

# 7 Saving for the Future: Pension Systems

Pension systems in Latin America and the Caribbean are broken. To begin with, they cover less than half the population. Moreover, flaws in structure and financing make some of them unsustainable, even for this limited beneficiary population. The approaching end of the demographic dividend only magnifies these problems. Since pensions are the main vehicle through which households save for retirement, the pension crisis is effectively a saving crisis.

As populations in Latin America and the Caribbean age, many countries face a steep road ahead to provide economic security for a growing number of retired adults. The design and performance of pension systems will be crucial to ensure that enough resources are provided to the elderly, without compromising growth and the prospects of future generations.

Policymakers around the world are struggling with this trade-off between generations. Latin America and the Caribbean faces particular challenges, ranging from high inequality, low coverage, and lack of pension adequacy (Bosch, Melguizo, and Pagés, 2013) to fiscal sustainability (Gill, Packard, and Yermo, 2005).

Preparing Latin American and Caribbean countries will require not only more and better savings, but also important changes in the way individuals and countries think about work life and retirement. This will not be easy. Pension systems are deeply embedded in the architecture of the welfare state and even the constitutional design of some countries. There are intense ideological divides as to which system best provides pensions, how to finance them, how much risk individuals should assume, and how much income redistribution to lower-income people is needed within and across generations.

Unfortunately, in most Latin American and Caribbean countries, systems are not ready to face the demographic transition and need to be

thoroughly rethought to ensure that the great majority of elderly have an adequate pension in the future without compromising other development objectives. When it comes to saving for the future, pensions are at the center of the debate.

## Newer Systems for Older Populations

Over the past three decades, reforms have led to a variety of pension systems in the region. Most countries in the region have a defined-benefit system, usually PAYG (only some partially funded). Nine countries have defined-contribution systems, which usually coexist with some defined-benefit pillar. Despite these reforms, one thing is clear: contributory pension systems will not provide income security to most Latin American and Caribbean citizens in their old age. Only 45 percent of workers in the region contribute to a pension system, many of them irregularly (see Chapter 6). This is particularly true among the self-employed, low-income workers, young workers, and women. Therefore, coverage through these systems is and will remain limited without further reforms.

How benefits are determined and financed seems to have little impact on the participation of workers in the system. Regardless of the type of system, social security coverage is low (Bosch, Melguizo, and Pagés, 2013). Low coverage is rooted in the fact that most systems were designed to cover only salaried employees, leaving the self-employed outside the system. Moreover, many firms do not register their employees. Preparing pension systems for the future will require expanding coverage. However, other challenges need to be addressed as well—some of them before extending coverage. These range from building up savings to ensure the systems' long-term sustainability to improving public information about pensions and how they work. Some issues will be more acute under one pension system than another, and countries will have to respond differently, depending on how pensions are determined and financed. Consequently, the characteristics of the system will matter.

## PAYG/Defined-Benefit Systems: Promises, Promises

All pension systems in the world were initially designed as defined-benefit systems—either partially funded or fully unfunded, pay-as-you-go schemes (referred to here as PAYG/DB). This has important implications for national savings. From the perspective of workers, this arrangement

looks very much like savings. The government takes part of their salary (around 15 percent, on average, in the region), and puts it away, preventing the worker from using those resources for consumption. However, that money is immediately spent to pay for current pensions, so governments are not saving in a pure PAYG system. Moreover, workers are not saving at all; they are just buying the promise of a future pension.

PAYG/DB systems generally offer contributors some positive features. They provide insurance against changes in returns (the pension does not depend on the return of any specific asset), and against longevity (the pension provides an annuity until the end of the beneficiary's life). In a solvent PAYG/DB system, the return to the "saving" implied by participation in the system is the same as the growth rate of the wage bill.

Two additional characteristics of these systems are particularly important and determine most of the challenges they will face in the future. First, for their long-term sustainability, they depend dramatically on the ratio of contributors to pensioners (as pensions are financed with current contributions). Thus, in an aging world, the parameters that determine benefits in PAYG systems must be changed periodically and sustainability must be monitored. Unfortunately, few systems do this, which partially transfers these risks back to individuals at some point. Second, there is substantial implicit redistribution within the system, since the benefit rules do not perfectly match contributions with benefits. Understanding this redistribution is crucial to evaluating the performance of these systems. For instance, since longevity is largely linked to wealth, any pension system could be considered regressive, as relatively rich individuals enjoy longer lives (National Academies of Sciences, Engineering, and Medicine, 2015). In Latin America and the Caribbean the effect is magnified because high-income workers are most likely to qualify for the generous rules offered by DB pension systems. Main challenges for PAYG/DB systems include aspects related to sustainability, adequacy, and redistribution, as well as institutional arrangements.

### ***Sustainability***

The region spends a lot on pensions, despite low coverage and a relatively young population (see Box 7.1). Although measuring pension spending is not as easy and transparent as it should be, the orders of

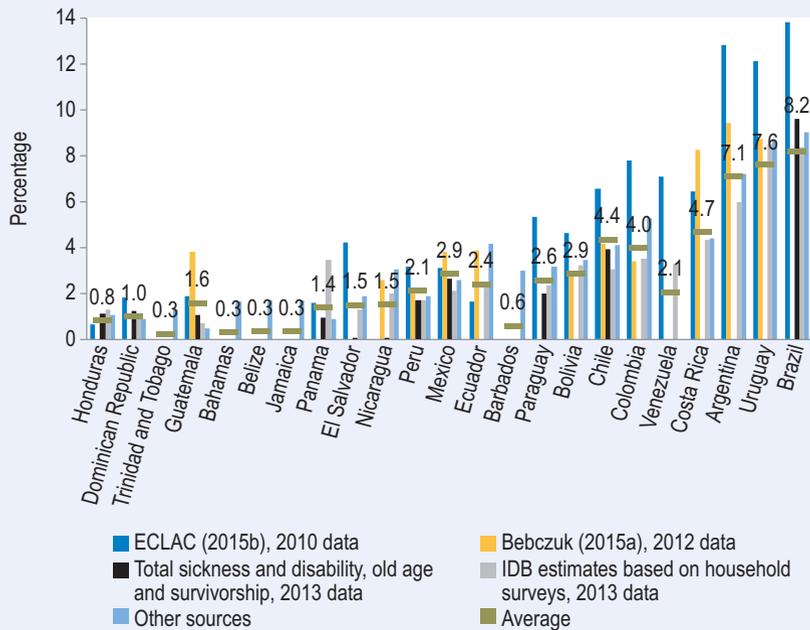
### BOX 7.1. HOW MUCH IS SPENT ON PENSIONS TODAY?

This chapter reports several measures of pension spending. Methodology and coverage vary across studies. As can be seen in Figure B7.1, although there is some disparity among sources, the orders of magnitude are clear. High-coverage countries like Argentina, Brazil, and Uruguay spend more than 6 percent of GDP on pensions, while Central American countries with relatively young populations and low coverage spend between 1 and 2 percent of GDP.

Pension spending may very well be the largest single expenditure line in the budgets of many governments around the world. On average, it represents 18 percent of government expenditure in OECD countries (OECD, 2015a).

It is remarkably difficult to figure out how much many Latin American and Caribbean countries spend on pensions. It is even more difficult to predict how much these countries will have to spend on pensions in the future. This report draws on primary data (administrative records and government

**Figure B7.1 Pension Expenditure as a Share of GDP**



Source: Authors' elaboration based on ECLAC (2015b); Bebczuk (2015a); IDB's fiscal database; household surveys; and other sources, including fiscal sector and country economists of the Inter-American Development Bank and Lustig, Pessino, and Scott (2014). Specific country sources include, for Argentina, Lustig and Pessino (2013); for Bolivia, Paz Arauco et al. (2014); for Brazil, Higgins and Pereira (2014); for Chile, Ruiz-Tagle and Contreras (2014); for Colombia, Meléndez (2014); for Costa Rica, Sauma and Trejos (2014); for Ecuador, Llerena Pinto et al. (2015); for El Salvador, Beneke, Lustig, and Oliva (2015); for Guatemala, Cabrera, Lustig, and Morán (2015); for Mexico, Scott (2014); for Peru, Jaramillo (2014); for Uruguay, Bucheli and others (2014).

(continued on next page)

**BOX 7.1. (continued)**

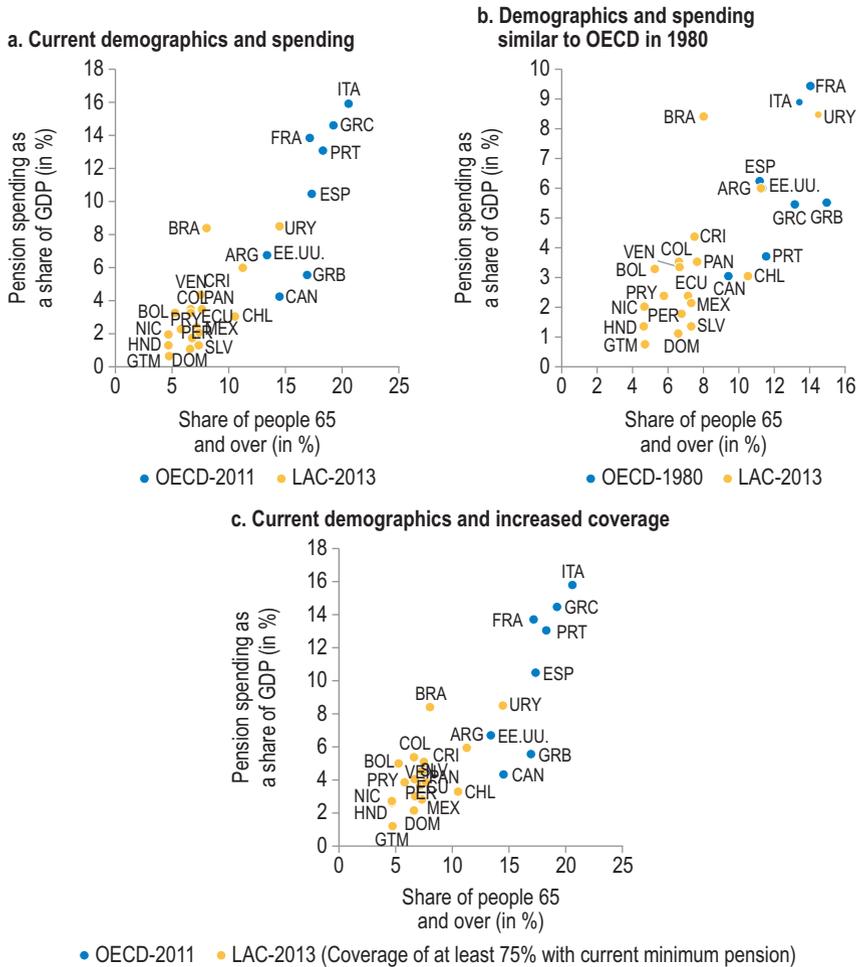
budgets) and secondary data (household surveys) to grasp the fiscal burden countries face in meeting their pension commitments.

Why is it so difficult to obtain reliable information on the amount countries in the region spend on pensions? First, pension regimes within countries are often quite fragmented. Some countries have different regimes for public and private employees. Some countries have occupational regimes for teachers, the military, and public servants. Peru has 14 different pension regimes. Large federal countries like Brazil and Mexico not only have public federal systems, but also systems for state public employees, and even (in the case of Brazil) municipal governments. Second, data are not centralized in most countries. The labor histories of many workers are still recorded with paper-based systems or are undocumented. Contributors often must provide documents or witnesses to certify the contributions they have made during their entire active working age. Third and more importantly, few countries have an accountability mandate that forces them to make spending on pensions more transparent and easier to scrutinize. Few legal and institutional settings systematically require countries to publish information on pension spending in a centralized manner, accounting for all the special regimes and subnational governments. It is even rarer to find information about the actuarial long-term financial situation of pension funds. This type of calculation requires information that might not be available or sufficiently well organized.

magnitude of pension spending in the region are on par with, if not greater than, pension spending in high-spending, advanced European countries such as France, Greece, Italy, and Spain.

Argentina and Uruguay, which have relatively high coverage (and a relatively older population by Latin American and Caribbean standards), spend about the same as France, Greece, Italy, and Spain, and spend significantly more than low-spending OECD countries such as Canada, the United Kingdom, and the United States (Figure 7.1). Because current demographics vary widely (Figure 7.1, panel a), these levels are perhaps better illustrated by comparing what OECD countries were spending when their demographics resembled those of Argentina and Uruguay (Figure 7.1, panel b). Back in 1980 (the earliest year for which comparable data on pension spending are available), France and Italy had similar demographics to Uruguay today and were spending slightly more than Uruguay is spending today. Similarly, Argentina's demographics and spending resembled Spain's in 1980, and pension expenditures were almost identical.<sup>1</sup>

**Figure 7.1 Pension Spending and Aging in Select Latin American and Caribbean and OECD Countries, 2011–13**



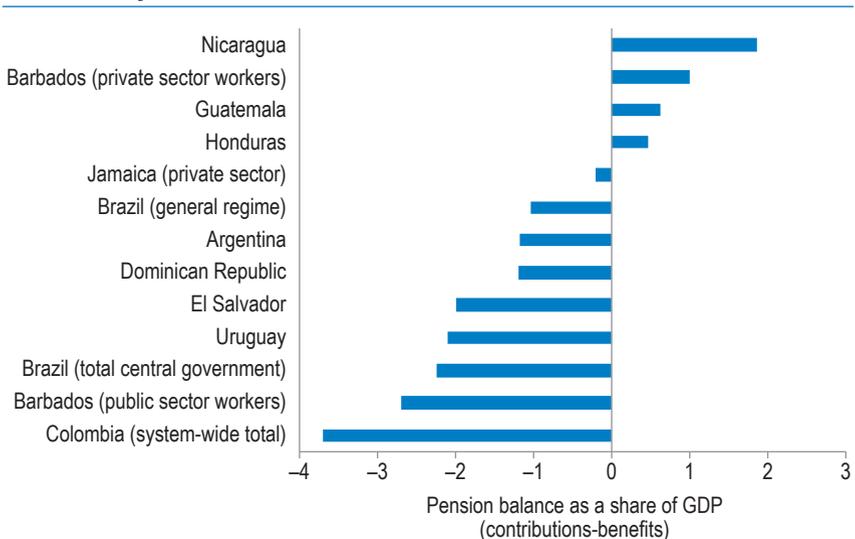
Source: Authors' calculations based on the IDB's Labor Markets and Social Security System Indicators database, OECD (2014b), CELADE (2015), and United Nations (2015).  
 Note: Pension spending in Latin America and the Caribbean is calculated by multiplying average pensions by the share of pension recipients using household surveys.

Brazil deserves special mention. In 2015, some 8 percent of its population was aged 65 and over. Yet its spending on pensions was similar to what France and Italy were spending in the 1980s, and they were much older at that time (with 14 percent of the population 65 and older). Estimates by Clements et al. (2011) suggest that, if unreformed, Brazil will be spending 16 percent of GDP on pensions in 2050.<sup>2</sup>

Pension spending is lower in most other countries in the region, thanks more to lack of coverage than adequate sustainability. Most countries spend between 1.5 and 4 percent of GDP on pensions. If countries enjoyed relatively higher coverage, the fiscal picture would look very different. A simple simulation in which countries achieve 75 percent coverage providing the minimum mandated pension to those who do not have a pension today, would significantly elevate costs and put many countries on the spending level of countries like Canada, the United Kingdom, and the United States, (low-spending OECD countries) with much younger populations (Figure 7.1, panel c).

This spending is not backed up by contributions and, in some cases, such large expenditures go to a very small portion of the elderly population. Despite the relative youth of countries, some PAYG/DB systems cannot cover pension spending with contributions and must fund them with additional government revenue (Figure 7.2). Pension imbalances in Argentina and Brazil already absorb more than 1 percent of GDP. Countries that reformed their systems partially or totally like Colombia, El Salvador, or the Dominican Republic during the 1980s and 1990s face significant deficits during their transition periods.

**Figure 7.2 Difference between Contributions and Benefits in Select PAYG/DB Systems**



Source: Authors' calculations; Colombia (Bosch et al., 2015), Barbados public sector workers (Eckler, 2014), Brazil, Uruguay, Dominican Republic, Honduras, Guatemala (IDB's fiscal database), for Brazil general regime (Ministry of Social Security, Brazil), Jamaica private sector (Hall, 2014).

### **BOX 7.2. MANDATORY INDEPENDENT ACTUARIAL REVIEWS**

Long-term commitments of PAYG/DB plans should be followed closely; thus sustainability should be adequately monitored. Given the impact of demographic changes on liabilities, actuarial studies are required. This type of assessment considers the parameters of the model, projections of contributions and pension payments, and the evolution of any reserves. In terms of contributions, the number of workers depends significantly on the number of working-age people in the future, labor market participation, and wage growth. In terms of pension payments, a critical variable is the number of people who retire and how long they will live. Projections also depend on future rates of return for any reserves.

While these studies are very important, technical robust analysis is not always possible because of lack of information. One very important piece of information is life expectancy, with projections of mortality for the long term. Many countries use life expectancy tables based on other countries, like Chile or the United States. Another important source of information needed to project the growth of the system is the history of contributions, which is not always complete.

In Jamaica, an actuarial analysis is required by law every five years. The last actuarial study was finished in March 2013. The National Insurance Scheme in Jamaica is a PAYG/DB system that is partially funded. According to the 2013 study, reserves in the base scenario will be depleted by 2033. The study proposes specific measures to extend sustainability. The government is considering alternatives to proactively improve the system's long-term financial stance.

In Barbados, an actuarial analysis is required every three years. This review has helped bring about adjustments in the parameters of the pension system. For instance, in 2002, to address medium-term sustainability problems, contribution rates were increased to 20 percent of wages and the retirement age was increased to 67 by 2018 (it is currently 66). Despite these reforms, the 2008 actuarial review projects that contributions will be sufficient to cover all expenditures only up to 2022, and that the fund will be completely depleted by 2068.

In Caribbean countries like Barbados and Jamaica, the public PAYG/DB pension systems for private sector workers are more in balance, but actuarial reviews (see Box 7.2) point to upcoming deficits that will require substantial reforms. Public sector schemes in Barbados, although already reformed, still absorb almost 3 percentage points of GDP directly from general revenues. Other relatively younger countries with very low coverage, such as Honduras and Nicaragua, still pay out less to beneficiaries than what they collect in their mandatory pension systems.

These pension imbalances also illustrate a critical characteristic of PAYG/DB systems: the parameters that are supposed to balance contributions and benefits adjust very slowly to changes in demographics. In principle, minor imbalances in PAYG/DB systems could be fixed by fine-tuning parameters such as retirement ages or contribution rates. However, changing these parameters tends to be very unpopular and is rarely done unless a fiscal crisis is imminent, or they can be made very slowly.

Without reforms, these imbalances of PAYG systems will worsen in the decades to come, increasing fiscal pressure, drawing down future government resources (dissaving), and shrinking resources available for other important areas like education or infrastructure. Not only are these systems an inadequate saving mechanism for individuals, the pressure they place on government finances compromises public saving as well. The countries that switched to defined contribution systems will eventually reduce their deficits, but in the short term these imbalances are exacerbated and budget pressures will persist for many decades.<sup>3</sup>

### ***Adequacy and Redistribution***

Some of the sustainability problems stem from the generosity of benefits for those covered by the system. In general, in Latin America and the Caribbean the rules determining pensions in the PAYG/DB systems are very generous compared even to richer countries, especially for workers who have contributed for many years. This does not necessarily mean that pensions are high for all retirees.

The generosity of the system is determined by how much a beneficiary (and a beneficiary's dependents) will receive compared to how much they contributed. These two seemingly easy concepts are not easy to quantify and are influenced by parameters such as retirement age, contribution rates, the benefit rule, the survivors benefit, and other less-obvious factors such as wage growth or the interest rate assumed (see Berstein, Bosch, and Oliveri, 2016). Around one-half of the average pension in PAYG/DB systems in the region is not financed by contributions and will have to be subsidized by the government if parameters of the system remain unchanged. In some countries, up to 75 percent of the pension is subsidized. This subsidy must be financed by general revenues.

However, most of the generous benefits implicit in PAYG/DB systems are currently accrued by higher-income pensioners. This is a direct

consequence of the inequality in coverage. Perversely, benefit rules, combined with low coverage, sometimes result in redistribution from low-income workers to high-income workers. If rules stipulate that retirees who did not contribute a minimum number of years (vesting period) are not entitled to a pension, in many cases workers who did not contribute or contributed to the system for just a few years do not receive a pension benefit (Berstein and Puente, 2015). For instance, in Colombia's PAYG/DB pillar, around 65 percent of workers that have contributed to pensions will not qualify for a pension (Bosch et al., 2015). Thus, their contributions are paying for, or "subsidizing," benefits that will flow to high-income workers. Some 80 percent of all subsidies in Colombia's PAYG system flow to the richest 20 percent (Lasso, 2006).

### *Institutional Arrangements*

Despite the large amount of public resources that PAYG/DB systems require, transparency and sustainability monitoring are limited. For some countries it is difficult to know exactly how much is being spent on pensions, because of the multiplicity of systems and subnational levels. Furthermore, lack of data or the inability to process it, makes it difficult for many countries to foresee or estimate future liabilities. Very few countries have a clear protocol to undertake sustainability monitoring or the capability to implement it. This, in turn, impairs the policy debate and hampers efforts to fashion an agenda for reform. Some countries are taking advantage of sustainability monitoring and are making progress in implementing parametric reforms to their systems; at the same time, they are raising public awareness by communicating the financial stance of pension systems.

Transparency and governance are relatively weak in the region. Souto and Musalem (2012) developed a Transparency and Governance Index (TGI) for National Public Pension Funds and ranked 83 countries, including 14 Latin American and Caribbean countries.<sup>4</sup> No country in the region was in the top 10; the highest-ranked countries were Mexico and Costa Rica, with 22 out of 33 points. Weak governance is an important issue, as it can impair the investment performance of pension funds (Yang and Mitchell, 2008; Hess, 2005). Policymakers always face short-term demands; strong institutions must be able to withstand such pressure and prepare societies for the eventuality of increasing longevity.

## *Recommendations*

Lack of coverage is the main challenge faced by pension systems. This will increase pressure to relax access to benefits (Bosch and Oliveri, 2015) or establish noncontributory pensions (discussed later in this chapter) to alleviate poverty in old age. Under this scenario, increasing coverage while monitoring the sustainability of PAYG/DB systems would become even more critical.

Three general principles guide possible reforms:

- *Rethink fundamental parameters to adapt to the demographic change.*

To deal with the demographic transition, PAYG/DB systems need to adjust their fundamental parameters. How and when will be a matter of preference and political will, but inevitably these reforms will have to address benefit rules, retirement ages, and contribution rates. Systems that adjust sooner rather than later could distribute the impact of longevity in a more equitable way across generations. Given high levels of labor informality, raising contribution rates does not seem as viable an option as in developed countries. Automatic adjustments to demographic changes (for instance, indexation of retirement to longevity every five years) are preferable to swift reforms. A number of OECD countries, including Spain, have followed this path. Others have established a so-called Notional Defined Contribution arrangement, in which benefits depend on the entire working life, interest rates, and longevity, as in the case of Italy (OECD, 2014).

- *Build reserves whenever possible.*

Public, defined benefit systems can save for the future (fund the system). Actuarial studies need to determine the level of assets required to assure that future liabilities would be covered. Regulators of defined benefit systems usually require minimum levels of funding, which in some cases is 100 percent, as in the Netherlands (IOPS, 2012). Building reserves imposes a challenge in terms of how they are invested. Accumulated savings should be aimed at increasing growth and productivity. Adequate regulation, sound investment policies, and good governance are needed to pursue long-term objectives. Appropriate management of assets and liabilities should be the main

driver of decisions. Countries like Norway (Government Pension Fund) and Chile (Pension Reserves Fund) created special funds to finance their PAYG systems. Adequate governance is crucial for such arrangements.

- *Improve information and increase public awareness.*  
Reforms will be better informed and implemented if information is available and the consequences of action or inaction are explicit. Improving data collection and dissemination, periodic independent actuarial analysis, continuous policy debate, public awareness campaigns, and transparency are requisites to implement reforms.

### Defined Contribution Systems: A Work in Progress

Faced with the fiscal imbalances of the PAYG/DB systems, many countries switched to defined contribution systems pioneered by Chile in 1981 and followed by eight other countries in the 1990s (World Bank, 1994). In contrast to the PAYG/DB systems, in fully funded defined contribution (FF/DC) systems, workers' contributions are saved in an account and invested. Unlike PAYG/DB systems, these are real savings that are invested. Nevertheless, as mentioned earlier, transition from one system to another risks exacerbating some preexisting imbalances for a long period of time.

With the transition to DC systems, some challenges remained while new ones emerged. First, coverage did not improve. In the transition to DC systems, the hope was that coverage rates would increase. These expectations did not materialize, in large part because nothing intrinsically changed in the labor market (the cause of low coverage). The main challenge for FF/DC remains increasing coverage.

A second significant challenge for FF/DC systems relates to the provision of longevity insurance. In a DC arrangement the retiree can withdraw all funds at once, schedule withdrawals for the retirement period, or purchase an annuity. The only way the retiree is insured against outliving his savings (one of the main objectives of pension systems) is by purchasing an annuity, something that less than half of pensioners in these systems are doing today.

Third, a crucial challenge for these systems is to assure efficiency in terms of returns and costs, which in many cases depends on competition among providers. Given the lack of knowledge and engagement by

participants, competition among providers does not necessarily resolve the problem.

A number of countries that launched defined contribution systems in the 1990s have returned to the PAYG/DB systems, both within and beyond the region (Holzmann, 2013). Fiscal challenges in some countries that were phasing in transition costs paved the way for these reversals. Defined contribution systems were advertised to people as a means of receiving higher pensions with lower contribution rates. The fact that people were not receiving benefits in line with their expectations also eroded support for continuing the reforms.

Still other important pending issues include financing the cost of transition; encouraging better investments, increasing returns, and lowering operation costs; enhancing the offer of retirement products and insurance arrangements; building financial literacy, legitimacy, and confidence; and appropriate regulation and supervision.

### ***Transition Costs***

While the 1990s reforms will be helpful in the long-term sustainability of countries, they entail large transition costs that could last for decades. The short-term fiscal situation is particularly worrisome for these countries. In transitioning to a defined contribution system with individual accounts, these countries lost all or a significant part of contributions to the old PAYG/DB system, while still facing significant pension outlays. Chile, Colombia, the Dominican Republic, and El Salvador still dedicate between 1 and 4 percentage points of GDP to pay for the system in transition. In particular Chile, which reformed its PAYG system more than 30 years ago, is still spending three percentage points of GDP per year on this transition. An actuarial assessment of possible transition costs should be part of any reform effort.

### ***Investments, Returns, and Costs***

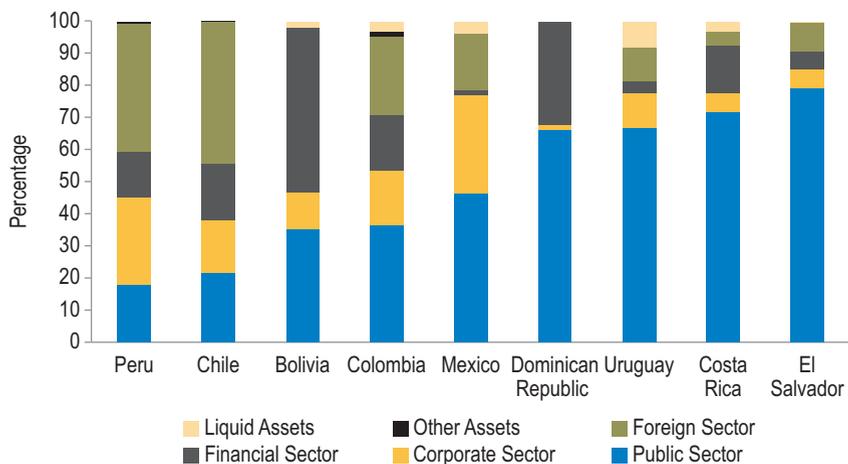
Pensions in defined contribution systems depend on investment returns and management cost. A 1 percent return over 40 years translates into a 20 percent increase in pension payments. Therefore, the quality of investments is critical because of the direct impact of returns on pension financing (Davis, 2002). There is also an indirect impact through the effect that institutional investors, such as pension funds, can have

on economic performance. This positive impact would depend not only on *how much* of these pension funds are invested, but also on *how* these resources are invested.

Thus, investment regulation and pension fund supervision are important and have an impact on the performance of managers. Indeed, pension funds could be an essential source of long-term financing that could enhance countries' productivity. Since pension fund investment needs to be well protected and oriented to financing future pensions, structuring financial products that would enhance development in the region could be a winning strategy (see Chapter 4).

On the other hand, funds could be invested in government bonds to finance current government spending and would thus have little impact on aggregate savings and growth promotion. On average, almost 50 percent of pension funds in the region are invested in government bonds; this level is as high as 80 percent in countries like El Salvador (Figure 7.3). Investment restrictions might affect the efficiency of investment and lower returns for a given risk level. Restrictions on variable income and foreign investment during the first years of the 1980s reform in Chile suppressed pension fund earnings by 10 percent, compared to a scenario with no restrictions (Berstein and Chumacero, 2006). There is certainly a role for regulation in aligning the incentives of pension fund

**Figure 7.3 Investment Portfolio of Private Funds**



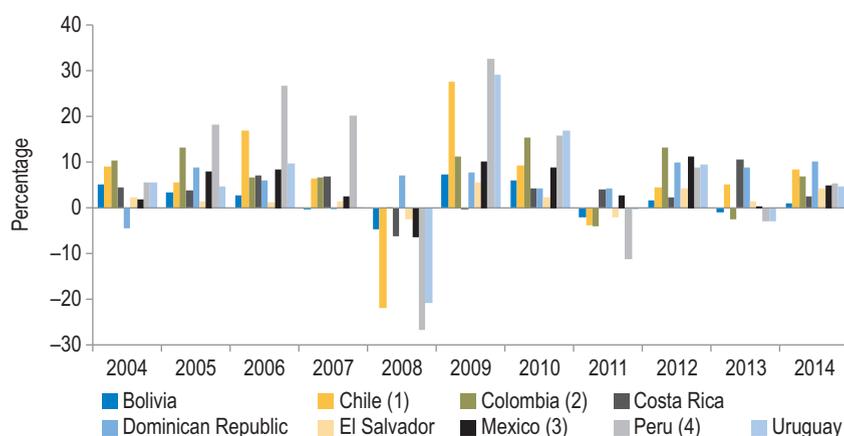
Source: Authors' calculations based on Federación Internacional de Administradoras de Fondos de Pensiones (FIAP) statistics (FIAP, 2015).

managers with the long-term objectives of pension funds; however, regulators must consider the cost embedded in any restrictions.

Even though the pension portfolios of most Latin American and Caribbean countries with FF/DC pension systems are not well diversified, rates of return have been high compared to other regions. However, volatility has also been high, especially during the past few years (Figure 7.4). Real returns from 2004 to 2014 were positive, on average, despite significant losses during and following the 2008 crisis. Peru had the highest real return (8.51 percent), and Bolivia had the lowest (1.81 percent), followed closely by El Salvador (1.83 percent). The unweighted average for these nine countries was close to 5 percent. Among OECD countries, Chile and Mexico are above the average with the seventh and ninth highest real rate of return from 2004 to 2014 (OECD, 2015c). Colombia and the Dominican Republic exceeded all OECD countries.

As pension funds increase and represent a significant share of GDP, investments must be further diversified. As strict quantitative investment restrictions are relaxed, it will become more important to adopt a “prudent person” approach for regulation, implementing best practices in terms of corporate governance, so that the responsibilities in making investment decisions would be adequately defined and decision-making processes established and supported (OECD, 2009). Moreover, the potentially

**Figure 7.4 Real Rate of Return of Pension Funds, 2004–2014**



Source: Authors' calculations based on Federación Internacional de Administradoras de Fondos de Pensiones (FIAP, 2015).

Notes: (1) For Chile, Fund C. (2) For Colombia, Moderate Fund. (3) For Mexico, Weighted Average of SB1, SB2, SB3 and SB4. (4) For Peru, Balanced Fund.

significant volatility in pension fund portfolios, which may pay off in terms of returns, might affect contributors who are close to retirement. Different funds with a life cycle approach to investments could provide better protection for future retirees (Berstein, Fuentes, and Villatoro, 2013). This strategy has been followed by Chile, Colombia, Mexico, and Peru.

Management costs could also absorb significant resources. Thus, increasing efficiency could be important. Different pension arrangements have different types and amounts of costs. Under privately managed pension systems, some measure of the costs is possible, but even in this case, costs are difficult to compare across countries. Differences include the terms of the services provided by each country, the fee structure, the explicit and implicit charges, and pension system maturities.

Despite these considerations, Ionescu and Robles (2014) calculate charge ratios—the percentage paid in fees over the working life, at the end of a 20- or 40-year period—for 37 countries. Overall, charges are significant in all Latin American and Caribbean countries, averaging 18 percent for the region.<sup>5</sup> Nevertheless, the average charge ratios for countries outside the region is higher: 23 percent, for a 40-year horizon. Costs are relevant, but they vary significantly across countries. Given the impact of costs on pensions, an effort should be made to promote efficiency.

Various countries in the region have tried to increase competition and reduce costs. Chile and Peru have successfully incorporated a bidding process that assigns workers that enter the labor market to the lower fee pension fund manager. In Chile, the three bidding processes have brought the average charge ratio down almost 30 percent, from 16.4 percent in 2009 to 11.6 percent as of December 2015. Other countries, including Colombia, Costa Rica, the Dominican Republic, and El Salvador, have adopted fee ceilings. In these countries the amount effectively charged by managers is equivalent to or very close to the cap. Setting caps at an appropriate level is difficult for regulators since it limits competition and can end up being too high or too low.

### ***Retirement Products and Insurance Arrangements***

Despite relatively high average returns, one of the main problems of DC systems is that they are not providing actual pensions for a large number of workers. Part of the explanation resides in the very low savings of many workers who move in and out of the labor market and cannot make any contributions for long periods (see Chapter 6). If these

workers are not entitled to a minimum pension or other subsidy, they must take their savings as a lump sum, as do 82 percent of the workers who reach retirement age in Colombia (Bosch et al., 2015), or in monthly installments until their funding is exhausted, as in Chile.

Even where savings for a pension are sufficient, FF/DC pension systems generally offer a choice at retirement between a phased withdrawal and an annuity. Thus, in effect, many pensioners do not have longevity insurance (Bodie, 1990).<sup>6</sup> For those that can choose a pension product, only 60 percent of the pensioners in Peru, 51 percent in Chile, and 11 percent in Colombia are insured against longevity risk (Berstein, Morales, and Puente, 2015). For phased withdrawal products offered in DC systems in the region, the pension is computed as self-insurance; the amount withdrawn is expected to last for the rest of the retiree's life. Eventually, if savings are not sufficient, and if the person lives longer than expected, or returns are lower than assumed, the person might end up depleting all of her savings before passing away. By contrast, annuities are insurance products that pool idiosyncratic risk. The amount of the pension is fixed for life; beneficiaries receive a certain amount independent of how long they live or how interest rates fluctuate, or even how inflation varies in some cases. An insurance company covers these risks for a premium (Milevsky, 2013).

In spite of these desirable properties of annuities, they present important challenges across the world. In general, annuity markets are small and annuities are expensive. Asymmetric information can lead to high costs, which in turn implies that only high-risk individuals would buy the product and boost the costs even higher (Finkelstein and Poterba, 2004). PAYG/DB schemes avoid this problem because the entity promoting the plan assumes the longevity risk. Nonetheless, in systems with full compulsory annuitization, incentives to contribute could be lower since contributors are less likely to get back what they contributed during their working life (Milevsky, 2015). Partial or deferred annuitization could attain the goal of longevity insurance in a more effective way (OECD, 2012; Berstein, Morales, and Puente, 2015).

Another feature that distinguishes FF/DC systems is that a contributor will always receive the actuarial accumulated balance as a pension or a lump sum, if the balance is too small. This differs from PAYG/DB systems, in which a person who contributed for few periods, or did not comply with other requirements, does not receive a benefit, or receives only a refund of the amount contributed adjusted for inflation.

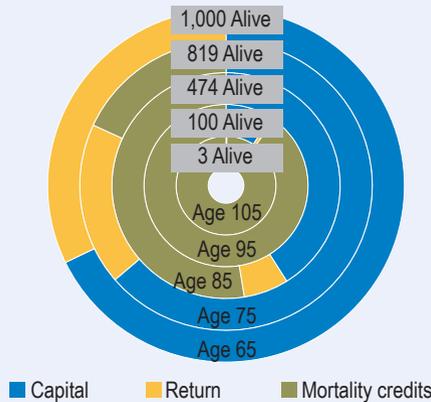
A drawback of these lump sum payments is that they do not provide for longevity insurance, but can seem attractive because they seem large compared to the lifetime pension payment. Even if the pension implies a significant subsidy (because of the minimum pension guarantees in some DC schemes), some people are willing to choose a lump sum.<sup>7</sup>

Increased longevity will affect DC systems, particularly the level of pensions and how they are financed. Increased life expectancy is certainly good news, but it has significantly reduced a main source of pension financing in the past: mortality credits, which are the unspent funds when someone passes away. The probability of reaching the retirement age—which continues to be 60 in many countries—is more than 90 percent or higher in many countries. Thus, most people will require a retirement benefit and receive payment for more years than in the early 1930s. After age 80 or 85, the likelihood of living one more year declines and continues to decline at a rapid pace as the person ages (See Box 7.3). Therefore, for ages beyond this threshold, risk pooling continues to be an important source of financing for benefits, as it was for ages 60 and over in the 1930s. Therefore, savings are required to finance a very likely retirement event, and at that stage, having insurance for the very long term becomes valuable. Taking advantage of old age mortality credits could

### **BOX 7.3. FINANCING PENSIONS: MORTALITY CREDITS**

In the early 1930s, when retirement programs such as the U.S. social security system were launched, the probability of reaching 60 years old, the normal retirement age in many countries at that time, was extremely low. Life expectancy at birth in European countries was around 60 years old, and it was significantly lower in Latin America and the Caribbean. Therefore, when pension systems started around the world, the schemes resembled an insurance product. Every worker paid an insurance premium during his or her working life. In the unlikely event that he or she reached the retirement age, the benefit would substitute for the labor income she had paid into the system until she passed away. The average retirement period for the few that reached the retirement age of 60 was 13 or 14 years. Thus, contributions paid by numerous workers could finance pensions for a small number of retirees. An important source of funds was mortality credits: contributions paid by members who died before they could collect all that they had paid into the system. This is what usually happens with insurance. The insurer will cover a risk, but the insurer does not end up paying a benefit to everyone who paid a premium. This is the essence of risk-pooling arrangements, and it is an efficient way of covering a risk.

*(continued on next page)*

**BOX 7.3. (continued)****Figure B7.2 Sources of Funding for a Life Annuity in Chile for Retirees Aged 65–105**

Source: Authors' calculations.

Mortality credits are a source of financing pensions, given the decreasing probability of living as a person ages. Those who survive longer benefit from the resources of those who passed away. This is basically risk pooling and taking advantage of the unknown event of who will survive longer. Figure B7.2 shows an annuity payment in Chile that starts at age 65, and the associated sources of financing over time. Mortality credits became the most significant source after age 85. In this example, the mortality credits from the 1,000 people alive at age 65 would finance the pensions of the 3 of them who survive to age 105 at the same level as they received at age 65, because they are using the resources of the ones who did not survive.

still be an important source of financing pensions, mainly at advanced old age. This is the insurance component, at least for the very old.

In all, for DC systems increased longevity will imply that a larger share of the pension will have to be financed through savings (accumulation and returns) rather than through mortality credits. If the contribution rate and retirement age remain unchanged, pensions will be lower.

### ***Financial Literacy, Legitimacy, and Confidence***

A lack of financial knowledge in the region is hurting confidence in pension systems. In general, people do not expect to live as long as

projected by life expectancies, and therefore do not necessarily foresee the need for sufficient savings. In addition, many people in the region believe that the state should ultimately be responsible for funding pensions. These beliefs make it difficult for people to understand the full costs of providing pensions and the consequences of short-term volatility on returns. Supervisory authorities in various jurisdictions, not just in the region but around the world, are working hard to improve financial literacy (see IOPS, 2011).

When DC pension systems were launched, the need for financial literacy on pensions was not sufficiently appreciated. In Chile, for instance, a survey conducted in 2002—some 21 years after the 1981 reform—found that 78.4 percent of respondents did not know how their pension was determined. Among those who claimed they did know, 34 percent thought that it depended on their final year's salary. Financial literacy did not vary much among age groups. Not until 2005 did the regulator require pension fund managers to send pension projections to members, so that they would be better informed and take timely action to improve their pensions. Even in 2009, almost 30 years after the reform, the Social Protection survey showed that most workers did not know how much they contributed to their pensions. Almost 75 percent of those with primary education and 50 percent with higher education did not know the pension contribution rates. Of those who said they knew, fewer than 10 percent in any educational level gave the correct answer for the contribution rate.

Efforts have been made to promote financial knowledge in Chile, Costa Rica, the Dominican Republic, and Mexico, among other countries. In Chile, shortly after fund managers began sending saving projections, individuals began saving more (see Fajnzylber, Plaza, and Reyes, 2009; Miranda Pinto, 2013). Mexico has established a five-year (2013–18) Financial and Pensions Education Strategy. The pension regulator in Mexico—Comisión Nacional del Sistema de Ahorro para el Retiro (CON-SAR)—redesigned the periodic statement of pension balances to make it easier to understand, launched a new Web site and, as in Chile, started issuing individualized pension projections. Costa Rica and the Dominican Republic are taking similar steps.

The lack of public understanding and contributor involvement prevents competition from playing the role it should to promote market discipline. Many contributors are not sensitive to differences in prices or returns between pension fund managers, which could have a huge impact on their return. Indeed, most people do not even know how much they

are charged. In Chile, the first private system in the region, 93 percent of members in 2002 were not aware of the fee charged.<sup>8</sup> Under this scenario, sales agents play a critical role. Bernstein and Cabrita (2007) found that workers do not switch on their own to lower-cost managers but do so if advised by a sales agent. This imposes additional overhead in this industry.

### ***Appropriate Regulation and Supervision***

In an FF/DC system, individuals' decisions have an impact on their final pension. Good decision making requires adequate information and tools, but also regulation that mitigates risks. Since these systems are managed by the private sector, one of the main roles of the government is to build confidence in the system through adequate regulation and supervision to mitigate excessive risk taking.

In systems where individuals can choose their own investments, the alternatives from which workers can choose might imply that significant risks could be taken. For instance, Chile has five different funds. In the riskiest fund, Fund A, up to 80 percent can be invested in equity; in the most conservative fund, Fund E, up to 5 percent can be invested in equity. There are three funds between these extremes (Funds B, C, and D) that gradually reduce exposure to equity with age from 60 percent to 20 percent, following a life cycle approach as a default strategy. These act as default choices. Fund A is not available to workers who are close to retirement, and Funds A and B are not allowed once participants have retired. However, there are no restrictions on switching between funds; therefore, contributors close to retirement might switch from Fund E to B, back and forth, as they try to stop shortfalls and maximize return; this could also increase their risk just when they cannot afford losses.

Colombia, Mexico, and Peru also offer a choice of funds, but with fewer alternatives and more restrictions on switching. Each country has a different default. Which is the proper default? How many alternatives should be offered? How much freedom should be given to individuals? These are all issues that FF/DC systems need to address.

Whatever the regulatory setup, supervision needs to be efficient and effective. A risk-based supervisory approach allows resources to be allocated effectively, prevents problems that would impact beneficiaries, and proactively improves the performance of the pension industry. Supervisors from different jurisdictions in OECD and non-OECD countries have agreed to ten principles to guide the proper supervision of

pension funds. These are common to different pension systems and apply to both private and public systems (IOPS, 2010).

### ***Recommendations***

Moving from PAYG/DB to FF/DC does not necessarily increase either coverage or savings. In Latin America and the Caribbean, insufficient coverage remains a huge issue. Additional measures need to be taken to afford aging in the long run. Some general recommendations to enhance FF/DC schemes follow.

- *Find ways to increase returns and reduce administrative costs.*  
Regulation needs to be dynamic and consider reforms to capital markets that allow pension funds to be invested in ways that boost growth in the country. Enhanced corporate governance to assure solid investment decisions is also important; this might strengthen the overall financial sector. As pension systems mature, investment abroad offers countries an alternative to achieve appropriate diversification. Countries in the region have tried to control costs; the impact of these efforts must be assessed, and further innovations may be required.
- *Rethink parameters and retirement products.*  
As people live longer, the level of pensions will decrease if the retirement age remains fixed. Hence, either retirement savings or retirement ages should be raised. Parametric reforms are also needed to insure the adequacy of pensions. Retirement products must be consistent with the main goal of a pension system, which is to provide income security during retirement. In some cases, the contributory and noncontributory pillars may need to be combined to deliver sustainable protection. For contributors who have saved enough, lump sums and phased withdrawals do not provide long-term longevity protection and do not take advantage of mortality credits as a source of financing. Therefore, annuity markets need to be developed and other longevity insurance arrangements could be explored to combine savings and insurance to support old age effectively.
- *Provide sound information and financial education for participants.*

Information and education are important tools for workers to manage their future pensions. Pension fund managers should advise contributors during their working life, while they have time and opportunity to add to and improve the returns on their retirement savings. Managers must act in the best interest of their customers and communicate with them on a timely basis.

- *Enhance regulation and supervision to mitigate risks and promote adequate pensions.*

Regulation and supervision should be enhanced and constantly reviewed. Regulation should address the alternatives and choices available in FF/DC systems. Proper defaults should be put in place for those pension fund participants who do not want or do not have the knowledge to make decisions. The default strategy for investment that considers a life cycle with less risk exposure as the worker ages has shown to be appropriate (Berstein, Fuentes, and Villatoro, 2013). Defaults might also consider a specific retirement product at the time of retirement or other decisions that must be taken during a member's lifetime.

Pension supervisory authorities should be guided by the Principles on Private Pension Supervision (IOPS, 2010). Best practices need to be considered and implemented. It is critical to prevent events that might damage confidence in pension systems. Unfortunately, issues are bound to arise, so supervisors must have the power to take proper action when needed, including levying sanctions on pension fund managers.

- *Promote voluntary savings.*

The way systems are designed can significantly affect results. Automatic enrollment has been shown to be effective in New Zealand, the United Kingdom, and the United States. These mechanisms could help workers contribute less during periods when money is very tight. Many African countries are using mobile phone technology to facilitate voluntary contributions. Aspects of these experiences may be applicable to Latin America and the Caribbean.

## When All Else Fails: Noncontributory Pensions

Reforming current mandatory pension systems will not be enough. Greater participation in pension systems is imperative to prepare for

the demographic transition. However, if coverage is to be adequate, noncontributory pensions may inevitably be part of the answer. They must be carefully designed so as not to threaten the sustainability of benefits.

Why do so few people in the region contribute to pension systems? The consensus points to a combination of at least four factors.<sup>9</sup> First, jobs are not productive enough to pay for the entire package of formal benefits (which must cover not only pensions, but also health care, regulations, firing costs, and the like). Second, workers do not value pension contributions and try to avoid them. Third, firms try to avoid paying contributions since enforcement is lax. Fourth, a significant share of workers in the region are self-employed (around one-third of the labor force in the region, and as much as 70 percent in some countries); for the self-employed, pension contributions are either voluntary or unenforceable.<sup>10</sup>

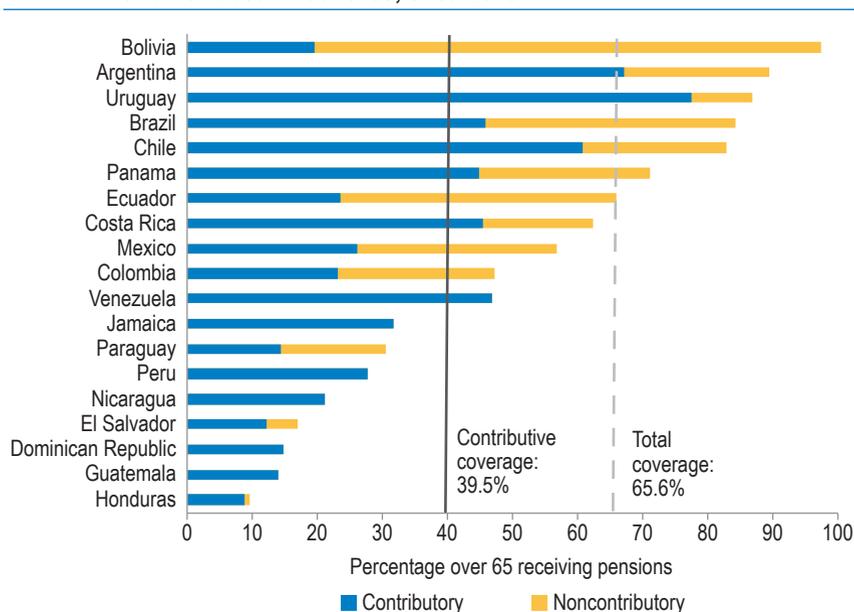
In response to the failure of contributory pension systems to provide adequate coverage, so-called noncontributory pensions have become increasingly popular. This type of pension is not based on contributions but on eligibility criteria such as age, income, or area of residence. It is financed mostly by general taxation (although some countries like Colombia finance these pensions through solidarity contributions).

Noncontributory pensions are equivalent to a PAYG/DB system without direct contributions from the beneficiary. Thus, they will also be subject to the pressures of the demographic transition and the fiscal sustainability considerations discussed in previous sections.

This type of arrangement is not new. Most advanced countries provide some kind of pension assistance to alleviate poverty in old age, regardless of whether people contribute to the system. In the region, their importance is growing as they have become the main tool to expand coverage in the last two decades. Today, noncontributory pensions account for one-third of pension coverage in the region. In several countries, more people receive noncontributory pensions than contributory pensions (Figure 7.5).

Perhaps the most important challenge is how to finance these pensions without generating larger distortions in mandatory contribution systems. Currently, the design and extension of these systems vary considerably in the region. Some countries, such as Bolivia, have chosen universal programs. Others have set up relatively modest means-tested programs targeted at the very poor. The generosity of benefits also

**Figure 7.5** Contributory and Noncontributory Coverage in 19 Latin American and Caribbean Countries, circa 2013



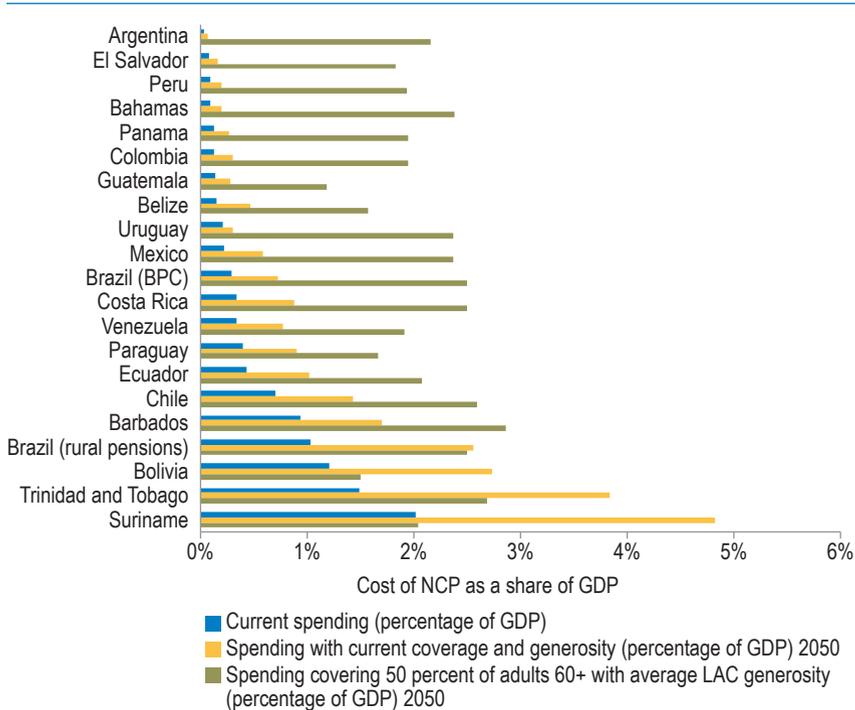
Source: Authors' calculations based on the IDB's Labor Markets and Social Security Indicators database.

Note: The division between contributory and noncontributory pensions in Argentina, Brazil, and Uruguay was obtained by dividing the number of beneficiaries of these programs by the number of adults over 65. This could be an imperfect measure in countries where the beneficiary can begin drawing a pension at a younger age.

varies significantly, ranging from very low (between 5 percent and 7 percent of income per capita) in Colombia, Mexico, Panama, and Peru to generous programs (around 30 percent of income per capita) in Argentina, Brazil, Paraguay, and Trinidad and Tobago.

The choice of design will be crucial to insure coverage and fiscal sustainability. Today, the noncontributory pensions with the highest coverage cost between 0.7 percent and 1 percent of GDP. This cost will more than double by 2050 if generosity and coverage remain constant, just to account for changes in demographics. If programs were to provide benefits to adults aged 60+ at the average level of the region (17 percent of income per capita, which is just above the poverty line pension in many countries) the cost by 2050 would be between 2 percent and 3 percent of GDP (Figure 7.6). These pensions are absolutely necessary to increase coverage. But in an aging world, they will absorb ever more precious resources. Countries must rethink ways of financing them.

**Figure 7.6 Current and Future Fiscal Costs of Noncontributory Pensions in Latin America and the Caribbean, 2015–50**



Source: Authors' elaboration based on HelpAge International (2015) and authors' calculations.

It is also important to take into account the possible effects of non-contributory pensions on incentives to save. Household decisions are changing with the arrival of noncontributory pensions. The emergence of these pensions has yielded some very relevant insights into how individuals and households react to changes in benefits (see Box 7.4). Noncontributory pensions decrease the participation rates of beneficiaries in contributory systems and, in some cases, their savings. They also reduce the transfers that beneficiary households receive from other households. Juárez (2009) finds that for every peso the government allocates to an elderly adult in Mexico City, private transfers drop by 87 cents.

### **Recommendations**

Increasing participation in mandatory pension systems will require an integrated approach that addresses the many causes of labor informality.

#### **BOX 7.4. HOUSEHOLD SAVING AND NONCONTRIBUTORY PENSIONS**

In the last decade, the most radical reform in the world of pensions in Latin America has been a relatively silent one. Noncontributory pension programs (NCPs) now provide coverage to more than 25 percent of the elderly. These programs have greatly improved the well-being of elderly adults in some cases (Galiani, Gertler, and Bando, 2014). However, there is concern that providing NCP might reduce the need for precautionary savings, and thus alter incentives to work longer or contribute to pensions, even as they induce increases in consumption and alter saving decisions, very much like minimum pensions (Jiménez-Martín, 2014). By now, there is ample evidence that NCP facilitate retirement in the region (Bosch, Melguizo, and Pagés, 2013) but in some instances, contributions to the mandatory system have declined (Bosch and Oliveri, 2015).

The impact of NCP on savings is much less studied and the evidence is mixed. In Argentina and Mexico, beneficiaries of NCP saved less (between 3 and 4 percent) after noncontributory pensions were expanded (González-Rozada and Ruffo, 2015). However, in Bolivia, some specific population groups (i.e. men versus women) increased household savings (Hernani-Limarino and Mena, 2015). In Mexico, no significant effect was found when federal and state noncontributory pension programs were considered (Alonso, Amuedo-Dorante, and Juárez, 2015).

However, increasing coverage without addressing the issues described in previous sections could worsen problems of adequacy, redistribution, and sustainability.

Noncontributory pensions will be an essential tool to prevent old-age poverty and redistribute resources to the most needy in the region. They are necessary to increase coverage and reduce inequities in the pension system. However, they are not the solution in the face of demographic change, particularly if they are aimed at something more than poverty reduction (Holzmann and Hinz, 2005). The design and implementation of noncontributory pensions can be improved in three basic areas: institutions, incentives, and financing.

- *Institutions*

Build appropriate institutions and fully integrate them into the pension system. In some cases, this would require rethinking the institutions that manage the delivery of funds and monitor the fiscal sustainability of the systems, as well as adjusting the generosity of benefits and the eligibility age to address poverty alleviation and make them fiscally sustainable.

- *Incentives*  
Contributory and noncontributory pensions should serve a common purpose and interaction between them should be explicitly considered, mainly in terms of incentives. Competition between them should be avoided, for instance by allowing noncontributory pensions to be combined with contributory benefits so that they complement each other. Conditioning the eligibility of noncontributory pensions only on those who do not have contributory pensions is likely to generate further distortions in the pension system.
- *Financing*  
Appropriate ways to finance the system must be found. Noncontributory pensions are largely financed through general taxation. As expenses grow in the future, additional sources of funding will be needed.

## Pensions Count

The pension deficit is essentially a savings deficit—already. Pension coverage is too low, households are not saving enough for retirement, and some of those who are already retired are not receiving adequate pensions. As the region advances in its demographic transition, the situation is bound to become worse. Substantial reforms are needed and must be informed by a thorough reflection on the key objectives of pension systems and how to better finance them. Countries with PAYG/DB systems need to build up saving funds (accumulating excess contributions) while the number of retirees is still low compared to the working-age population, and put in place the mechanisms to adapt to the demographic transition. Sometimes, this will imply tough decisions about retirement conditions. In countries that have switched—or are planning to switch—to fully funded, defined-contribution systems based on individual accounts, a number of remaining issues put into doubt the ability of these systems to provide adequate pensions. Insuring participants against risks, increasing returns, and improving confidence in these systems are all paramount. Of course, coverage is and will be one of the key concerns in all systems. The importance of pension systems will only increase in an aging world. Proper design, implemented in a timely fashion, could make the difference.

Increasing pension saving is a necessary step to resolve the region's saving deficit, but it is not enough. As the population greys, it will be necessary to defy demographic forces and increase returns to be able to provide more with less. With pensions, as with other forms of saving, the region needs more *and* better saving. In the case of pensions, "better" means that the accumulated savings must be invested well, providing the highest possible returns to retirees and enhancing productivity and growth. This is not an easy task, but it is an important one. It is the responsibility of regulators and other policymakers to provide adequate regulation and supervision to encourage better pension saving.

## Notes

- <sup>1</sup> This exercise uses pension spending derived from household surveys.
- <sup>2</sup> By 2100, pensions could escalate to almost 50 percent of GDP if Brazil maintains the same per capita spending on pensions.
- <sup>3</sup> See Bosch et al. (2015) for the case of Colombia.
- <sup>4</sup> The TGI is composed of two sub-indices, namely the Transparency Index (TI) and the Governance Index (GI). The former includes five elements: Web site, annual report, communication, information completeness, and name of responsible person. The latter comprises six elements: governing body, selection and appointment, external control, investment committee, market experts, and code of conduct (see Musalem and Souto [2009] for a detailed description of each of these components). Data used are from 2007.
- <sup>5</sup> Fees on total final assets represent a larger part of the fund when the fee structure is an annual percentage of the fund and a longer period is considered. This is because when the pension fund manager charges the same annual fee over assets and accumulated assets are larger, the total amount becomes very significant. These fees could reasonably be expected to fall over time. This analysis assumes they are constant.
- <sup>6</sup> Longevity risk covers a worker/insured who lives longer than expected and runs the risk of exhausting accumulated funds.
- <sup>7</sup> Bosch et al. (2015) describe this situation in Colombia.
- <sup>8</sup> Subsecretaría de Previsión Social [Undersecretariat of Social Security] (2002).
- <sup>9</sup> See Rofman and Oliveri (2012); Bosch, Melguizo, and Pagés (2013).
- <sup>10</sup> For further analysis, see Bosch, Melguizo, and Pagés (2013) and Alaimo et al. (2015).



This chapter is distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives 3.0 IGO license (<http://creativecommons.org/licenses/by-nc-nd/3.0/igo/>) and may be reproduced with attribution to the Inter-American Development Bank (IDB) and for any non-commercial purpose. No derivative work is allowed.

Any dispute related to the use of the works of the IDB that cannot be settled amicably shall be submitted to arbitration pursuant to the UNCITRAL rules. The use of the IDB's name for any purpose other than for attribution, and the use of IDB's logo shall be subject to a separate written license agreement between the IDB and the user and is not authorized as part of this CC-IGO license. Note that the link provided above includes additional terms and conditions of the license.

The images or other third party material in this chapter are included in the work's Creative Commons license, unless indicated otherwise in the credit line; if such material is not included in the work's Creative Commons license and the respective action is not permitted by statutory regulation, users will need to obtain permission from the license holder to duplicate, adapt or reproduce the material.