes. This situation is best exemplified by old-age, disability and survivor's benefits. In the case of health-care coverage, there is a better balance between the contributory and non-contributory components, since many benefits are financed out of general revenues and are not contingent on the beneficiary's history of social-security-covered employment. Thus, employment in the formal sector does not guarantee coverage, but it does significantly increase a worker's likelihood of receiving a number of employment and social benefits.

Accordingly, the configuration of the social protection system for old age will continue to exhibit certain undesirable characteristics such as fragmentation and lack of standardization. However, it is possible to strengthen approaches such as universality, which would involve giving all workers access to at least a basic level of social protection, and solidarity and equity, which would mean that workers would contribute to the programmes' financing according to their capacity to pay. To introduce such changes in the medium term, steps will need to be taken towards the design of a uniform, universal first pillar. This alternative is viable in some countries, such as Argentina, Chile, Costa Rica and Uruguay, where the structure and scope of minimum pensions and welfare pensions could be conceptually redefined. In countries that have less fiscal capacity to expand social expenditure on older persons and that also have other important social policy priorities, the first pillar (poverty alleviation) will undoubtedly have to be more limited and better targeted. Since population ageing in such countries has not yet reached significant proportions, the expansion of the coverage of this first pillar can be achieved more easily and gradually.

The most important point in relation to the general concept of social policy and the restructuring of the retirement and pension system is unquestionably the resulting balance between the individual and collective responsibilities that must be assumed by stakeholders in order to cope with the contingencies of old age, disability and death. Strictly contributory schemes funded through individual contributions are based on individual responsibility. This means that the "premiums" and/or benefits are adjusted in accordance with each individual's work history and risks. These new features are also having a significant gender impact. Alternatives to this extreme contributory/individual scheme transfer part of the responsibility to a more collective level (company, State). In recent years there seems to have been a growing interest in partially restoring the balance between individual and collective responsibility, or at least not deepening reforms that reinforce the contributory/individual aspect of social protection.

Another issue concerns the need to conceive of the social protection system as a whole, instead of taking a fragmented approach to the social risks faced by each individual in the course of his or her life cycle. Given the increase in life expectancy, for older persons the greatest risk inherent in this increased longevity is, to a growing extent, the inability to pay for health care rather than the inability to generate or replace income. In the near future, the design of social protection systems should not be fragmented into health insurance, disability insurance and old-age insurance. Indeed, old age is just a time of accelerating health and disability risk (Shiller, 2003). Thus, it is important to address not only the contingency of old age itself, as traditionally conceived, but also the whole range of risks that increase in the final stage of life.

Lastly, the legal retirement age is a key variable of pension systems, given its impact on the systems' financial viability at the aggregate level and on the degree of coverage at the individual level, particularly in cases where benefits are derived from individual savings. In terms of public financing, increasing the legal retirement age could be technically the easiest variable to manage in a reform, but politically the most difficult one, as it is likely to meet the most resistance. Moreover, women are negatively affected by the different legal retirement ages for men and women under systems that have introduced individual accounts; however, socially this is not a major issue on the future reform agenda.

Along with the discussion on the legal retirement age in terms of its significant potential as a means of adapting retirement and pension systems to the countries' new demographic profile, the labour market for older persons must be taken into account. The labour supply consisting of workers over the age of 60 is expanding, for various reasons. Policymakers should therefore consider the need for a comprehensive approach that ensures consistency between labour and social security policies, with a view to strengthening the protective role of income and the productive potential of the labour force in the final stage of the life cycle.

ENDNOTES

[1] The concepts of social security and, more recently, social protection are constantly evolving and can be interpreted in a number of different ways. The traditional concept of social security includes any regime or programme based on legislation or any other statutory obligation which guarantees protection, through the provision of benefits in cash or in kind, in the event of work accidents, occupational diseases, unemployment, maternity, illness, disability, old age, retirement, survivorship or death, and encompasses, *inter alia*, benefits for children and other family members and benefits for the purposes of health care, prevention, rehabilitation and long-term care. The term may include social insurance, social assistance, mutual benefit schemes, social insurance funds and other special regimes. The concept of social protection is even more comprehensive, as it refers to the whole spectrum of actions taken by public and private entities to help households and individuals cope with a series of life contingencies or risks (Cichon and others, 2004). Accordingly, this definition reflects the modern view of social protection based on three pillars: (i) access to basic goods and services; (ii) protection and prevention; and (iii) promotion of opportunities.

[2] In this document, "older persons" means individuals aged 60 years or over, unless otherwise specified.

[3] The country classification in ECLAC (2004) was based on the total fertility rates and ageing indices posted by the countries of the region in the 1990s. For this article, some of the countries were reclassified according to estimates published more recently in United Nations (2005). Some countries may change categories if new census data result in significant corrections of the estimates.

[4] These fees were subsequently eliminated in Argentina.

REFERENCES

Auer, Peter and Mariàngels Fortuny (2002). *Ageing of the labour force in OECD Countries: economic and social consequences*. Geneva: International Labour Office.

Bertranou, Fabio M. and Octavio Jiménez-Durán (2005). Social protection in Latin America: the challenges of heterogeneity and inequity. *International Social Security Review*, Vol. 58, Nos. 2-3, pp. 3-14.

Bertranou, Fabio M. and Jacobo Velasco (2005). *Tendencias indicadores de empleo y protección social de adultos mayores en América Latina* (preliminary draft). Santiago, Chile: International Labour Office.

Bertranou, Fabio M., Wouter van Ginneken, and Carmen Solorio (2004). The impact of tax-financed pensions on poverty reduction in Latin America: evidence from Argentina, Brazil, Chile, Costa Rica and Uruguay. *International Social Security Review* , Vol. 57, No. 4.

Bravo, Jorge (2000). Population ageing and pension systems in Latin America. *CEPAL Review* No.72 (December).

Cichon, Michael and others (2004). *Financing social protection*. Geneva: International Labour Office, International Social Security Association.

Economic Commission for Latin America and the Caribbean (ECLAC) (2004). *Population, ageing and development* (document prepared for the thirtieth session of ECLAC in San Juan, Puerto Rico on 28 June-2 July).

Gill, Indermit, Truman Packard and Juan Yermo (2005). *Keeping the promise of social security*. Stanford University Press and the World Bank.

International Labour Office (2002). *Social security: a new consensus*. Geneva: International Labour Office.

Mesa-Lago, Carmelo (2004). Las reformas de pensiones en América Latina y su impacto en los principios de la seguridad social (ECLAC/German Agency for Technical Cooperation (GTZ) project on development and social equity in Latin America and the Caribbean). *Financiamiento del desarrollo* series, No. 144.

Mesa-Lago, Carmelo and Fabio M. Bertranou (1998). *Manual de economía de la seguridad social.* Uruguay: Centro Latinoamericano de Economía Humana (CLAEH).

Rofman, Rafael (2005). Social security coverage in Latin America. *Social Protection Discussion Paper Series*, No. 0523 (May).

Rofman, R. and Lucchetti (2005). *Social security coverage in Latin America since the early 1990s.* Washington, D.C.: World Bank.

Rofman, Rafael and Carlos Grushka (2003). Protección social, jubilaciones, pensiones y género en Argentina. In *Protección social, pensiones y género*, F. M. Bertranou and A. A. de Mesa, eds. Santiago, Chile: International Labour Office.

Shiller, Robert (2003). Social security and individual accounts as elements of overall risk-sharing. *American Economic Review*, Vol. 93, No. 2, pp. 343-347.

Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2004), *World Population Prospects: The 2004 Revision*, http://esa.un.org/unpp

Uthoff, Andras, Jorge Bravo, Cecilia Vera, and Nora Ruedi (2005). Cambios demográficos por edades de la población, transferencias intergeneracionales y protección social en América Latina. *Workshop on demographic transformations, intergenerational transfers and social protection in Latin America*, Santiago, Chile: 6 and 7 July.

World Bank (1994). *Averting the old age crisis (*a World Bank Policy Research Report). Oxford University Press.

World Bank (2004). *Informe del gasto público para lograr sostenibilidad fiscal y servicios públicos eficientes y equitativos* (Bolivia). World Bank, Inter-American Development Bank, Ministry of Finance **of Bolivia (????)** , www.bancomundial.org.bo

ANNEX

TABLE A.1 GROWTH RATES OF THE POPULATION AGED 60 OR OVER AND THE TOTAL POPULATION IN LATIN AMERICA
1970-2050

Period	*Annual population growth rates (per cent)*	
	Aged 60 or over	*Total*
1970-1975………………………..............	2.78	2.46
1995-2000………………………..............	3.18	1.56
2020-2025………………………..............	3.64	0.87
2045-2050………………………..............	1.83	0.22

Source: United Nations (2005).

TABLE A-2. DISTRIBUTION OF THE TOTAL POPULATION BY MAJOR AGE GROUP IN LATIN AMERICA
1975-2050

	Proportion represented by each age group (per cent)		
Year	*Ages 0-14*	*Ages 15-59*	*Ages 60 or over*
1975………………….	41.3	52.2	6.5
2000………………….	32.0	59.9	8.1
2025………………….	23.3	62.2	14.5
2050………………….	18.1	57.8	24.1

Source: United Nations (2005).

TABLE A-3. ABSOLUTE AND RELATIVE SIZE OF THE POPULATION AGED 60 OR OVER BY COUNTRY IN LATIN AMERICA
1975-2050

	Population aged 60 or over (thousands)				*Proportion represented by the population aged 60 or over (per cent)*			
Country	*1975*	*2000*	*2025*	*2050*	*1975*	*2000*	*2025*	*2050*
Latin America and the Caribbean……………..	**21 028**	**42 331**	**100 672**	**188 317**	**6.5**	**8.1**	**14.5**	**24.1**
Argentina…………….....	2 971	4 988	7 874	12 766	11.4	13.5	17.1	24.8
Bolivia………………….	263	538	1 175	2 612	5.5	6.5	9.5	17.5
Brazil…………………...	6 499	14 055	35 147	63 307	6.0	8.1	15.4	25.0
Chile……………………	813	1 584	3 920	5 920	7.8	10.3	20.3	28.7
Colombia……………….	1 419	2 913	8 039	15 324	5.6	6.9	13.9	23.3
Costa Rica……………...	141	300	889	1 702	6.9	7.6	16.0	26.5
Cuba……………………	928	1 505	2 965	3 677	10.0	13.5	26.1	37.7
Ecuador………………...	421	911	2293	4 429	6.1	7.4	13.6	23.0
El Salvador……………..	195	455	968	2 275	4.7	7.2	10.7	21.0
Guatemala……………...	280	663	1 410	3 440	4.5	5.9	7.4	13.4
Haiti……………………	345	467	821	2 042	7.0	5.9	7.6	15.7
Honduras……………….	125	335	882	2 258	4.1	5.2	8.6	17.7
Mexico…………………	3 349	6 938	18 336	38 063	5.6	6.9	14.2	27.4
Nicaragua………………	105	230	624	1 762	4.0	4.6	8.1	18.8
Panama…………………	112	234	609	1 164	6.5	7.9	14.3	22.9
Paraguay………………..	191	291	859	1 964	7.2	5.3	9.5	16.2
Peru…………………….	843	1 852	4 481	9 232	5.6	7.1	12.4	21.7
Dominican Republic…...	234	472	1 256	2 648	4.6	5.7	11.2	20.9
Uruguay………………..	400	576	776	1 078	14.1	17.2	20.2	26.7
Venezuela………………	628	1 650	4 823	9 421	4.9	6.8	13.6	22.4

Source: United Nations (2005).

TABLE A-4. AGEING AND DEPENDENCY INDICES BY COUNTRY IN LATIN AMERICA
1975-2050

	Ageing index[a] (per cent)				*Dependency ratio[b] (per cent)*			
Country	*1975*	*2000*	*2025*	*2050*	*1975*	*2000*	*2025*	*2050*
Latin America and the Caribbean……………..	**15.8**	**25.3**	**61.9**	**133.2**	**12.5**	**13.5**	**23.2**	**41.6**
Argentina……………….	39.0	48.3	77.6	139.8	19.2	23.1	28.0	43.3
Bolivia………………….	3.5	5.2	11.6	28.6	10.8	12.0	15.4	28.0
Brazil…………………...	14.9	27.3	69.4	141.1	11.2	13.0	24.7	43.7
Chile……………………	21.1	37.0	104.6	173.7	14.1	16.6	33.8	52.3
Colombia……………….	12.9	21.1	58.4	128.6	11.0	11.5	22.4	39.9
Costa Rica…………….........	16.6	24.0	76.9	156.3	13.3	12.6	25.4	46.8
Cuba……………………	26.9	64.0	172.7	277.9	19.1	20.7	44.5	77.4
Ecuador………………...	13.9	21.5	55.7	125.6	12.2	12.7	22.0	39.3
El Salvador……………..	10.4	20.4	41.0	109.0	9.5	12.7	16.9	35.2
Guatemala……………...	10.1	13.5	21.2	59.1	8.9	11.9	12.7	21.0
Haiti……………………	17.1	14.5	24.3	68.3	13.5	11.0	12.3	25.6
Honduras……………….	8.6	12.5	29.5	89.5	8.7	9.8	13.9	28.2
Mexico…………………	12.1	20.6	64.7	163.9	11.9	11.7	22.2	49.0
Nicaragua………………	8.3	11.0	28.5	96.4	8.4	8.7	12.8	30.5
Panama…………………	15.2	24.9	59.3	123.6	12.8	13.2	23.1	39.0
Paraguay………………..	16.5	13.4	31.6	72.4	14.6	9.7	15.7	26.5
Peru…………………….	12.9	20.7	49.4	115.5	10.9	12.2	19.8	36.4
Dominican Republic…...	10.1	16.3	43.2	107.8	9.3	9.6	17.9	35.0
Uruguay………………...	51.0	69.6	98.9	156.9	24.3	29.7	33.9	47.3
Venezuela………………	11.4	20.1	55.6	121.4	9.5	11.3	22.0	38.0

Source: United Nations (2005).

[a] Ageing index = (population aged 60 or over / population 0-14) x 100.
[b] Dependency ratio = (population aged 60 or over / population 15-59) x 100.