A stylized map of Latin America and the Caribbean region. The landmasses are colored in shades of green, and the surrounding waters are in shades of blue and teal. Several red pushpin markers are placed on the map, indicating specific locations in Mexico, Central America, the Caribbean, and South America.

BETTER PENSIONS BETTER JOBS

TOWARDS UNIVERSAL COVERAGE IN LATIN AMERICA AND THE CARIBBEAN

AUTHORS

Mariano Bosch
Ángel Melguizo
Carmen Pagés



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Mariano Bosch, Angel Melguizo, and Carmen Pages
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Preface

The Latin America and Caribbean (LAC) region has reduced its inequality and poverty, and is looking towards the future with greater optimism than in the past. As the region grows, new problems appear that economic policymakers must address. How to provide adequate pensions for the elderly is one such problem.

Today, only 40% of citizens aged 65 and older have a contributory pension (in the sense of having made contributions through a payroll tax) and 20% enjoy a non-contributory pension (or, more correctly, a pension paid from the collection of general taxes levied on the public). The remaining 40% of the elderly have to work into old age or rely on their families to support them. Although today the region has a relatively young population, that group is aging rapidly. The roughly 40 million elderly citizens in the region in 2010 will grow to 140 million by 2050.

Much of the literature on pensions in LAC has focused on discussing whether individually funded or pay-as-you-go schemes are better for meeting the challenges of long-term savings. Without underestimating this debate, which is fundamental because of its economic and fiscal implications, the discussion has not paid enough attention to the problem of low pension coverage and its underlying causes, which goes beyond the question of choosing between one system and another. Causes of the low pension coverage are rooted in the design of social security in the region, and in the poor functioning of the region's labor markets.

This book offers an analysis of pension systems from the perspective of the functioning of the region's labor markets. It clarifies why, more than half a century after pension systems were created, only a minority of workers in the region save for their pension in the contributory systems through payroll taxes. It also analyzes the changes in the labor status of workers and the implications for both the frequency with which they contribute to their pensions and the pension amounts. The study points out that the problem lies not only in the lack of coverage, but also in the low level of benefits, even of contributory pensions. It argues that to design public policies for pensions,

it is essential to understand the complex web of interactions between employers and workers that take place in the labor market.

Much has been learned about how labor markets work in the region. We understand better how the dichotomy between formal and informal workers, and formal and informal firms, works. Many economists have studied how certain incentives lead workers and firms to make a series of decisions in the labor market. There is still much to learn, but we are now better equipped to answer the important questions. What is clear is that informality is not something immutable, nor a genetic inheritance that we, the citizens of Latin America and the Caribbean, have received. Informality is the result of the incentives facing firms and workers in the labor market, and as such, can be changed with the right policies.

This book documents the policies that could lead to improved functioning of labor markets, with the overall aim of providing “better pensions” for all elderly, not just a few.

Universal coverage should be a basic principle of pension systems. Yet another equally basic principle should be achieving universality with policies and programs that align the incentives of firms and workers in the direction of formality and productivity. A third principle is that pension systems must be fiscally sustainable. Not a single combination of programs and policies is possible, nor is it desirable to move forward in one direction and move backward in others. We need better pensions and better jobs, simultaneously. This book will help achieve both.

Santiago Levy
Vice President for Sectors and Knowledge
Inter-American Development Bank
October 2013

An aerial photograph of a coastline, showing a mix of green and blue water. A red pushpin is placed on the water, with several white dashed lines radiating from it, suggesting a point of interest or a specific location. The text is overlaid on the left side of the image.

**PENSION COVERAGE:
THE REGION'S PRESSING
CHALLENGE IN THE COMING
DECADES**

1

Summary:

In the coming decades, pensions will become a priority for economic and social policy in Latin America and the Caribbean. Despite the important reforms of the 90s, the region's pension coverage remains inadequate. Countries must address the issue of low pension coverage given the myriad of social, economic, and fiscal ramifications of pension coverage inadequacy. Any measures adopted to resolve this challenge will have far-reaching social and economic repercussions, such as the way families care for the elderly or the State's ability to face the costs of aging populations. The pension coverage issue will also impact the way the labor market assigns factors of production and promotes productivity.

From the original design of social security to the important reforms of the 90s

Two of the overarching objectives of pension systems are: to provide “sufficient” income to meet the basic needs of the elderly (to prevent poverty in old age) and to prevent a sudden drop in consumption, upon reaching retirement age (consumption smoothing). To these ends, individuals typically save throughout their working life by paying into a pension system in order to have income during their retirement, when they are either not working or have reduced labor income.¹ One of the key questions is identifying who should be insured against poverty in old age and what is the most appropriate mechanism to smooth their consumption throughout their lives.

In much of Latin America and the Caribbean (LAC), the original design of social security systems did not aim to cover all elderly adults. In keeping with the European tradition, the beneficiaries of pension systems were salaried workers who had a subordinate relationship with an employer (see Diagram 1.1). The only options to prevent old-age poverty in this system for citizens that were available who did not work, such as most women, were to depend either on families or on welfare programs. The same options applied to non-salaried workers,² who were initially excluded from social security systems and lacked an appropriate mechanism for saving for old age. Therefore, by design, the coverage of social security systems was meant to be limited.

The result was that, by the end of the 80s or early 90s, half a century after social security systems were implemented in the region,

¹ See Barr and Diamond (2006) for a full discussion of all possible objectives of pension systems.

² Throughout this book, non-salaried work refers to paid workers who do not work for an employer in exchange for a salary (salaried work). This group includes the self-employed, employers, commission agents, or other job categories in which the worker is not subordinated to an employer, which would entail the corresponding worker-employer obligations. Given the variety of contractual systems in Latin America and the Caribbean, this distinction is often ill-defined (see Levy, 2008, for a full discussion on the differences between salaried and non-salaried work in Mexico).

Diagram 1.1

Original design of social pension systems

	Target	Preventing old – age poverty	Smoothing consumption
Non-workers		Social/family assistance	
Workers	Non-salaried	Social assistance/families	
	Salaried	Social security	Social security

Source: Prepared by the authors.

many of the region's pension systems reported inadequate coverage rates. The percentage of elderly adults receiving a pension was barely 30% in most countries and, in some countries, as low as 10% (Rofman and Oliveri, 2011).

At the beginning of the 90s, however, these low coverage rates were not the primary concern of governments. It became increasingly apparent that the region's pension systems were not sustainable and were plagued by problems of inequality. Against this backdrop, the World Bank set an agenda for structural pension reform in 1994. Rapid demographic changes, weakened informal safety nets, and financial burdens—both current and projected—justified the implementation of multi-pillar pension systems run by both the public and private sectors. Much of the region adopted reforms of this type: Peru in 1993, Colombia in 1994, Argentina in 1994 (with a new reform in 2008), Uruguay in 1996, Mexico and Bolivia in 1997, El Salvador in 1998, Costa Rica and Nicaragua in 2000, and Dominican Republic in 2003. Chile was a pioneer, having undergone a pension reform in 1981.

In addition to this eminently fiscal motivation, the hope was that pension reforms implementing systems based on individual accounts run by the private sector would generate macroeconomic benefits, such as job creation, increased productivity, increased domestic savings and, in turn, greater investment in and development of domestic capital and financial markets.³

The potential increases in pension coverage were based on the theory that by establishing a clear connection between contributions

³ See Lindbeck and Persson (2003) and Barr and Diamond (2006) for a more skeptical perspective.

and benefits, this type of reform would provide better incentives in the labor market than traditional pay-as-you-go schemes, in which contributions are allocated to pay the current pensions of retired adults. The expectation was that, in the medium term, these reforms would cause a gradual increase in the proportion of workers paying into the system and, eventually, the percentage of elderly adults collecting a pension.

Although there is no entirely convincing way to determine whether the reforms in the 90s had the desired effect, there is relative consensus that they reduced the implicit debt of pension systems and stimulated the development of capital markets (Corbo and Schmidt-Hebbel, 2003; Gill, Packard, and Yermo, 2005). However, the impact these reforms had on the labor market's ability to create more formal jobs and, consequently, increase the percentage of individuals receiving a pension, is much less. In fact, a simple before-and-after comparison casts doubt on whether the countries that reformed their pension systems created many more jobs in the formal sector. In particular, the percentage of workers contributing to pension systems did not increase in any of the 10 countries that implemented the reforms (ECLAC, 2006; Rofman and Lucchetti, 2006; Mesa-Lago, 2008). Although the above evidence is not conclusive proof that the reforms had no impact on the percentage of workers contributing to these pension systems, the analysis does suggest that these reforms did not radically transform the way the labor markets work. For this reason, low pension coverage persists.

One of the consequences of the wave of pension reforms in the 90s is that much of the research in the past decade has centered on a debate between those who advocate systems based on individual accounts and those who favor pay-as-you-go systems. This book acknowledges the merits of each of the two systems, but will not delve into this discussion.

Instead, this book seeks to open a broader discussion on pension coverage, its key determining factors and consequences, and how to develop reform programs that help to achieve the fundamental objectives of pension systems for all elderly adults in the region, independently of the system selected. This is not an easy challenge to confront. The following paragraphs outline the primary motivations for writing a book on pension coverage.

Why write a book on pension coverage?

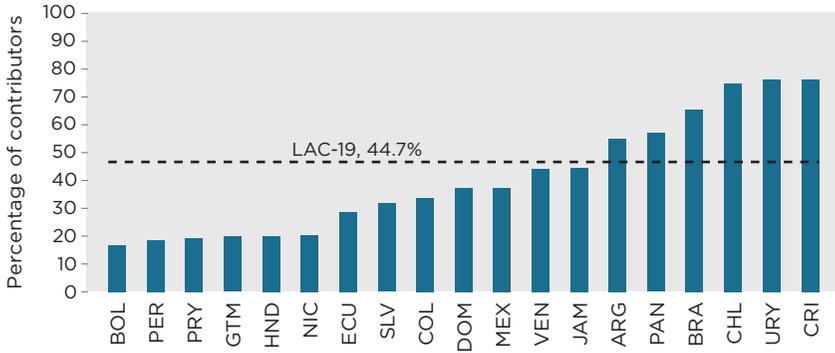
LAC is aging rapidly. In 2010, 6.8% of the region's adult population was over the age of 65. This figure is projected to reach 19.8% in 2050. Based on these numbers, the 2050 population over the age of 65 is expected to surpass 140 million (almost four times the current figure of 40 million).

Consequently, LAC faces the challenge of providing adequate income to the millions of elderly who will retire in the next few decades. If no mechanisms are developed to prevent a decline in income during old age due to the absence of adequate pension systems, the progress made in poverty and inequality reduction in the last 10 years (see Barros et al., 2009 and Lustig and López-Calva, 2010) could vanish. The structure that the region currently has in place to address this challenge is fragile: contributory pension systems that transfer current consumption (when a person is working) to future consumption (when the individual cannot work) are not working well. These systems depend on labor markets to force workers in the formal sector to save, i.e. everyone with a job through which they pay into a pension system. Despite the significant variability among countries, only an average of slightly more than four out of ten workers in LAC pay into a pension system at any given time (see Figure 1.1).

Given the region's limited capacity to create formal employment, the labor market is unable to generate sufficient compulsory savings to finance the pensions of a large number of workers (either because they never held a formal job or only had formal employment intermittently). According to the projections of this book, between 47% and 60% of these 140 million elderly adults (approximately 66–83 million) will reach retirement age lacking the necessary savings (or pension's rights) to fund a pension for their old age.

These alarming projections represent an enormous challenge for LAC countries, which will become a major political, economic, and social issue in coming decades. As the population ages, pressure to expand pension coverage will intensify. This is especially true because, by 2050, elderly adults will account for 20–30% of the potential electorate.

How countries choose to deal with low pension coverage will have serious repercussions, not only on the ability to provide security

Figure 1.1**Percentage of contributors out of total employed: 2010**

Source: Authors' calculations based on household surveys (circa 2010).

Note: LAC-19 corresponds to the weighted average for the 19 countries analyzed.

for the elderly, but also in many other areas of the region's economic output and social performance. Inadequate coverage translates into poverty among the elderly and their families (social consequences). Additionally, inadequate coverage also may also impose a burden on government finances as attempts are made to narrow the gap in pension coverage (fiscal consequences), as well as significant opportunity costs and problems in the labor market (economic consequences), and tensions in the intergenerational social contract (political consequences).

Social consequences stemming from inadequate coverage

A good pension system with broad coverage markedly reduces poverty in old age. A look at the region's figures shows that the elderly are not necessarily the poorest within a country. The average poverty rate in LAC among the elderly is 19.3%, compared to 30.7% for children under the age of 15 (see Table 1.1). The main factor that prevents the elderly from falling into poverty is an adequate pension system (Gasparini, Gutiérrez, and Tomarolli, 2007). In fact, in countries with pension systems providing broad coverage (measured as a percentage of elderly adults receiving a pension)—such as Argentina, Bolivia, Brazil, Chile, and Uruguay—the poverty rate actually falls in old age (in some

countries, this rate drops significantly). These results are in stark contrast to those of many other countries in the region in which the old age poverty level is similar to or greater than the national average.

If we compare countries with similar income and poverty levels, but with different levels of pension coverage, we see radical differences in old age poverty levels (see Figure 1.2). Pension systems with broad coverage also have the added benefit of lowering, to some extent, income inequality created by labor markets (see box 1.1).

Without an adequate pension system, the elderly must work beyond retirement age. In countries with high coverage levels, like Argentina, Chile, Costa Rica, and Uruguay, fewer than 5% of adults

Table 1.1
Poverty rate by age and country (as a %): 2010

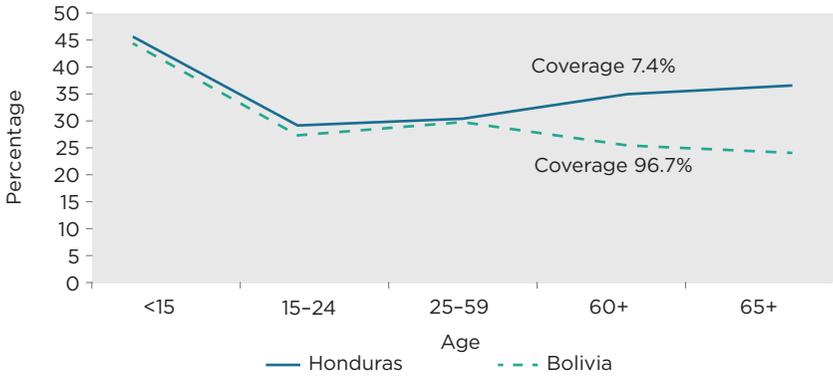
Country/Region	Total Population	<15	15-24	25-59	60+	65+
ARG	11.0	19.2	11.6	8.0	4.9	3.7
BOL	35.0	44.5	28.4	30.7	26.6	25.3
BRA	18.2	31.8	18.3	13.8	4.2	3.5
CHL	5.2	8.6	5.5	4.2	2.5	2.3
COL	37.8	46.3	36.3	31.0	42.2	44.3
CRI	11.6	16.7	8.7	8.5	17.0	18.5
DOM	18.7	26.8	16.6	14.0	16.0	15.6
ECU	17.6	24.0	15.1	13.8	16.2	17.2
SLV	27.1	35.2	24.9	22.4	20.3	20.7
GTM	33.9	42.4	28.9	27.6	28.2	29.1
HND	36.9	45.7	30.1	31.3	35.6	37.1
MEX	13.9	18.2	11.8	10.2	19.9	21.9
NIC	42.7	53.2	38.5	36.6	32.5	32.5
PAN	22.3	32.4	21.8	16.6	17.0	18.2
PRY	21.4	29.7	18.1	16.5	16.9	17.2
PER	25.2	36.0	21.4	20.1	19.5	20.1
URY	6.7	14.6	7.2	4.8	1.1	0.9
VEN	19.8	27.3	17.5	15.5	18.2	19.4
LAC-18	22.5	30.7	20.0	18.1	18.8	19.3

Source: Cotlear (2011).

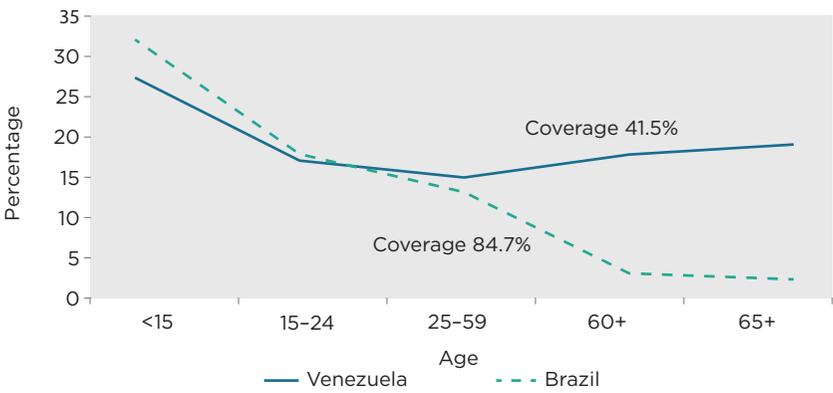
Note: Poverty line US\$2.5/day at PPP. LAC-18 corresponds to the weighted average for the 18 countries in the table.

Figure 1.2
Poverty rate by age: country comparisons, 2010

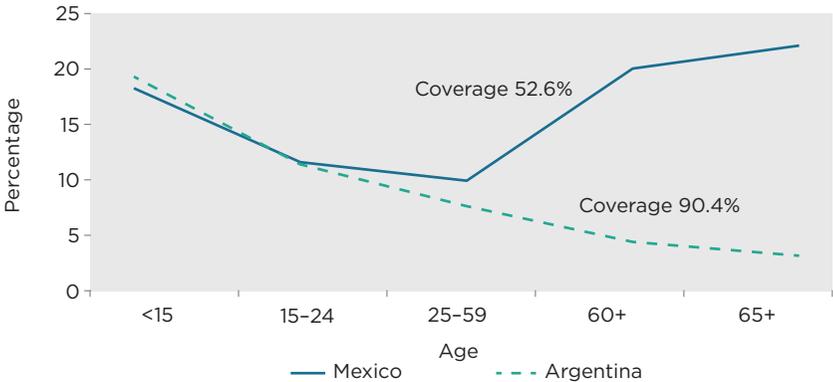
Low income



Middle income



Upper-middle income



Source: Authors' calculations based on Cotlear data (2011).

Note: Coverage refers to the percentage of adults 65 and older that receive a pension.

over the age of 80 still work. In contrast, in countries like Honduras, Nicaragua, and Peru, that figure is closer to 20%.

In countries where pension systems fall short, the increased poverty in old age is largely mitigated by the support families provide to older adults. This support functions as an unofficial safety net. Around 75% of elderly adults in Latin America live with their families, compared to 30% in Europe, the United States, and Canada (United Nations, 2005). This safety net, however, will be tested by two underlying and unavoidable trends. The first trend concerns medical advances and the expansion of healthcare, which means people are living longer. Today's life expectancy for a newborn in

Box 1.1

Do pensions reduce inequality?

Are pensions exacerbating inequality in LAC or reducing it? In order to answer this question, we must first answer the following: What are *pensions*? What does it mean to *foster inequality*?

Pensions are defined as income received by households from a social security system. There are at least two other types of *pensions*: 1) pensions from a (private) individual capitalization scheme and 2) non-contributory pensions (social assistance).

Pensions *foster inequality* if, after adding them to pre-retirement income causes the inequality indicators to rise.

Impact analysis from Argentina (2009), Bolivia (2009), Brazil (2009), Mexico (2010), Peru (2009), and Uruguay (2009) show the following results (see Table 1.1.1^a).

- Pensions as a percentage of gross domestic product (GDP) vary substantially. In Brazil, Uruguay, and Argentina they account for 9.1%, 8.7%, and 7.2% of GDP, respectively. In Mexico and Bolivia they account for 3.7% and 3.5%, respectively. In Peru pensions only account for 0.9%.
- In Uruguay, Argentina, and Brazil, which have systems with extensive coverage, pensions promote equality. In Mexico and Peru, pensions contribute slightly to inequality. In Bolivia, the impact is neutral.

Given this situation, it is impossible to state *a priori* that pensions in LAC are systematically regressive. In fact, pension systems with broad coverage systematically reduce inequality. However, the fact that pension systems are causing imbalances in Mexico and Peru is particularly worrisome, since the social security systems in these countries partially depend on general taxes.

^a For references see the table. The year in parenthesis is the year households were surveyed for the impact analysis.

Box 1.1 Do pensions reduce inequality? (continued)

Pensions are also important from the point of view of poverty reduction, especially in Uruguay, Brazil, and Argentina. Nevertheless, pensions have essentially no effect on poverty in Peru. These results are directly related to pension coverage among the elderly as well as to per capita pension spending. These results are also closely related to the levels of informality in many countries, which often prevents people who have retired from informal jobs to collect pensions. Nevertheless, a lack of effective monitoring systems in some countries (for instance in Uruguay) has allowed people who have never contributed to the pension system (or who have not contributed for a sufficiently-long time), to receive old-age pensions.

Table 1.1.1:
Analysis of the impact of pensions on poverty and inequality in selected LAC countries

	Argentina (2009)	Bolivia (2009)	Brazil (2009)	Mexico (2010)	Peru (2009)	Uruguay (2009)
Pensions as % of GDP	7.2	3.5	9.1	3.7	0.9	8.7
Gini pre-retirement	0.506	0.503	0.600	0.509	0.503	0.527
Gini post-retirement	0.489	0.503	0.579	0.511	0.504	0.492
Variation (%)	-3.4%	0.0%	-3.5%	0.4%	0.2%	-6.6%
Poverty pre-retirement	16.8	20.0	20.7	13.3	15.5	8.5
Poverty post-retirement	13.0	19.6	15.1	12.6	15.2	5.1
Variation (%)	-22.6%	-2.0%	-27.1%	-5.3%	-1.9%	-40.0%

Source: Lustig, Pessino and Scott (2013).

Note: Poverty as a percentage is measured based on the international poverty line of US\$2.50/day, using purchasing power parity (PPP) exchange rates. For Argentina, the Gini pre-retirement/poverty % is for net market income (i.e. market income minus income taxes and social security contributions). For the other countries, the Gini/poverty index is for market income. For definitions and methodology see Lustig, Nora and Sean Higgins (2013).

LAC is 74.2 years; 2050 estimates place this figure at 80.3. Although increased life expectancy is undoubtedly good news, especially if combined with improved quality of life, it is also the case that increased life expectancy will dramatically change the age structure in the region. The second trend relates to the number of children per family and suggests that families will become smaller over time. The average family in 1960 in the region had 5.9 children; in 2000, 2.5 children; and in 2050, the figure is expected to fall to 1.8 (Celade, 2011).

Another dimension of this problem relates to gender. Both tradition and the family structure of the majority of the region's households dictate that many of the tasks associated with caring for the elderly fall to women. In Mexico, for example, daughters spend an average of 22 hours per week caring for an elderly adult, while sons spend eight (Águila et al., 2010). In Chile, 86% of those caring for the elderly are women. This role is typically carried out by the wife or daughter of the elderly adult (Cannobbio and Jeri, 2010).

Inadequate coverage, in conjunction with shifting demographics, will force many families to allocate more economic and human resources to caring for their elderly. These economic resources could be employed for other purposes, like investments in health, education, or even housing that families should be making for future generations. The absence of adequate pension coverage may force some members of the family, most likely the women, to leave the workforce in order to care for the elderly in the absence of adequate coverage.

Fiscal consequences: Pressures of visible and latent costs

Historically, the primary concern of countries in the region with regard to public pension systems has been their fiscal sustainability, given the fiscal costs generated by the region's aging population. As previously noted, this situation was one of the key reasons for implementing the pension reforms of the 90s. In fact, the fiscal cost of both public pay-as-you-go systems and the transition are still seen in most of the region's countries (see Table 1.2). This is the case in Brazil, Colombia, and Uruguay where social security expenditures significantly exceed combined spending on health and education. Even in Chile, which had a 15-year head start on the rest of the region, pension costs account for 3% of the gross domestic product (GDP) (ECLAC, 2012).

Lack of pension coverage also has a hidden fiscal cost in the region. Democratic governments in LAC will not be able to ignore the demands of a growing proportion of the population (see the developing political implications below). As such, countries will be forced to

Table 1.2
Social spending in the region as a percentage of GDP, 2009

Country	Total	Education	Health	Social Security	Others
ARG ^a	27.8	6.7	6.2	12.9	2.0
BOL ^b	18.4	8.0	3.2	5.7	1.5
BRA ^a	27.1	5.9	5.2	14.1	1.9
CHL ^c	16.7	4.7	4.1	7.5	0.4
COL ^c	14.5	3.1	1.9	8.6	0.9
CRI ^d	22.4	7.0	6.6	6.4	2.4
ECU ^c	9.4	5.4	1.8	1.7	0.5
SLV ^b	13.0	3.9	4.1	4.3	0.7
GTM ^e	8.1	3.5	1.4	1.2	2.0
HND ^c	12.2	8.0	3.5	0.7	0.0
JAM ^c	10.7	6.6	2.7	0.5	0.9
MEX ^f	11.2	3.9	2.8	3.0	1.5
PAN ^c	10.5	4.0	2.2	1.6	2.8
PRY ^g	11.0	4.7	2.3	3.9	0.2
PER	10.0	3.2	1.6	3.3	1.9
DOM ^c	7.7	2.4	1.4	2.2	1.7
URY ^a	23.3	5.2	4.9	11.6	1.7

Source: ECLAC (2012).

Note:

^a Consolidated government.

^b Refers to the non-financial public sector.

^c Refers to the central government.

^d Total public sector.

^e Central administration.

^f Budgetary public sector.

^g Refers to budgetary central government.

allocate more and more resources over time in order to compensate for deficient pension coverage.

As more resources are spent to narrow the gap in pension coverage, this hidden cost is beginning to materialize in some countries. More than half of the countries in LAC currently have some sort of non-contributory pension system that provides pension benefits not tied to prior contributions. Argentina, Bolivia, and Chile are examples of how this type of pension system has raised pension coverage to levels comparable to countries in the Organization for Economic Cooperation and Development (OECD). This coverage was attained

through significant budget spending. In Argentina, for example, spending on non-contributory pensions grew to 2% of the annual GDP. As a result, the country was able to expand pension coverage from 70% to 90% in less than one year (Lustig and Pessino, 2012). Brazil spends more and 1% of its annual GDP on non-contributory pensions (rural and urban). Bolivia spends 1% and Chile around 0.9% of GDP (see Figure 1.3). Subsequent chapters in this book will show that the cost of non-contributory pensions could triple in terms of GDP spending in the coming decades as a result of population aging.

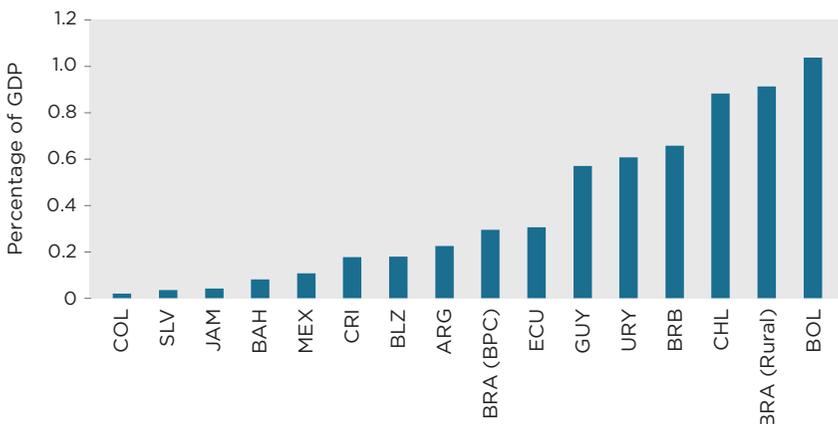
Therefore, inadequate coverage in contributory systems is already incurring not only contingent but also explicit liabilities through future non-contributory pensions. The foreseeable future expansion of these pensions underscores the fiscal challenges caused by demographic shifts.

Economic consequences: The real value of pensions

The experiences of Argentina, Bolivia, Brazil, and Chile send a clear and encouraging message: eliminating poverty in old age is possible. But these experiences also send a warning: providing universal coverage requires a serious mobilization of resources. Since there are no additional, easily-accessed revenue sources for the governments of

Figure 1.3

Public spending on non-contributory pensions (as a % of GDP)



Source: Authors' calculations based on HelpAge data (2012).

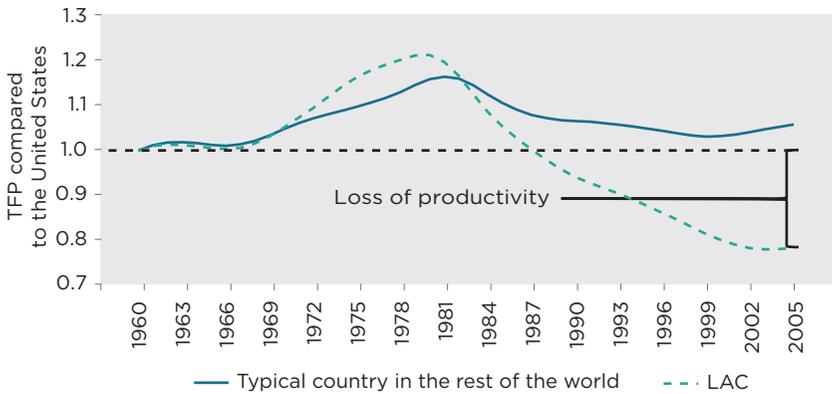
the region, the State must transfer considerable resources from other necessary programs (such as infrastructure, health, and education) to the pension system.

The implementation of non-contributory pension systems could also negatively impact current contributory systems and the functioning of labor markets, especially if a non-contributory system is implemented as a parallel system that could be viewed as an alternative to the contributory system. More specifically, this implementation could diminish the incentive for workers, especially those in the lower or middle part of the income distribution, to obtain formal employment that would require paying into the contributory pension system. This case will be particularly evident in systems in which the non-contributory part is not integrated with the contributory part, and receiving the pension is restricted to those who do not receive a pension from the contributory system. In the long term, this design has the potential to further distort labor markets, which already underperform in formal job creation and, as a result, in pension savings.

These non-contributory programs are not restricted to pensions. The inability of labor markets to provide broad social security benefits to most citizens has led to the creation of non-contributory programs throughout the region to address healthcare, housing, and daycare services. These non-contributory programs, in turn, are in practice forming a parallel social safety net for those working in the informal sector (Levy, 2008). Although the improved welfare of beneficiaries is tangible, it bears noting that these types of programs effectively subsidize informal employment, which hampers formal job creation.⁴ The resulting impact is fewer people paying into the contributory pension system.

Finally, from a macroeconomic performance standpoint, pension systems can be set up to be either an ally or a burden on productivity growth. The region has lost ground relative to the United States in the last 40 years in terms of productivity (see Figure 1.4). The current GDP per capita ratio is 40% lower than in 1960. Most of this decline is due to a persistent loss in productivity, compared to the United States since

⁴ See Bosch and Campos (2010); Camacho, Conover and Hoyos (2009), and Amarante et al. (2011).

Figure 1.4**Change in productivity: United States vs. LAC 1960–2006**

Source: Pagés (2010).

Note: TFP is the total factor productivity that measures the efficiency of the economy.

the early 80s. This lost productivity stems largely from the region's inability to efficiently allocate resources. A well-designed pension system could promote domestic savings, as well as formal employment and productivity in the workforce (Pagés, 2010; Powell, 2013).

Political and institutional consequences: (Almost) everything is politics

In the coming decades, adults over the age of 65 will account for between 20% and 30% of the potential electorate in the region. As such, their demands will be decisive in determining the outcome of elections. Offsetting inadequate pension coverage, therefore, will most likely be a requirement for future generations. In Europe, where the demographic shift is already quite advanced (the percentage of adults over the age of 65 is triple the number in LAC: 16.5% vs. 6.8%), several authors have shown how politically difficult it is to carry out reforms that would lower pension benefits for elderly adults (Galasso and Profeta, 2002; Mulligan and Sala-i-Martin, 1999).

Given the lack of strong institutions and clear rules on fiscal oversight in the region, public spending could favor those segments of the population with greater political influence. This political problem

is especially daunting in the case of guaranteeing pension benefits: the political gain is immediate, while most of the cost is paid by future generations. This effect will be more pronounced as the region's population ages.

In terms of a country's economic development, allocating large portions of the budget to pension spending may not be the most efficient use of funds. It is likely that productive investments in health, education, and infrastructure—areas in which the region lags—will more effectively promote economic growth in the long term and, thereby, benefit future generations. Brazil is an example of a country that spends around 1% of GDP to provide pensions to approximately six million elderly adults in rural areas. Meanwhile, Brazil spends 0.5% of GDP on the conditional cash transfer program *Bolsa Família*, which aims to boost education numbers and healthcare for future generations. This program benefits more than 50 million people in 11 million households.

Clearly, inadequate systems to transfer present-day savings to future savings through the labor market constitute a multi-faceted challenge that countries must face in coming decades. With the exception of Argentina and Uruguay, where significant population aging has already taken place the rest of the countries in LAC still have relatively young populations. This means there is still time for reform, but the demographic window is quickly closing.

Guide

This book has three overarching objectives: First, to offer a diagnostic analysis of pension coverage in LAC. Second, to present a conceptual framework to understand and organize the lessons emerging from the diagnostic analysis. And, third, to offer guidance on where to advance reforms. Obviously, the region is extremely heterogeneous with important differences in terms of needs and available policy instruments across countries. As such, this book does not aim to provide prescriptions or one-size-fits-all solutions. Rather, this book seeks to provide an understanding of the causes of observed problems in the pension systems of the region and to establish the possible paths toward improving them,

based on the accumulated evidence from the region. The focus is on addressing the functioning of labor markets, without delving into other financial and actuarial aspects, which will be addressed superficially.

Below is a brief summary of the following chapters.

Understanding the magnitude of the challenge (Chapter 2)

The challenges the region faces are of great magnitude. To set the stage, Chapter 2 will describe the current pension coverage landscape focusing on 10 basic facts, including the nuances stemming from the significant differences among the countries. Although the LAC region has not seen pension reforms similar to those of the 90s, the last decade did see important innovations, especially in expanding non-contributory pillars. These transformations created a pension reality marked by contrasts, with considerable advances in coverage and enormous doubts as to the capacity of labor markets to provide a savings mechanism capable of withstanding the region's approaching demographic shift.

Understanding that pensions are much more than just pensions (Chapter 3)

A key message of this book is that pension systems have implications far beyond just finding mechanisms to provide a decent income to elderly adults. Beginning with the title, *Better Pensions, Better Jobs*, the book hopes to establish the close link between pension systems and the entire tax, labor, and social architectures that are financed through labor markets. Chapter 3 reflects on the problem of inadequate coverage and makes the argument that the region's countries are in this situation because of the original design of social security and a balance resulting from the decisions of the State, workers, and companies. Understanding this equilibrium provides the context in which to assess the various alternatives available to expand pension coverage.

Learning from others' experiences (Chapter 4)

LAC is one of the regions in the world that has witnessed some of the greatest innovations in social and economic policies. On this basis, Chapter 4 critically documents some of the policies that have been

implemented to expand pension coverage. Unanswered questions nearly always outnumber the available answers in this discussion, and it is imperative to know more about the quantitative and qualitative impact of many of the measures that countries are already putting into practice.

Moving in the right direction (Chapter 5)

The starting point for countries in the region and their pension systems are very diverse. As such, it is impossible to provide any specific recommendation that could solve this challenge in all countries. However, most of the principles and potential instruments for applying these recommendations are relatively generalizable. This chapter will study these principles and instruments. In order to carry out the analysis, the book proposes two key concepts that operate as a guide towards universal coverage. The first concept states that, if the real goal is universal coverage, the object of pension system design must be the citizens, not just workers. This goal can be attained with a universal pension for adults of a certain age and with a specific residence status. Given that this pillar exists or is being expanded in many countries, this book advocates for making this pillar universal, as well as providing the institutional framework necessary to fiscally sustain it in the long term.

The second concept establishes the pressing need to expand coverage by bolstering mandatory contributory systems in order to guarantee pension coverage in the long term. Possible measures to achieve this expansion include subsidizing contributions, improving oversight in labor markets, improving financial literacy and education, and innovating in savings mechanisms for certain groups. This chapter quantifies the costs of these measures and estimates their potential to improve coverage.

Ensuring fiscal and political sustainability of the reforms (Chapter 6)

Reforms aimed at achieving universal coverage will require additional resources. This book estimates that a universal pillar and a sizable subsidy of contributions could cost between 1 and 2 percentage points of the 2010 GDP, approximately 1 percentage point more than

current spending on non-contributory pensions, a cost that could stay constant over time, if pension levels are indexed to inflation. Chapter 6 will analyze the best sources of funding for these resources and the most efficient way to navigate the complex political economy of these pension reforms.

An aerial photograph of a coastline, showing the transition from dark blue water to lighter turquoise and then to a sandy beach. A red pushpin is stuck into the water, with a dashed white line tracing a path from the top of the page down to the pushpin. Another dashed white line curves along the right side of the image.

TEN BASIC FACTS ON PENSION
COVERAGE IN THE REGION

2

Summary:

Some of the region's countries have failed at providing an adequate mechanism for saving for old age, and most elderly adults receive no pension at all. A few countries have made great strides in pension coverage through non-contributory benefits that have grown at a spectacular rate over the last decade. However, to a greater or lesser extent, all countries in the region have encountered difficulties in providing workers in the labor market with a path to continuously save. Nearly a century after implementing the first social security laws, and despite the pension reforms of the 1990s, future generations in most of the region's countries will face a very precarious situation. By 2050, between 47% and 60% of elderly adults will not have saved enough to finance a dignified retirement. The situation is worse for women, given their lower participation in the workforce. This chapter assesses the magnitude of the task that lies ahead.

Defining and measuring coverage

In the region coexist several pension systems: pay-as-you-go and defined benefit systems; individual capitalization and defined contributions systems; and mixed systems. The advantages and disadvantages of these systems in terms of fiscal sustainability and distribution of risk between workers and the government are well known.¹ Yet, all of the region's pension systems share a common practical challenge: they lack the capacity to guarantee an adequate pension to a significant portion of elderly adults.

The context

Pension coverage is a difficult concept to define, measure, and predict. Unlike other insurance types (health, accident, or life), in which the contribution that is made at a given time provides immediate coverage against risk, obtaining pension coverage requires a prolonged series of contributions. An individual paying into a pension system today will not necessarily be covered against the risk of poverty in old age. While it is a relatively easy task to determine who is receiving a pension today, knowing who will collect a pension tomorrow is much more complicated. There are three circumstances that complicate this prediction:

- *First, many people who pay into a pension system at some point (including over a number of years) will not receive any pension.* Many pension systems require paying into the system for a minimum number of years in order to be able to collect a pension (see Table 2.1). For example, in Peru, if an individual does not contribute to the public pension system for at least 20 years, he cannot collect a pension. Likewise, in some defined contribution schemes, if a person does not pay into the system for a specific number of years before reaching retirement age, his or her savings may not be converted into a regular pension. In this case, although the

¹ See Box 2.1 for a summary based on Barr and Diamond (2006).

Box 2.1 Pension systems: defining the concepts

Although this book is not intended to be a manual about pensions, it is still useful to define some concepts for the remaining chapters.

Types of pension systems

Defined benefit systems (DB). The pension received in these systems is determined by a rule based on the contribution history of the employee. The benefits rule may be set according to the employee's last salary payment or over a longer period (i.e. the last five or ten years of contributions).

Defined contribution system (DC). In this system, the pension received is determined by the value of the assets accumulated by an individual over his or her working life. The benefits may be withdrawn all at once, scheduled for programmed withdrawals, or used to purchase an annuity, which would provide monthly income for the remaining life of the individual.

Non-contributory pension (NCP). The pension received in this system is not determined by any contribution made by the individual. The pension may be granted universally, like in Bolivia, or be more targeted. An example of the latter would entail meeting requirements such as a certain level of income or not collecting a contributory pension at all (normally the government sets a pension level and adjusts it over time).

Funding

Fully funded. Pension benefits are paid from the assets accumulated through the pension plan.

Partially funded. Pension benefits are paid both from the accumulated assets and current contributions from workers or general taxes collected by the government.

Unfunded. Pension benefits are paid from contributions or general taxes collected by the government. Partially funded or unfunded systems are typically called pay-as-you-go or PAYG.

Although, in theory, the combinations of systems and funding schemes can be varied (see Barr and Diamond, 2006), the region's defined benefit systems are either partially funded or unfunded. This situation requires an intergenerational transfer of workers' assets (those who make contributions) to elderly adults who contributed in the past and are now collecting a pension. These systems will experience greater fiscal risk stemming from growing demographic pressures. Defined contribution systems are fully funded and, therefore, each generation's pension is financed by its own savings. Non-contributory pensions are an extreme example of a defined benefit system in which there are no contributions and, as such, must be funded through general taxes.

(continued on next page)

Box 2.1**Pension systems: defining the concepts** *(continued)***Different systems distribute risk differently**

There are two key types of risk in pension systems: longevity risk and financial risk.

Longevity risk describes the case where the worker/insured outlives his or her life expectancy and runs the risk of exhausting accumulated funds to pay the pension.

Financial risk stems from the value of pension savings being tied to the return on investments made in financial markets, whose volatility can, in poor market conditions, generate negative return rates.

In defined benefit systems, the government, or the public or private entity promoting the plan, assumes both the longevity and the financial risks during the active life of the contributor (while he or she is paying in) and during his or her passive life (while collecting a pension).

In defined contribution systems, the contributor assumes the longevity and the financial risks during his or her active life. Upon reaching retirement age, the contributor can opt for two different products: an annuity or a scheduled withdrawal, or, sometimes, a full withdrawal of the funds.

If the insured opts for an annuity, he or she must hand over the accumulated capital to an insurance company that will then assume both the longevity and financial risks. If the insured chooses a scheduled withdrawal, he or she maintains control of the accumulated amount and the fund administrator will pay the insured a monthly sum, which will be recalculated annually based on financial performance and the updated estimated life expectancy. Therefore, the contributor also assumes the longevity and financial risks during his or her passive life.

Systems in the region

There is a vast diversity of systems in the region. Prior to the big reforms of the 1990s, all countries in the region had defined benefit systems that were more or less funded. Following the Chilean reform in 1981, nine additional countries adopted defined contribution systems. However, defined benefit systems still exist, even in countries that adopted reforms. In Chile, El Salvador, Mexico, and the Dominican Republic, defined benefit systems still exist up to when the policies are set to expire. In Colombia and Peru, defined benefit systems are permanent and exist in parallel to the defined contribution systems; workers can choose one or the other. In Costa Rica, Panama, and Uruguay they are integrated with the defined contribution systems and, therefore, the pensions granted in these countries are a combination of benefits derived from both systems.

(continued on next page)

Box 2.1 Pension systems: defining the concepts *(continued)*

Table 2.1.1
Contributory systems in select countries in Latin America and the Caribbean

Country	Contributory scheme	
	Defined benefit scheme	Defined contribution scheme
Argentina	√	
Bahamas	√	
Barbados	√	
Belize	√	
Bolivia	√	
Brazil	√	
Chile	√ (T)	√
Colombia	√ (P)	√
Costa Rica	√ (I)	√
Ecuador	√	
El Salvador	√ (T)	√
Guatemala	√	
Guyana	√	
Haiti	√	
Honduras	√	
Jamaica	√	
Mexico	√ (T)	√
Nicaragua	√	
Panama	√ (I)	√
Paraguay	√	
Peru	√ (P)	√
Dominican Rep.	√ (T)	√
Trinidad and Tobago	√	
Uruguay	√ (I)	√
Venezuela	√	

Source: Prepared by the authors based on pension system information.

Note: T = transitory; P = parallel; I = integrated.

person receives a one-time payment for the amount of accumulated savings upon retirement, based on his consumption pattern, it is possible that this single payment will not fulfill its purpose as an insurance against poverty in old age.

- *Many contributory pensions will be insufficient.* It is common to make a distinction between covered (with a pension) and uncovered (without a pension) individuals, but the reality is much more complex than this. It is true that many elderly adults have never paid into a pension system. However, as we will see later on, for those who did contribute, the percentage of time paying into a pension system, called contribution density, varies greatly; while some contribute during their entire working life, others have contribution densities that are very low or intermittent. This is particularly prominent in LAC, where there is a high rate of transition between formal and informal sectors. The result is considerable diversity in the level of pension benefits. Some payouts of

Table 2.1
Minimum number of years required to receive a contributory pension

Country	Years	Country	Years
Argentina	30	Guyana	15
Barbados	10	Honduras	15
Belize	10	Jamaica	29
Bolivia	—	Mexico	25
Brazil	30/35	Nicaragua	15
Chile	—	Panama	18
Colombia	23.5	Paraguay	25
Costa Rica	37.5/38.5	Peru	20
Cuba	25	Dominican Republic	—
Dominica	10	Trinidad and Tobago	15
Ecuador	30	Uruguay	30
El Salvador	25	Venezuela	15
Guatemala	15		

Source: Pallares-Millares, Romero, and Whitehouse (2012).

Note: When the minimum number of years of contribution is different between men and women, they are presented in the table as M/W.

pensions upon retirement are below the poverty line or are only a small fraction of the pre-retirement income.

- *Individuals who contribute little or nothing to the system can collect a pension.* Some systems have non-contributory pillars through which eligible individuals can collect a pension, even though they have not made any contribution during their working lives. This type of non-contributory pillar is proliferating throughout the region. For example, in Bolivia where historically less than 20% of the active population has paid into a pension system, coverage rates are close to 90% of the population due to its universal pension program (*Renta Dignidad*). Similarly, around 90% of the rural population in Brazil is covered, while barely 5% of the rural employed population contributes.

Consequently, predicting who will have an adequate pension in the future is an extremely complicated task—both for individuals, who often are unaware of the rules of pension systems, and for the governments, which often lacks the data and tools necessary to make this prediction. It goes without saying that the percentage of affiliated people, or even the percentage of contributing members at a given time in a pension system, is a highly imperfect measure to determine the percentage of elderly adults that will be covered by a pension when these cohorts reach retirement age. This information, however, is often the only information available to make these predictions.

Against this backdrop, countries need good data and good tools to estimate what percentage of elderly adults will be covered by a contributory pension and what that amount will be. This is the only way to quantify the magnitude of the coverage problem and, in turn, estimate the potential cost of closing this gap.

This chapter, and those that follow, use information from household surveys from LAC countries. These surveys establish who currently has a pension and who is currently insured/contributing to a pension system. To the extent possible, we also use the data available from administrative records that provide basic information on the insured/contributors within a pension system and, most importantly, the contribution density of the insured.

Definitions

Throughout this book, we distinguish between: 1) contributions to a pension system through the labor market—what we call *pension savings*, and 2) having access to an “adequate” income in old age—what we call *pension coverage*.² However, the adjective “adequate” is difficult to define. Typically, a pension is deemed adequate if the payable pension amount exceeds an absolute threshold (i.e. one or two times the poverty line), but also if it comprises a significant portion of the worker’s income during his or her working life.³ While it is relatively simple to obtain the current pension benefit level of individuals through the household surveys, knowing what percentage this represents compared to the worker’s past salary on an individual level requires a wealth of administrative data that rarely exists.

In general, pension savings refers to mandatory contributions made to a pension system. This pension savings amount is generated in the formal employment sector. Although the definition of formal is also rather complex (see Box 2.2), for the purposes of this book formal employment refers to work in which the individual and his employer make contributions to social security. Under this understanding, formal employees and contributors are the same.

This book distinguishes between pension coverage types: what we call *contributory coverage* (such as the case for individuals who receive a pension funded by their savings in the form of contributions) and *non-contributory coverage* (individuals who receive a pension that was not funded by their own savings). We anticipate that in some cases it will be impossible to distinguish between the two, as the source of information does not specify.

Finally, due to space constraints and the information required, the purpose of this publication is not to perform an actuarial analysis of each country or analyze the variety of pension systems and

² Strictly speaking, defined benefit systems do not have individual savings since today’s contributions pay for today’s pensions (see Box 2.1); however, there is a notional savings in that workers pay in/save today to have a future pension.

³ For example, the International Labor Organization (ILO) in its Convention 102 establishes that the pension of a worker who paid into a pension system for 30 years should represent at least 40% of the benchmark salary.

Box 2.2 Defining informality

Defining informal employment (in contrast to formal) is no trivial task. Since the time that the British anthropologist Keith Hart (1973a) began using this concept to refer to the emerging *informal economy* in Ghana, many authors and institutions have employed the terminology somewhat loosely. Definitions of the informal sector are often determined by what can be measured in practice. The two most common measures are: the *productive definition*, which considers non-salaried workers and owners working in small-sized production units (fewer than five employees) to be informal; and the *social protection definition*, which defines a worker as formal if he is covered by the social benefits provided by the country's social security. Other definitions use the existence—or lack of—a written employment contract and the legal status of the worker as elements to differentiate between formal and informal employment.

When this book uses the term “informal worker,” it is referring to a person that does not pay into a pension system at a given time. This definition, while practical for the purposes of this book, is not problem-free.

Many workers in the region are not required to contribute, which means they could be both informal (according to this book's definition) and legal, given that they are not breaking any current laws in the country. The best example would be a non-salaried worker in countries like Bolivia, Ecuador, or Mexico, where contributing is optional for this group of workers.

Furthermore, establishing who pays in at a given time is not always easy. Although most surveys gather this information, some only report on salaried workers (Argentina, Ecuador, Paraguay, Peru, Dominican Republic, and Venezuela) while others only report whether the worker is affiliated or not with social security (Bolivia and Dominican Republic), which means that at some point he or she contributed, but does not necessarily continue to do so.

This becomes even more complicated when looking at the concept from a firm's standpoint. It is difficult to talk about firms that are either completely formal or informal. While researching the case of Mexico, Busso, Fazio, and Levy (2012) argued that there are firms that can hire salaried (for whom they must contribute) and non-salaried (for whom they have no obligation to contribute) workers. There are also firms that contribute for only a portion of salaried employees. For example, only 20% of workers in Mexico work in firms that are legal and formal (i.e. firms that only hire salaried workers and register all employees in social security). An additional 20% work in illegal and informal firms (i.e. firms that only hire salaried workers and do not register them in social security). The rest of Mexico's workers tend to be employed in “mixed firms” that comply with the law in some cases but not in others, or that employ a combination of workers with different social security obligations.

regulations. However, we will bring a quantitative perspective to this analysis. Many sections make pension coverage and spending predictions. These predictions are based on stylized hypotheses

that serve to illustrate arguments relevant to the discussion. To the extent possible, this book distinguishes between reliable estimates, which stem from variables whose evolution is well known (like demographics), and less reliable estimates that are difficult to quantify in the long term and for which there is limited information (like contribution densities).

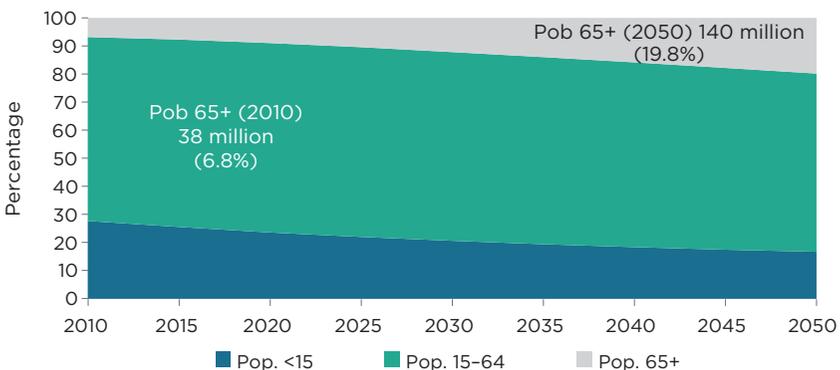
Ten facts on pension coverage in Latin America and the Caribbean

Fact #1: The region is aging rapidly

The number of adults over the age of 65 as a percentage of the overall population will nearly triple in the coming decades (see Figure 2.1). The region is enjoying a great *demographic bond*, in which there are many young people for each elderly adult. But this dividend will be short-lived. In 2010, there were 38 million adults over the age of 65 in the region. In 2050, this figure will balloon to 140 million (Celade, 2011). This means that the number of elderly adults will increase by 2.6 million every year between 2010 and 2050. The number of working-age adults per elderly adult in the region will decrease from 9.6 in 2010 to 3.2 in 2050.

Figure 2.1

Percentage population distribution by age group in Latin America and the Caribbean, 2010–2050



Source: Celade (2011) and United Nations (2010).

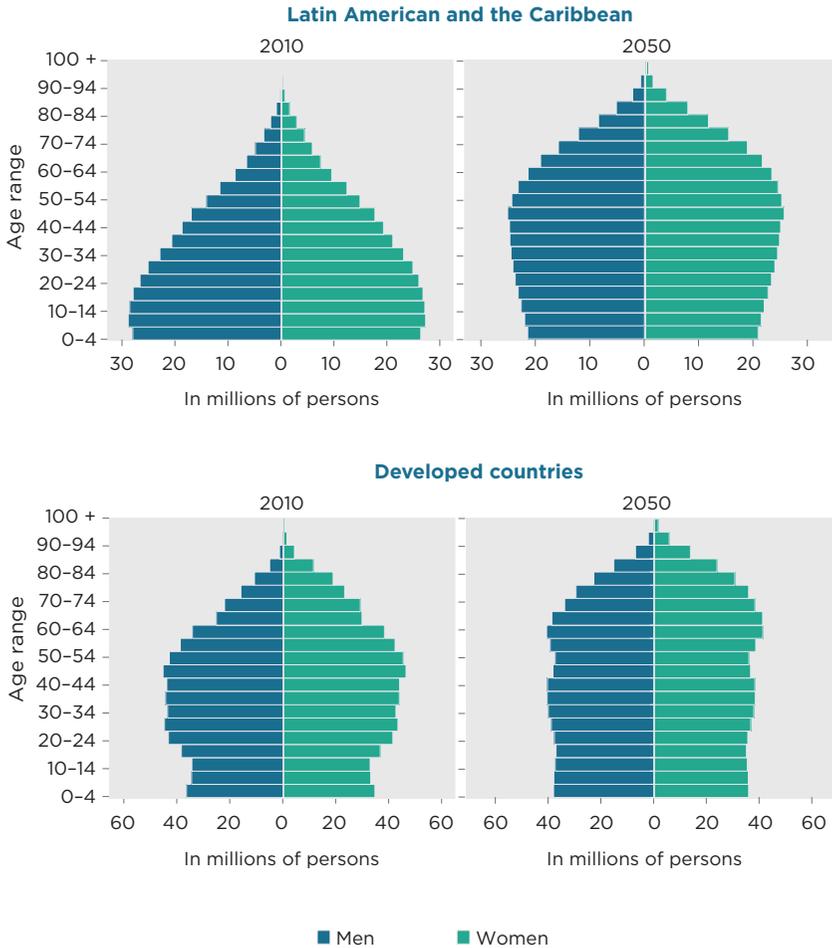
The reason the elderly adult population will increase is due to a rapid growth in life expectancy at birth (from 74.2 years in 2010 to 80.3 years in 2050) combined with a drop in the fertility rate (from 2.1 in 2010 to 1.8 in 2050). The region's demographic shift is a fact, not a condition subject to government decision-making. Within 40 years, the population pyramid of countries in the region will be very similar to that of advanced countries (Figure 2.2).

One of the most significant consequences of this demographic shift is that families, which currently are the primary caregivers and support systems for elderly adults, will be subject to increasing pressures. There is serious doubt whether the social safety net provided by families will withstand the region's aging-population pressures. The parents support ratio, which is defined as the ratio of the population over the age of 80 to the population between 50 and 64, will increase from 10 in 2000 to 30 in 2050 and 67 in 2100. Based on patterns of elderly adult care seen in the region today, women (daughters, sisters, daughters-in-law, and nieces) will be the ones to assume the responsibility of caring for these elderly adults (Celade, 2011).

However, as is the case with many other aspects, the region is highly diverse in terms of aging. There are LAC countries whose aging population demographics are similar to those of European countries. In Uruguay and Argentina in 2000, there were 4.8 and 6.3 working-age adults for every elderly adult, respectively. These figures will drop to 4.0 and 5.1 in 2050. Populations in other LAC countries are rapidly aging. In 2000, Brazil, Costa Rica, Ecuador, Mexico, Panama, and the Dominican Republic had around 11 working-age adults for every elderly adult, but in 2050 that figure will fall to six young people for every elderly adult. Other countries, although their populations are aging, will continue to enjoy a few more decades of the demographic bond. Bolivia, Guatemala, Honduras, and Nicaragua will have 10 working age adults for every elderly adult (Figure 2.3) by 2050.

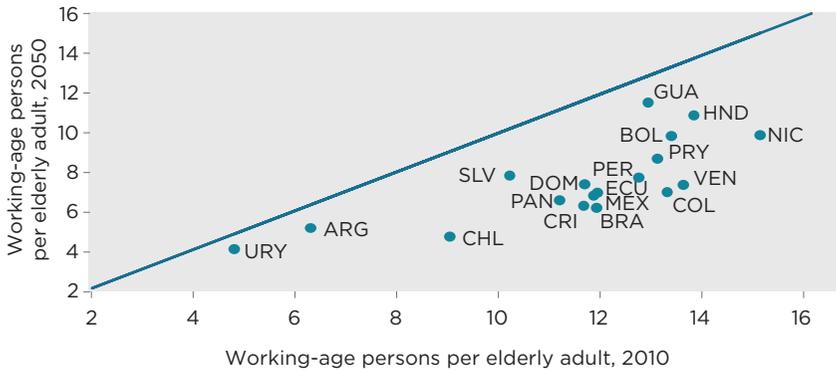
Among other consequences, this demographic transition will make pension policy a public policy priority. Governments will be forced to address the demands of a growing segment of the population that is approaching the end of their working life without having the savings necessary to fund old age. In democratic countries, it

Figure 2.2
Population pyramid in Latin America and the Caribbean and in developed countries, 2010–50



Source: Celade (2011) and United Nations (2010).
 Note: The Developed countries include European nations, North American countries (except Mexico), Australia, New Zealand, and Japan.

is unlikely that governments will be able to ignore these demands given that the political power of the elderly will increase as the percentage of elderly adults grows with the demographic transition. In 2010, the 65-and-over population accounted for approximately 10% of the electorate. In 2050, this population segment will represent 23% and in some countries like Chile, the segment will make up 27% of the electorate. Moreover, the fact that elderly adults are more likely

Figure 2.3**Number of working-age persons per elderly adult, 2010–50**

Source: Celade (2011).

to vote than younger people means that the effective percentage of the electorate made up by the elderly could reach 30% (Machado and Vesga, 2013).

In countries in the region with defined benefit systems that are only partially funded or are unfunded (see Box 2.1), the aging population will create mounting fiscal pressures in the future. Pay-as-you-go systems that use current contributions to pay for today's pensions will face serious challenges. This challenge is not limited to these systems—countries with capitalization and defined contributions and those with mixed systems will also feel these demographic pressures. The fiscal burden of the non-contributory pillars that are being expanded throughout the region will largely depend on the demographic transition of countries. Countries like Chile and Mexico, both with defined contribution systems, will also be directly affected by their aging populations as these countries are rapidly expanding their non-contributory pillars.

Fact #2: The percentage of elderly adults that currently collect a contributory pension is low, but there have been significant increases in coverage through non-contributory pillars.

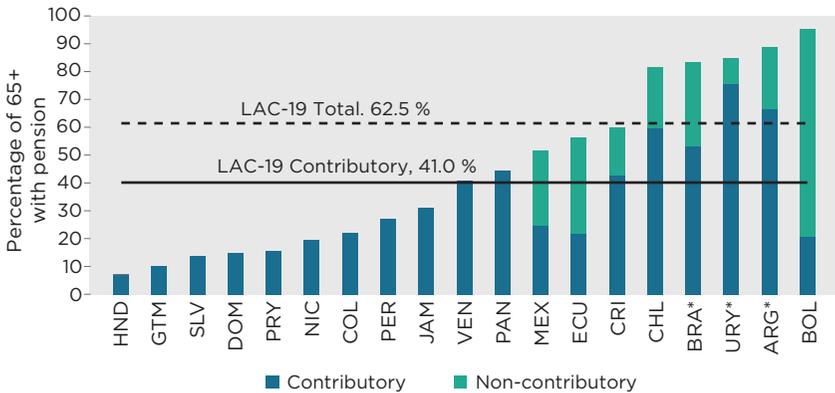
Coverage (measured as the percentage of elderly adults with access to a pension) in the region is low. On average, barely four out of every ten elderly adults in LAC currently have a contributory pension

(Figure 2.4). Nearly a century after implementing the first social security laws, and despite the big reforms of the 1990s, access to a contributory pension remains relatively limited.

In the region, different levels of pension coverage coexist. In countries like El Salvador, Honduras, or the Dominican Republic, the percentage of elderly adults with a pension is under 15%. In another cluster of countries (Colombia, Ecuador, Nicaragua, Peru, and Venezuela), between 20% and 40% of the adult population receives a pension. Only countries like Brazil, Argentina, Chile, and Uruguay have a contributory coverage figure higher than 50% of the elderly adult population.

The above information notwithstanding, there have been large increases in pension coverage in recent years given the expansion of non-contributory pensions. Once you include the non-contributory pillars, the proportion of elderly adults collecting a pension increases to six out of ten. A significant percentage of elderly adults in countries with broad coverage receive a non-contributory pension: Uruguay with 11%, Argentina with 25%, Chile with 26%, and Brazil

Figure 2.4
Percentage of elderly adults (65+) receiving pensions, contributory and non-contributory, 2010



Source: Authors' calculations based on household surveys (circa 2010).
 Note: The division between contributory and non-contributory pensions in Argentina, Brazil, and Uruguay was obtained by dividing the number of beneficiaries of these programs by the number of adults 65+. This could be an imperfect measure in countries where the beneficiary can begin drawing a pension at a younger age. The household surveys in Colombia, El Salvador, and Paraguay do not record who receives a non-contributory pension.

with 36%. Mexico will soon join this group, following approval of a reform that would extend non-contributory benefits to the entire 65+ population that does not have a contributory pension. Bolivia is perhaps the most exemplary case: its contributory system is barely able to mobilize a savings rate of 20% among the working population, but thanks to its universal system, 97% of elderly adults have access to a pension.

These non-contributory pensions have varying levels of generosity and eligibility. Some are universal (with age requirements) such as in Bolivia. Other countries block the receipt of any other contributory pension, like in Mexico, and/or require the beneficiary to be below a certain income level (or the poverty line), as in Chile and Colombia. Other countries grant pensions specifically in rural areas, as in Brazil and, originally, in Mexico. In terms of generosity, the regional average is US\$5.40 per day, but varies between US\$0.80 in Jamaica to US\$14 (according to the purchasing power parity (PPP)) in Venezuela (see Table 2.2).

Fact #3: The progress achieved through non-contributory pillars is very important, but casts doubt on sustainability

The expansion of coverage through non-contributory pillars is determined by three variables: the demographic evolution, targeting of pensions, and generosity vis-à-vis the gross domestic product (GDP) per capita (see Box 2.4).

The demographic factor is a considerable challenge for the region. Between 2010 and 2050, the average percentage of the population over the age of 65 will increase by a factor of 2.8. This means that, for example, a non-contributory pension program that covers 10% of a country's elderly adult population and costs one percentage point of 2010 GDP will cost an average of 2.8 percentage points of GDP in 2050 (Figure 2.5) due to the demographic factor (i.e. there will be many more elderly adults in the future). This demographic phenomenon will be much higher in countries like Costa Rica and Mexico and lower in Argentina and Uruguay. The way that these pensions are targeted and the level of generosity will determine whether they are fundable in the future.

Table 2.2
Eligibility and generosity of non-contributory pensions in the region

Country	US\$/day at PPP	% GDP per capita ^a	% PL (\$2.5)	Age	Eligibility
ARG	7.0	14.4	279.9	70	Target – Poverty
BHS	10.5	12.0	420.7	65	Target – No Pension
BLZ	3.2	13.8	126.6	67 (M) 65 (W)	Target – Poverty
BOL	2.0	15.0	79.9	60	Universal
BRA (BPC)	11.0	32.6	441.1	65	Target – Poverty
BRA (Rural)	11.0	32.6	441.1	60 (M) 55 (W)	Target – Rural workers
BRB	14.0	22.0	561.5	65 and 6 months	Target – No Pension
CHL	6.5	13.6	260.8	65	Target – Poverty
COL	1.5	5.1	60.6	57 (M) 52 (W)	Target – Poverty
CRI	6.3	20.2	253.9	65	Target – Poverty
DOM	4.4	0.6	177.4	60	Target – Poverty
ECU	2.5	11.8	99.1	65	Target – Poverty
GTM	2.7	20.1	107.7	65	Target – Poverty
GUY	3.8	18.3	152.1	65	Universal
HND	0.1	1.5	5.6	65	Target – Poverty
JAM	0.8	3.0	30.1	60	Target – Poverty
MEX	2.1	4.8	84.9	70	Target – No Pension
PAN	5.5	0.5	220.8	70	Target – No Pension
PER	2.6	0.3	103.5	65	Target – regional and no pension
PRY	4.6	1.0	184.7		Target – Poverty
SLV	3.4	16.9	135.5	70	Target – Poverty
TTO	19.8	1.2	792.1	65	Target – Poverty
URY	9.9	27.8	395.4	70	Target – Poverty
VEN	14.2	40.8	569.9	60 (M) and 55 (W)	Target – Poverty

Source: Authors' calculations based on Helpage (2012), PRAF, Honduras (2011) and World Bank World Development Indicators (2013).

Note: M (Men), W (Women); PL: Poverty line; PPP: Purchasing Power Parity.

Box 2.3 What is the status of the Caribbean?

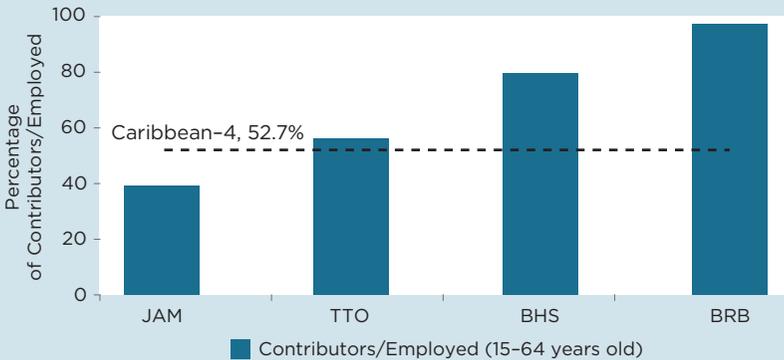
There is a clear deficit of research on pension coverage in Caribbean countries compared to the rest of the region. The main reason is the lack of available data. While other Latin American countries regularly generate this data, the situation is quite different in the Caribbean. Countries like Argentina, Brazil, and Mexico have panel surveys with comparable data dating back to the early 1990s, with a good level of disaggregation. In contrast, most Caribbean countries have not regularly generated recent data and very few countries have panel data or any variety of indicators.

Furthermore, the lack of data and analysis varies among Caribbean countries. For example, Jamaica has a survey on living conditions and a labor force survey from 2012, which included a module on the informal sector. For the first time, it was possible to distinguish between formal and informal sector employees. This is an essential component for economic analysis of the region and one that this book attempts to leverage. Access to this data is limited, however, and there are hurdles regarding information on social and work programs. The situation is complicated in countries like the Bahamas and Barbados, where household survey data is not up-to-date or is not made public to researchers.

Any analysis on pension coverage in the Caribbean is limited due to scarce data, although all of the countries have administrative data. The level of analysis made possible by administrative data is inferior to that based on regular household surveys. Additionally, there are several problems associated with this administrative type of data. First, these data sets are primarily registries maintained for tax purposes. As such, preparing these data sets for longitudinal analysis requires significant time and human capital investments from the data administrator and the researcher. Second, in most cases, these data sets are generated on a yearly basis without much detail, and do not shed light on the gaps in contributions throughout that period of time. Third, given the tax-related purpose of these data sets, it is almost impossible to observe the income of the individuals and, therefore, provide an accurate diagnosis of the system.

Despite these shortcomings, there has been an effort to obtain administrative data for four Caribbean countries. This effort has revealed significant heterogeneity among countries in terms of pension coverage. In Barbados and the Bahamas, the percentage of contributing workers exceeds 80%, a figure much higher than the average in the rest of the Caribbean. In Jamaica, and Trinidad and Tobago, the reality is much closer to the average seen in other Latin American countries, with figures between 30% and 60%. A similar situation can be observed for elderly adults receiving a pension. Almost all elderly adults in Barbados collect a pension, while barely one-third in Jamaica are covered.

(continued on next page)

Box 2.3**What is the status of the Caribbean?** *(continued)***Figure 2.3.1****Percentage of contributors out of total employed in selected countries in the Caribbean**

Source: Authors' calculations based on publications from Institutes for Statistics and Social Security Institutes.

Fact #4: A large percentage of the pensions in the region is not adequate

Not all pensions paid out in the region, either contributory or non-contributory, are adequate (Figure 2.6). For many of those collecting these benefits, the pension is not enough to raise them above the poverty line. Therefore, it is unlikely that these pensions will allow beneficiaries to adequately smooth their consumption over a lifetime. For example, in Bolivia, where a high percentage of elderly adults receive a pension, an estimated 78% of the pensions granted are below the absolute poverty line, according to household surveys (US\$2.50 per day, based on PPP). In Ecuador and Mexico, 62% and 40% of the pensions are below the poverty line of US\$2.50 per day.

In other countries, even though almost all of the pension benefits are above the moderate poverty lines (US\$4 per day), many of the pensions are not more than US\$10 per day (Chile, 49%; Costa Rica, 64%). This spread between US\$4 and US\$10 represents an economically

Box 2.4

Long-term cost estimates of non-contributory pillars

The cost of a non-contributory pension as a function of GDP, at time t , is determined by:

$$\frac{C_t}{GDP_t} = \frac{P_t^E \times F_t^E \times VP_t}{GDP_t}$$

Where C_t is the level of total spending on non-contributory pensions in monetary units, P_t^E is the number of people of a specific minimum age (i.e. persons over the age of 65), F_t^E is the percentage of people of this age that would be the target population to receive a non-contributory pension, and VP_t represents the value of the non-contributory pension, with all of the above determined as a function of t time.

A more intuitive way to see the change of costs is by multiplying and dividing by total population P_t . This allows us to rewrite the cost as a function of GDP as follows:

$$\frac{C_t}{GDP_t} = \frac{P_t^E}{P_t} \times F_t^E \times \frac{VP_t}{GDP_{pc,t}}$$

This rewritten identity underscores the three driving forces that will determine the evolution of non-contributory pension costs as a percentage of GDP: i) the demographic evolution factor, ii) pension targeting, and iii) the generosity of the pensions vis-à-vis GDP per capita.

Figure 2.5

Increase in fiscal costs stemming from the demographic factor of granting non-contributory pensions. (1 = no variation)



Source: Authors' calculations based on household surveys (circa 2010).

vulnerable segment and could prevent adequate consumption smoothing for many workers (See Ferreira et al., 2013).⁴

Fact #5: Women have fewer and lower pensions

Coverage has a strong gender component. Women have lower levels of coverage due to their lower participation in the workforce over the course of their lives, about 20–40 percentage points lower than that of men. Consequently, the percentage of men receiving a pension on average is 7% higher than for women (65% vs. 61%) (Figure 2.7).

However, the differences between men and women are even starker in terms of contributory pensions. The percentage of the region's women able to fund their old age with a contributory pension is substantially lower than that of men. This is especially striking in countries where contributory pension coverage is limited. In Bolivia, the Dominican Republic, and Mexico, the percentage of men over the age of 65 receiving a contributory pension is double that of women. In Colombia and Peru, this percentage is almost 50%.

Non-contributory pensions have indeed narrowed the gap in contributory pension coverage between men and women in many countries. Argentina, Bolivia, Brazil, Chile, and Uruguay barely report any differences in coverage (at least in the percentage of elderly adults receiving a pension) among differing education levels or sex (Figure 2.7).

Women also tend to receive lower pension amounts, precisely because a larger percentage of women tend to receive non-contributory pensions. On average, 48% of pensions for men in the region and 43% for women are above US\$10 per day. For women, 14% of pensions are below the moderate poverty line (US\$4) compared to 10% for men.

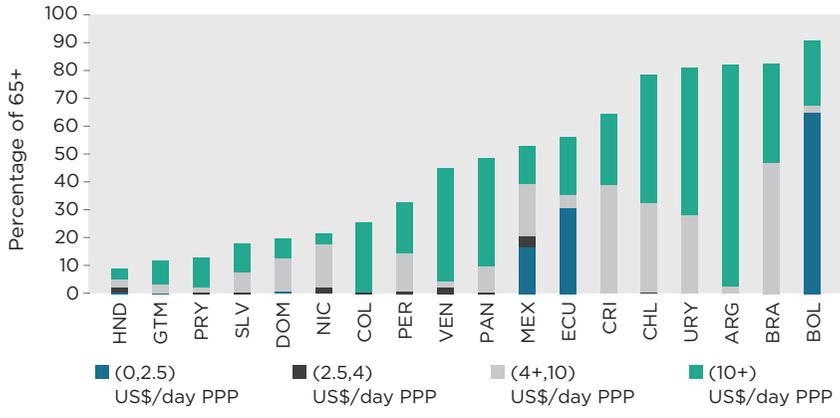
Fact #6: Mandatory pension savings generated in the labor market are scarce

Despite the gains made in some of the region's countries in expanding coverage, pension savings that will fund future contributory

⁴ In Brazil, starting in 2012, all pensions exceeded US\$10 per day due to the increases in the minimum wage to which non-contributory pensions are pegged.

Figure 2.6

Percentage of elderly adults (65+) receiving a pension, by amount of pension

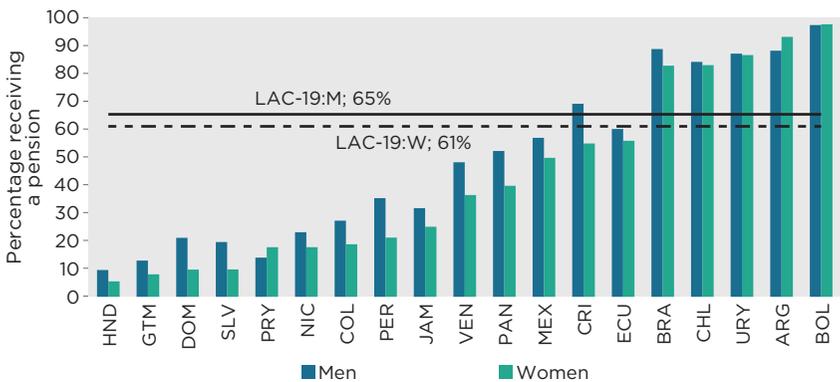


Source: Authors' calculations based on household surveys (circa 2010).

Note: PPP = purchasing power parity.

Figure 2.7

Percentage of elderly adults (65+) receiving a contributory or non-contributory pension, disaggregated by sex



Source: Authors' calculations based on household surveys (circa 2010).

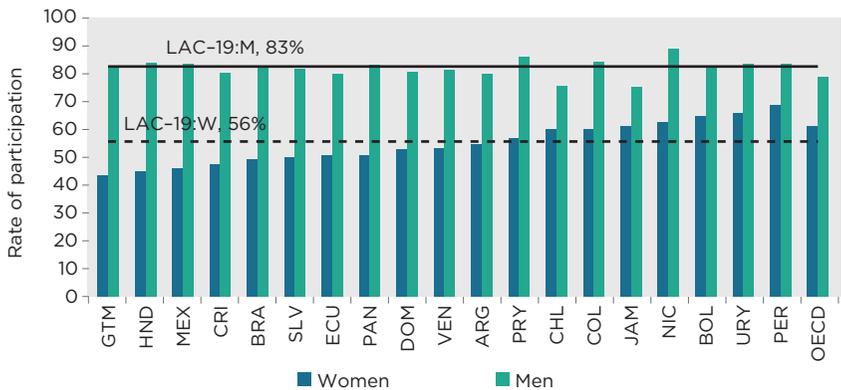
pensions remain very low, even in countries that currently have broad coverage.

Pension savings are generated by the labor market in most of the world's pension systems. Therefore, the systematic savings capacity for the future is heavily tied to two factors: participation in the labor

market and the ability of this labor market to generate pension savings. This is bad news for the LAC region’s pension systems for the following two reasons. First, because the rate of women’s participation remains low, which results in a large portion of women being excluded from receiving a pension in old age (Figure 2.8). Second, because labor markets in LAC do not effectively mobilize savings for old age. On average, just over four out of every ten workers pay into social security at any given time (Figure 2.9). This means that at any time, some 130 million people are working without saving for a pension. Many of these people also do not have health coverage.

Although women participate to a lesser degree in the labor market (Figure 2.8), on average—for women who are working—the percentage of women contributing in the region is virtually the same as men: 45%. This reflects the reality in countries like Argentina, Brazil, and Mexico, where there is barely any difference (less than one percentage point) in the percentage of working men and women who contribute. Other countries, however, do have gender asymmetries, but not always in the same direction. For example, in Costa Rica and Peru, men contribute 12% and 6% more than women, respectively. On the other hand, in the Dominican Republic and Venezuela, women contribute approximately 6% more than men.

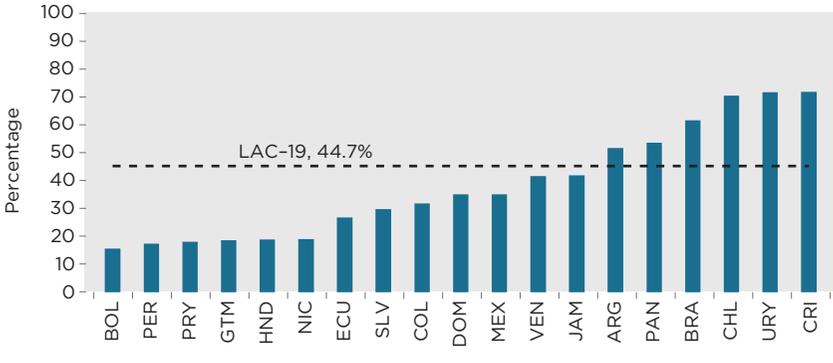
Figure 2.8
Rate of labor participation of men and women in Latin America and the Caribbean and the OECD average, 2010



Source: Authors’ calculations based on household surveys (circa 2010) and OECD (2010c).

Figure 2.9

Percentage of contributors out of total employed, 2010

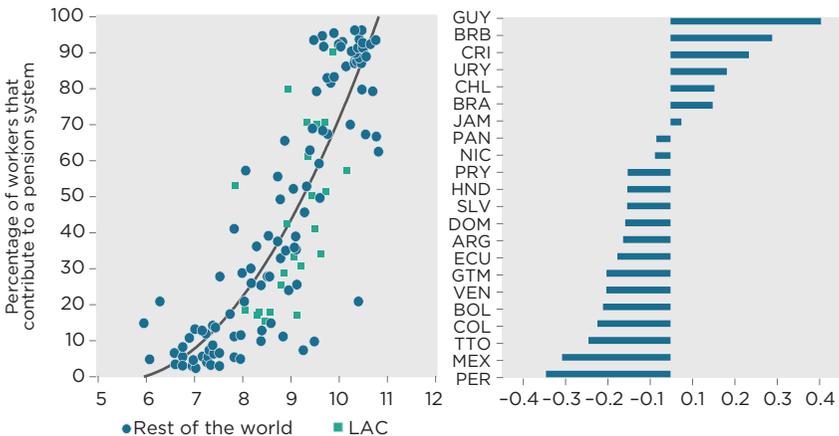


Source: Authors' calculations based on household surveys (circa 2010).

The issue of inadequate pension savings goes beyond the fact that the region is considered a middle-income region. The region is far below where it should be in its capacity to generate pension savings. Of the 22 countries that were studied, 15 had active coverage below what GDP per capita would predict. Countries like Colombia, Mexico, and Peru should have contribution rates between 15 and 20 percentage points higher, given their income levels (Figure 2.10).

Figure 2.10

Contributors out of total employed in Latin America and the Caribbean compared to the rest of the world



Source: Authors' calculations based on household surveys (circa 2010) and World Bank World Development Indicators.

Fact #7: The region's labor market dynamics create large gaps in contributions

The stock of workers who currently contribute does not accurately reflect the percentage of people who will have a pension in the future. Accumulating the necessary capital in a capitalization pension system (or obtaining pension rights in a defined benefit scheme) requires paying in for 15–20 years, or more.

One of the most important recent discoveries in the literature on the region's labor markets is that these markets are far from being segmented between "good" (formal) and "bad" (informal) jobs; in fact, workers flow easily between the two types of jobs. A growing number of studies (Bosch and Maloney, 2006 and 2010; Pagés et al., 2009; Pagés and Stampini, 2009; Levy, 2008; Hoek, 2002; Bosch and Pretel, 2012; Goñi, 2013) demonstrate that it is not correct to refer to formal and informal workers, but rather, when workers are formal and when they are informal. In Mexico, for example, 41% of workers have had at least one informal job and one formal job over the last five years, compared to 23% who only had formal employment and 31% who only had informal employment over the same period (Employment Survey, 2011). Even among groups in which we would expect to have limited formal employment, we see that this flow between the formal and informal sector is significant. In Ecuador, 40% of men who were eligible for the conditional cash transfer and who were close to the eligibility threshold held formal employment between 2002 and 2009. This figure jumps to 53% among young people ages 15–30 (Bosch, Maldonado, and Schady, 2013).

Although few countries have panel data, countries with longitudinal data see high rotation between different types of employment (formal and informal salaried), as well as between salaried and non-salaried work (see Table 2.3). On average, 21% of workers who are currently in the formal sector will not be within a year. Approximately 9% will be informal salaried workers, another 4% will be non-salaried workers, and the rest will be unemployed or inactive. The flow back to the informal sector is of similar intensity and, as such, the stock of workers in the formal sector is relatively stable, except during recessions (see Bosch and Maloney, 2006). These figures actually underestimate rotation, given that they do not capture movements within a single year.

Table 2.3**Where formal workers are one year later (as a percentage)**

Country	Inactive	Unemployed	Self-employed	Salaried informal	Formal
ARG	5	3	2	7	83
COL	6	7	4	9	75
ECU	3	1	4	7	85
MEX	7	2	3	13	75
PER	3	3	7	8	79
VEN	5	3	7	7	77
Average	5	3	5	9	79

Source: For Colombia, Bolivia, Ecuador, Peru and Venezuela: Goñi (2013), Mexico: Bosch and Maloney (2006), Argentina: Pagés and Stampini (2008).

This pattern of entering and exiting the formal sector results in low contribution densities for contributors, and therefore, accumulated savings for old age turn out to be insufficient to fund an adequate pension. For example, Chile has one of the strongest pension systems in the region: 96% of men between the ages of 20 and 65 contribute to the pension system. However, of the men who contribute, 38% pay in less than half of the working time (Figure 2.11).⁵

In other parts of the region, the situation for the generation of workers who will retire in the coming decades is even more pressing. In Peru and Mexico, 50% and 40% of working-age men, respectively, have never contributed. For those that did contribute, 45% in Mexico and 49% in Peru contributed less than 50% of the time. In El Salvador, due to a strong contribution campaign carried out by pension fund managers (see Argueta, 2011), 85% of men contribute, but 60% contribute less than 50% of the time.

Accumulating savings for old age will be even more complicated for women. First, because contribution rates for women are much

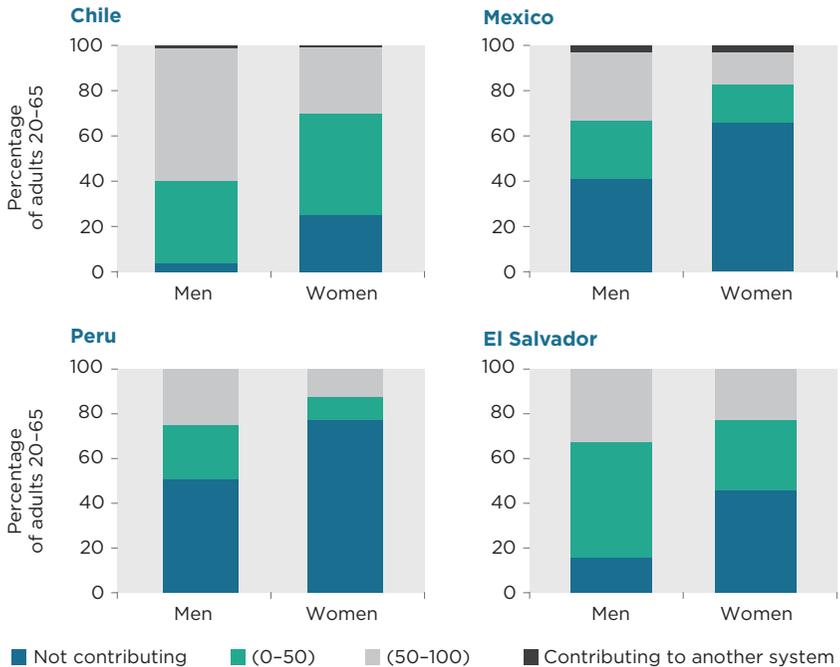
⁵ Similar challenges arise from other systems in which the percentage of contributors at a given time is high. Forteza et al. (2009) observed that 46% of contributors to Argentina's old Integrated System of Retirement and Pensions (SIJP), and 42% of the men who contribute to the system, pay in less than half of their working lives.

lower: 75% in Chile, 55% in El Salvador, 35% in Mexico, and 23% in Peru. Second, because the contribution densities for women who contribute are even lower than for men (in some countries). In Chile and Mexico, 60% and 55%, respectively, have paid in less than half of their working lives.

Fact #8: Pension savings are especially low and irregular for some groups of workers

Based on the analysis above, in order to understand inadequate pension saving rates, it is essential to first understand the labor market structure in LAC. There are two primary types of workers in the region: salaried workers who are employed by a firm and non-salaried workers (self-employed and employers). As shown in Chapter 1, this distinction determined who had to contribute under the original social security design. Several decades later, the dichotomy between salaried

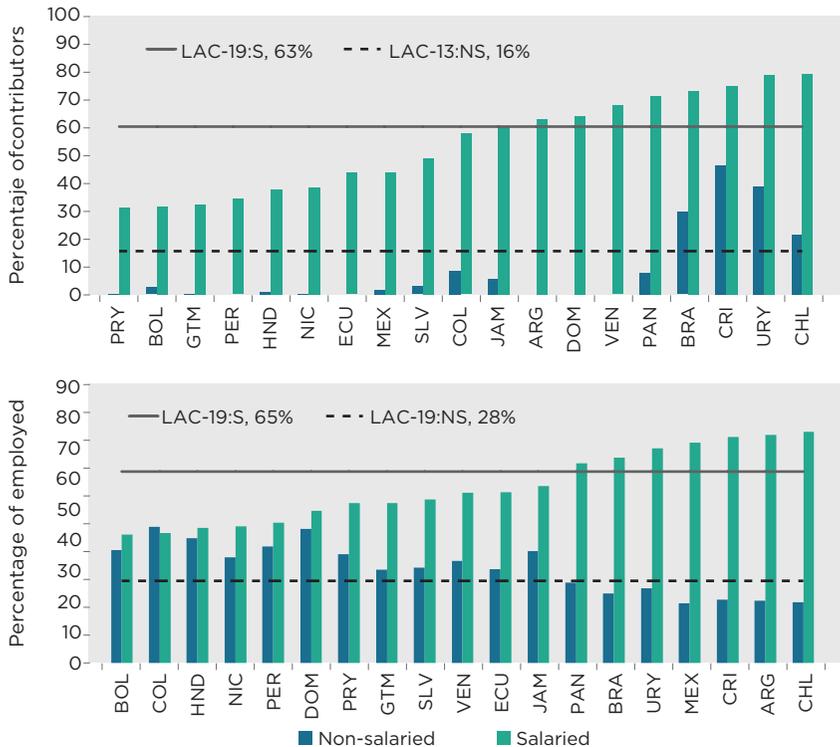
Figure 2.11
Percentage of contributing men and women, according to contribution density: Chile, Mexico, El Salvador and Peru



Source: Authors' calculations based on Forteza et al. (2009) for Chile, Argueta (2011) for El Salvador, SBS and SPP for Peru, CONSAR for Mexico.

and non-salaried workers remains relevant to understanding the low levels of pension savings. While an average of 63% of salaried workers contribute (with considerable variation among countries, from 80% in Uruguay and Chile to 30% in Guatemala and Bolivia), barely 16% of independent workers contribute. Part of this huge difference stems from the fact that non-salaried workers in some countries are not required to contribute (although practically all systems allow them to do so voluntarily). Additionally, even when contributions are mandatory, it is difficult to enforce contributions and, therefore, in practice, the contributions are voluntary (Auerbach, Genoni, and Pagés, 2007) (Figure 2.12).

Figure 2.12
Percentage of contributors and employed based on type of employment: salaried vs. non-salaried



Source: Authors' calculations based on household surveys (circa 2010).

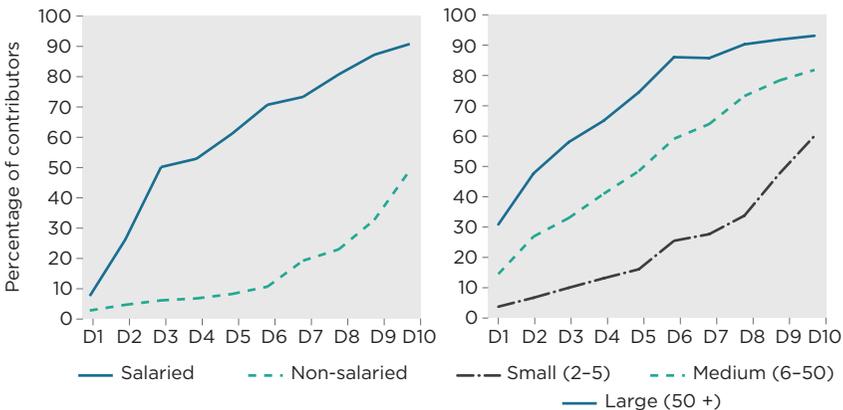
Note: Argentina, Ecuador, Paraguay, Peru, Dominican Republic, and Venezuela do not report whether or not non-salaried workers contribute to pension plans; S: Salaried, NS: Non-salaried.

The type of firm where a salaried employee works is also key to understanding the pension savings patterns. Pension savings are much lower for workers in small firms (see Figure 2.13). Small and micro-enterprises are practically undetectable to the government and very few comply with their obligation and that of their employees to pay into social security. On average, barely 20% of workers in firms with fewer than five employees contribute to social security. For large firms (with more than 50 employees), that contribution figure is 70%. The result is that those who will be uncovered in the future will likely be workers who had a lower income throughout their working lives.

The conclusion is that for low-income salaried workers and almost all non-salaried workers, pension systems do not work effectively. Very few salaried workers in the two or three lowest deciles actually contribute to a pension system. In country after country, the lower deciles of income distribution, and even in some cases the middle deciles, are disconnected from social security institutions.

The good news is that high-income salaried workers, in the four highest deciles of income distribution, have high contribution rates and are expected to be covered in the future. Pension systems seem to be working properly for this segment of workers. These workers are, however, a minority in the region.

Figure 2.13
Percentage of contributors out of total employed, by income decile in LAC, 2010



Source: Authors' calculations based on household surveys (circa 2010).

The new emerging middle classes are in the middle of this distribution. They appear to have an irregular relationship with the system. The percentage of middle-income contributing salaried workers is between 30% and 70%, depending on the country. High-income non-salaried workers would fit into this segment. But most of this segment will probably not accumulate sufficient savings to fund old age.

Fact #9: Economic growth helps, but it does not fix the problem (at least in the medium term)

The solution to inadequate coverage will not stem solely from good macroeconomic performance. If we assume future growth will be similar to the growth witnessed in recent years and the relationship between growth and increased pension coverage will remain constant (see Box 2.5), we can predict that, in the next 40 years, economic growth will boost the number of workers contributing at any given time by around 10 percentage points. This, in conjunction with more women joining the workforce, will raise total pension coverage between 15 and 20 percentage points between 2010 and 2050, depending on the country. While this progress is important, it will not suffice to meet the needs of the more than 140 million elderly adults the region will have by 2050.

Fact #10: Pension system (contributory) coverage will be low tomorrow

The future pension outlook for the region is a mirror of the current labor market situation. Given the low contribution rates and the high rotation between formal and informal employment, many elderly adults will not have a pension tomorrow, either because they never paid into social security or because their contributions were insufficient. Despite the many differences among the region's countries, this problem is present in almost all of the pension systems, even in those countries that appear to have higher coverage, and especially in the lower segments of income distribution.

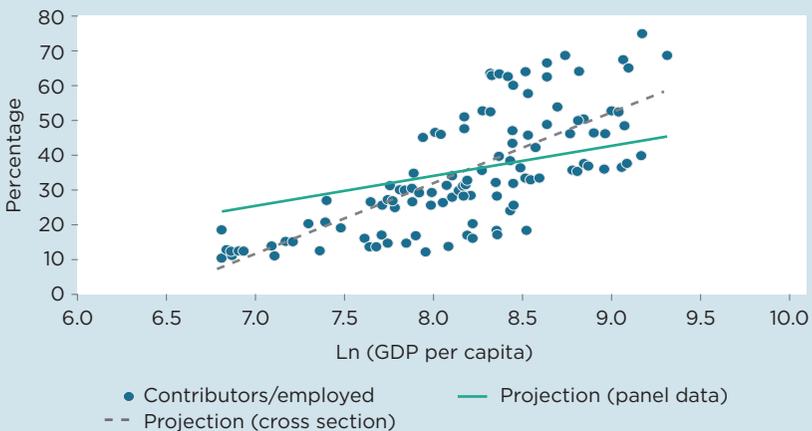
According to this book's projections and various assumptions, by 2050 between 47% and 60% of the region's elderly adults will not have generated sufficient savings to fund an adequate pension

Box 2.5: Economic growth helps, but it does not fix the problem

Undoubtedly, economic growth in the long term will naturally result in improved pension savings and coverage, but our estimates indicate that this growth will not be sufficient to boost coverage within an acceptable timeframe. A simple regression on the percentage of workers contributing to a pension system in relation to GDP per capita in a cross-section sample of 18 countries in the region results in an elasticity of 0.2. According to this regression, in a country where 40% of workers contribute, this figure will increase to 60% when GDP per capita doubles. When the same equation is applied using a country's fixed effects, elasticity drops to 0.07, which means GDP must triple to attain a similar contribution increase. Other studies (Packard, 2001; Djankov et al., 2002; Loayza and Rigolini, 2011; Loayza, Oviedo, and Servén, 2005b) place elasticity closer to 0.1. This means that pension savings patterns will not radically change over the working life of the next generations of workers.

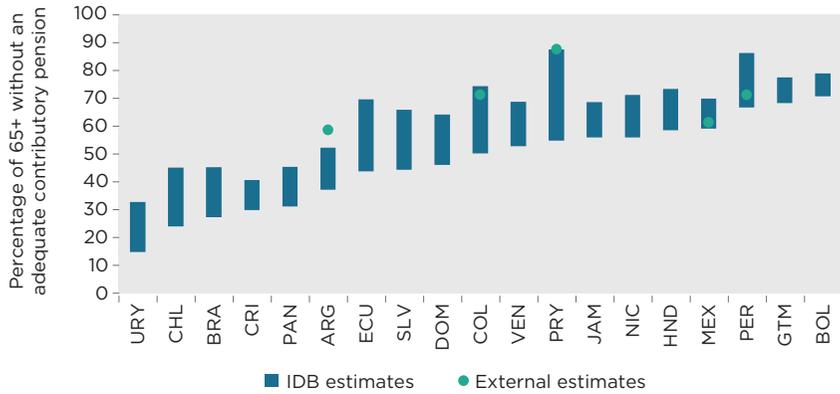
This argument stands if we look at the historical experience of some countries for which historical time series data on formalization are available. Mexico has barely increased its rate of formal employment in the last 20 years. Brazil, which has created 10 million jobs in the formal sector over the last five years, only recently recovered the formal employment rate that it had in the 1980s.

Figure 2.5.1
GDP per capita growth and percentage of contributors of countries in Latin America and the Caribbean, 2000-10



Source: Authors' calculations based on Rofman and Oliveri (2011).

(see Box 2.6). This means that between 66 and 83 million people will have to continue working beyond the age of 65 or depend on family and/or the government to have adequate income in old age (Figure 2.14).

Figure 2.14**Ranges of the percentage of adults 65+ without an adequate contributory pension in 2050**

Source: Authors' calculations and other estimates. Other estimates: Argentina, MTSS (2003); Colombia, BBVA (2008); Mexico, BBVA (2007); Paraguay, ILO (undated) and Peru, MAPP2, BBVA (2008).

Note: See Box 2.5 for further details. The points represent estimates of pension coverage made by other institutions using different methodologies. For example, the estimate for Paraguay is based on the 60+ population.

This situation will vary substantially by country. In countries where the labor market generates pension savings (Brazil, Costa Rica, Uruguay), the percentage of elderly adults that will not be able to fund an adequate contributory pension in 2050 will range between 15% and 40%. For other countries, the outlook is much bleaker. For Bolivia, Guatemala, and Peru, even in simulated best case scenarios, the contributory coverage would leave around 70% of the population over the age of 65 without access to a contributory pension.

The path toward universal coverage

The region is beginning to take the first steps in a series of pension initiatives and, contrary to the reforms of the 1980s and 1990s, which focused on reducing fiscal risks, this time, universal coverage is one of the key objectives.

As this chapter shows, the region's starting point is challenging and the foundation upon which countries must build pension coverage is fragile. The low level of contributory coverage is a fact in most

Box 2.6 Projecting coverage with limited information

To reliably estimate the percentage of elderly adults who will have accumulated sufficient resources to fund an adequate pension in the future requires studying two basic indicators.

First, we must identify how many of the elderly adults who will retire in a given year have been part of the workforce at some point. Although this is not particularly applicable to men, given that almost 100% of men are part of the workforce at some point in their working lives, many women never are. This ratio of men and women in the workplace will change over the coming decades. The Economic Commission for Latin America and the Caribbean (ECLAC) has predicted the breakdown of the active population by gender through 2050. They estimate the percentage of women that will participate in the labor market will jump from 45% in 2010 to 75% in 2050 throughout the region.

Second, for those that do join the labor market at some point, we need to know what their contribution density is, i.e. what percentage of their working lives they contributed to a pension plan. This book primarily uses household surveys, which very rarely identify the contribution density of the pension system for workers. The only pertinent information contained therein is whether they are working or not and what percentage of workers contribute (or are registered) to the pension system at a given time.

Another simple (though questionable, in light of Fact #7) way to calculate future pension coverage would be to assume that those that are contributing today will do so for 100% of their working life. If this were the case, all current contributors would be covered in the future (hereinafter, defined as *Method 1*). Given the high rotation between formal and informal employment, this estimate is imperfect but it gives us a first glimpse of how today's labor market situation will influence future pension coverage.

Another way to proceed is by trying to extract workers' contribution densities from household surveys. This entails calculating the percentage of contributors per decile (or any other subdivision), then using this percentage as the contribution density for the decile, and finally calculating how many of the deciles of salary-contribution will be enough to achieve a contribution density over the course of their working life sufficient to generate a contributory pension (*Method 2*), assuming that this density is 50% (half of the active life of the worker). Neither of these two methods accounts for the differences in the region's systems. For example, as seen in Table 2.1, a contributory pension is only achieved in many countries after paying into a scheme for a certain number of years.

Using the densities-per-decile predictions from Method 2 and the IDB-World Bank-OECD pension simulator (2013), we obtain the replacement rates for each system. We deem a decile "covered" if it has a replacement rate of at least 30% (*Method 3*). Any of the three methods requires predicting what will happen with the contribution densities for each population segment. This simulation assumes that the percentage of contributors and contribution densities evolve based on an elasticity/GDP per capita

(continued on next page)

Box 2.6**Predicting coverage with limited information** *(continued)*

ratio of 0.1. Therefore, when GDP per capita doubles, the percentage of contributors and contribution densities for each decile will increase 10 percentage points.

There are simulations for three types of annual per capita growth for the 2010–50 period: 1%, 2.5%, and 5%. Although none of the three methods replaces a detailed actuarial per-country analysis (see Box 2.7), they are a good approximation of the levels of pension coverage that the countries will see in the coming decades. They are also consistent with the independent estimates from other institutions, such as the International Labor Organization (ILO), World Bank, and the Spanish Banco Bilbao Vizcaya Argentaria (BBVA).

of the countries in the region. Regardless of the pension system (defined benefit, defined contribution, or mixed), the reality is that the labor market is not generating sufficient savings to fund the pensions of the elderly adults. This is especially true for some countries and particular segments, like women, non-salaried workers, small firms, and low-income workers.

And yet, there have been great strides made in protecting elderly adults. The non-contributory pillars have, in a very short amount of time, narrowed the coverage gap in several countries. Although this is good news for the region, the widespread expansion of this type of pension is, in and of itself, proof that the traditional contributory systems have not provided an effective pension savings mechanism for elderly adults.

Non-contributory pensions have put the demographic shift back on the table as a fiscal risk factor. The great unknown with this type of pension is how it will shape the incentives to pay into traditional contributory systems and, therefore, the long-term outlook of pension savings. Non-contributory pensions are not integrated into the overall system in most countries. Often, only those workers who did not contribute can access this type of pension. Consequently, this will likely generate further incentives for informal employment.

Facing the challenge of universal pension coverage will necessarily include some sort of non-contributory pillar, as well as increased

Box 2.7**An actuarial tool for the predictive analysis of pensions (MAPP2)**

Predicting who will be covered is a complex task. Some institutions have developed their own models to make this prediction. Specifically, the Banco Bilbao Vizcaya Argentaria (BBVA) has developed a sophisticated tool to carry out an actuarial calculation and prediction of pensions: Pension Prediction Actuarial Model (MAPP2). This is within the framework of the so-called “generational accounting” group, which emerged from the works of Auerbach, Gokhale, and Kotlikoff (1991, 1994). These studies attempted to model the system based on the maximum amount of institutional information available, under the assumption that the agents would behave according to past statistical evidence and using various plausible scenarios.

MAPP2 aims to segment representative individuals according to the main characteristics that determine their relationship with the pension system. In particular, the model can be applied to populations differentiated by sex, age, and education levels (primary and lower, secondary, university). These permanent characteristics will determine key elements such as the rate of contribution, percentage of contributors, salary of contributor, etc. The characterization of representative individuals is especially important when there is a strong shift in the type of individual—particularly when there is a change in educational characteristics, i.e. when the level of studies obtained by younger generations is much higher than that of those approaching retirement. The model, thus, introduces heterogeneity for 60 types of individuals, at each key age on the population pyramid. These individuals are classified according to age, sex, education levels (three levels), and 10 deciles for income distribution.

MAPP2 has been used to predict the pension systems in Chile, Colombia, Mexico, and Peru. These systems tend to be complex. For example, in Peru, MAPP2 has to model both the National Pension System (NPS), which is pay-as-you-go, and the Private Pension System (PPS), which is based on capitalization, as well as the interaction between the two. To this end, MAPP2 in Peru uses the probability of falling into one system or the other, in which case, the sum of both types—classified by age, sex, and education level—equals 1. Both systems begin with different initial data. For the national Peruvian pay-as-you-go system, NPS, the model’s modules use databases provided by the Pension Normalization Office (ONP, in Spanish). This has 2.5 million contributors, with data on the latest contribution made, the date it was made, and the amount. The SNP database has information on 470,000 cases of pensioners, with information on sex, age, marital status, retirement date, type of retirement, and pension amount.

MAPP2 enables simulating in minute detail many parameters of interest. For instance, this model estimates that approximately 70% of elderly adults will not have access to a pension in 2050 in Peru. There are other interesting results, such as the average pension level through 2050 for each system (Figure 2.7.1). This figure distinguishes between two groups within the SPP: those who upon retirement will have a “recognition bond” of the

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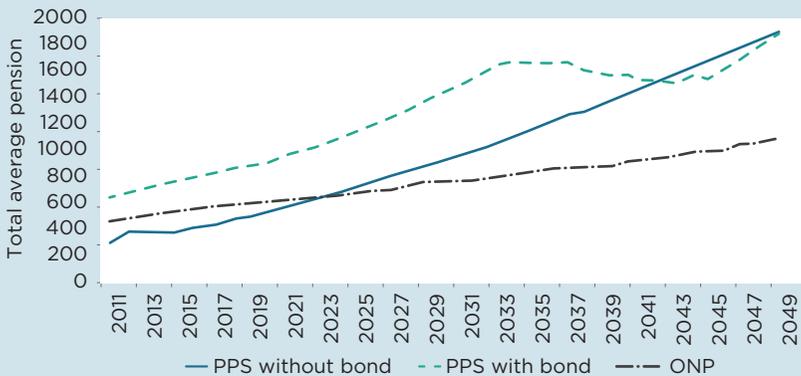
Box 2.7**An actuarial tool for the predictive analysis of pensions (MAPP2) (continued)**

contributions made into the NPS before the 1992 reform that created the PPS, and those that do not have this bond, i.e. those who started working after the reform. The difference in the average pension between an PPS retiree with the bond and one without the bond would be approximately 500 Peruvian Soles from 2011 to 2035, at which point, the generations that received the generous bonds will decrease, then eventually converge.

This type of tool provides a specific disaggregation and level of detail that is extremely important to assess the state of pension systems and their possible reforms. The downside is that the tool requires a volume of information that, many times, is not available.

Figure 2.7.1

Total average pension in Peru, according to the system: ONP and PPS, 2010–50



Source: MAPP2-BBVA Research.

pension savings throughout the region. This increase can only be achieved through substantial improvements to the way the labor market works, which would require considerable changes to the design of social security.

Conclusions

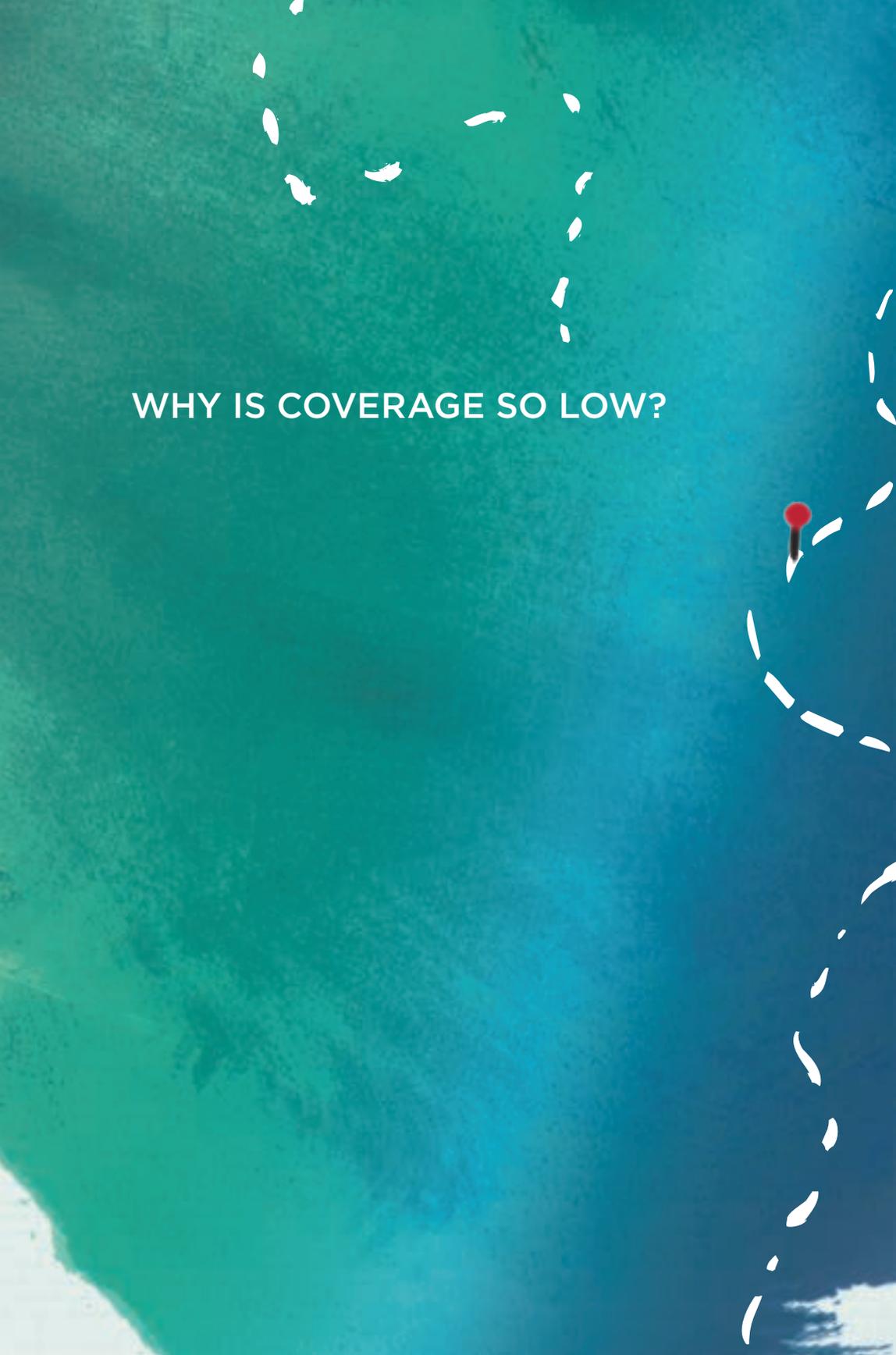
The region is aging rapidly with demographic pressures that will make pension coverage a public policy priority in the coming decades.

On average, the current contributory pension coverage level is low. Only four out of ten elderly adults have a contributory pension. Some countries have made significant headway with regard to the percentage of elderly adults receiving a pension. However, this progress has not come from greater savings or a more efficient labor market, but rather, from the expansion of non-contributory programs that provide benefits to elderly adults who did not contribute enough during their working life.

Although there are real differences among countries, the labor market's inability to mobilize sufficient pension savings—especially among low-income non-salaried workers—is proof that the structures in place to transfer today's savings to tomorrow's pensions are not working. Even in the soundest pension systems in the region, participation is sporadic and there are sizable holes in worker contributions.

An estimated 47% to 60% of the region's elderly adults will not have access to a contributory pension by 2050. This means that the government and families will be forced to support between 66 and 83 million elderly adults.

The next chapter analyzes in detail the connection between the labor market and the way pension systems work. It delves into the possible paths toward increasing coverage in a sustainable, efficient and equitable way.

An aerial photograph of a coastline with varying shades of blue and green water. A red location pin is placed on the right side of the image, with a dashed white line curving around it. The text "WHY IS COVERAGE SO LOW?" is centered in the upper half of the image.

WHY IS COVERAGE SO LOW?

3

Summary:

The lack of pension coverage in the region has several causes. First, the pension systems are designed to force only salaried workers to save. Second, the labor markets, which should force these savings, do not function properly. The decisions in the labor market by government, workers and firms have resulted in only a low percentage of workers regularly paying into the pension systems. This chapter provides a conceptual framework to better understand this situation and guide the reforms necessary to expand coverage. Specifically, it addresses the dilemmas policymakers face in defining a pension system that is socially, fiscally, and economically sustainable.

Understand in order to reform

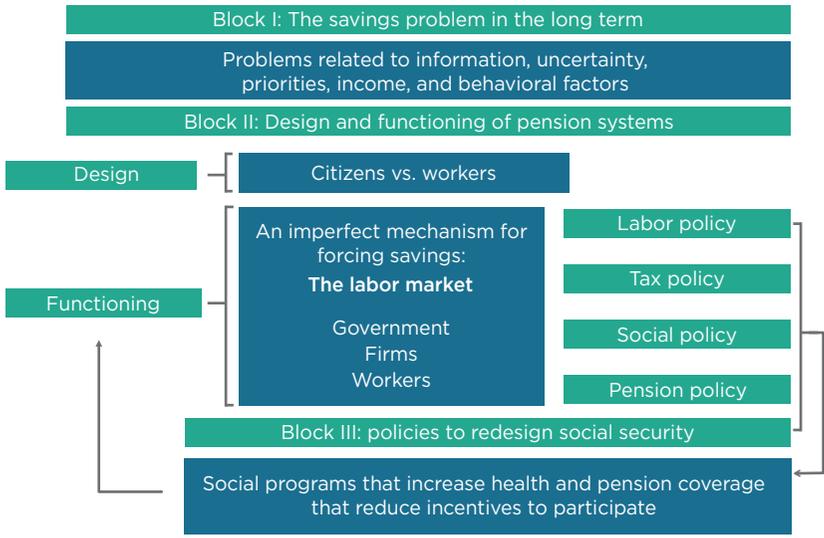
Since their initial design, most of the world's pension systems have based social insurance on compulsory contributions made by workers and employers, according to labor income. As such, low pension coverage is directly linked to the region's inability to create formal employment.¹ To understand the underlying causes of this situation and the effects of any potential pension reforms, this chapter provides a conceptual framework that combines three broad inter-related sections (see Diagram 3.1): first, the difficulty in generating long-term savings; second, problems with the design and poor performance of systems that prevent the generation of these savings in Latin America and the Caribbean (LAC); and, third, the emergence of a parallel social security system due to the lack of capacity in traditional systems to create an adequate social security system.

The long-term savings problem

The starting point for addressing the first obstacle is to look at the basic problem that pension systems attempt to solve: transferring consumption over the course of a person's productive years to future consumption throughout retirement (Barr and Diamond, 2006). Although this may seem a simple task, in practice it is extremely complicated because individuals face a series of challenges that make accumulating an adequate level of savings for retirement difficult. These challenges range from uncertainty about the future to psychological factors that affect decision making. Although most of the challenges to transferring present consumption to future consumption exist in all countries, there are certain peculiarities in the region (such as lower income levels compared to developed countries) that could further hinder the decision to save due to the high opportunity costs of saving in terms of consumption of unmet basic needs.

¹ For the purpose of this book, formal employment refers to jobs that are registered and contribute to social security, regardless of the job category or size of the firm. In contrast, informal employment refers to those (either salaried or non-salaried) that do not contribute to social security.

Diagram 3.1
Conceptual framework



Source: Prepared by the authors.

Design and functioning of pension systems

The region's pension systems were designed to mimic the continental European systems, with the goal of providing an adequate income in old age to workers, not necessarily to all citizens of a certain age. Nor were the region's pension systems designed for all workers; rather, they were designed only for salaried workers who worked as employees, which excluded non-salaried workers, domestic workers, and unpaid workers, among others. Although the systems have been expanding to include more types of workers, the reality is that for those who do not participate formally in the labor market, do so intermittently, or continuously, work non-salaried jobs they will not be covered by the pension system.

Moreover, the pension systems in LAC do not even function properly for those workers for whom these systems were conceived. By anchoring pension savings to participation in the formal labor market, future coverage is linked to compliance, not just with pension obligations, but also to a host of costs and regulations (healthcare, minimum wages, firing costs, for example). This situation ties any policy impacting the labor market (labor, tax, or social-related) to the

pension system. Given the persistently high levels of evasion of formal employment labor regulations, participation in pension systems is far from being the norm among salaried workers, and much less among all workers in the region (see Chapter 2).

Policies to redesign social security

Since the system is unable to provide adequate coverage levels through a contributory scheme, the region is implementing non-contributory programs that are a direct response to the lack of formal employment. These initiatives narrow the gap in healthcare and pension coverage created by traditional systems, but there is generally little to no integration between the two systems. In fact, in some cases, these programs are only available to workers who do not pay into the contributory systems. Countries lacking a comprehensive design run the risk of negatively impacting the level of participation in contributory pension systems. The result would be a vicious cycle of low coverage in the contributory systems, which would lead to the creation of non-contributory mechanisms, which would, in turn, lower the rate of contributions. As a result, there would be a greater need in the region to continue instituting and financing alternative parallel instruments.

Understanding the way these three obstacles interact is fundamental to identifying the heart of the problem that prevents current systems from functioning properly and to designing the best economic policy options with a view to expanding pension coverage.

Searching for a conceptual framework

The challenge to achieving long-term savings (Block 1)

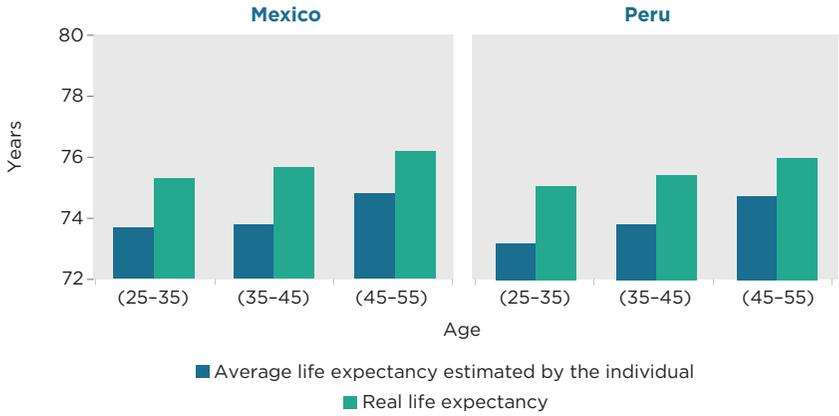
There are a myriad of reasons that complicate saving at 20, 30, or 40 years of age in order to finance consumption in old age. These reasons are associated with imperfect information, behavior, how humans make decisions, myopia, a strong preference for consumption in the present, and/or very limited or irregular resources for saving for the future.

Sacrificing current consumption (when a person is young) to benefit tomorrow's consumption (when the person is older) is a complex

task. If 20-year olds were able to calculate their future needs and, based on that amount, financially prepare for old age, the government would have a less prominent role in designing pension systems. But this scenario is not realistic. Most people do not make this estimate or take the necessary measures to set aside the resources they will need in old age. Thus, the government must intervene to force savings through mandatory contributions. The following are examples of obstacles in making decisions to save for the long term:

- *Uncertainty*: one of the fundamental obstacles for long-term savings is that the decision as to how much to save for old age is made with incomplete information and against a backdrop of high uncertainty (Barr and Diamond, 2006). There are a series of decisive questions that could appropriately solve the issue of how much to consume and how much to save in the short and long terms, but these questions cannot be answered: How long will I live? In what conditions will I live? How long will I be able to work? What will be the return on my savings? These are examples of the uncertainty that people must face because there is little to no information on the fundamental variables that define long-term savings. To better understand what information the population has and how they make decisions about pension savings, the Inter-American Development Bank (IDB) carried out surveys in 2008 on social security in the Federal District in Mexico and Metropolitan Lima in Peru. The results suggest that, for example, people tend to underestimate their life expectancy, mainly because life expectancies have increased rapidly in recent times. The surveyed population underestimated by approximately 2.5 to 3.6 years (see Figure 3.1). If the estimated life expectancy is an indicator of the resources that they choose to set aside for old age, these individuals would be underestimating the savings they will need in the long term by 20–30% in both countries.
- *Imperfect information*: another problem associated with long-term savings decisions is that many people appear to have little knowledge as to how to calculate pensions or the requirements to obtain a pension. In countries like Chile, Peru (Lima), and Mexico

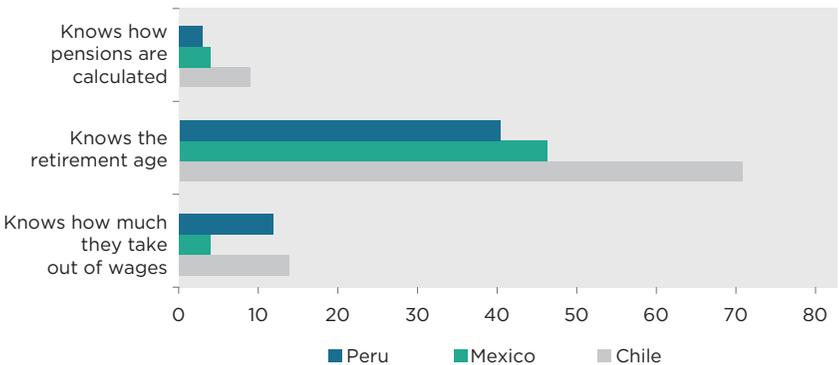
Figure 3.1
Real and predicted life expectancy at birth in Mexico City and Metropolitan Lima, 2008



Source: IDB (2008) and Celade (2011).
 Note: The estimated life expectancy corresponds to the life expectancy upon having turned 30, 40, and 50 years old, respectively, in each of the countries.

(Mexico City), fewer than 10% of those surveyed in the social security survey indicated knowing how to calculate a pension. A similar percentage acknowledged that they did not know how much of their salary was being contributed, and a limited number knew the retirement age (72% in Chile, 48% in Mexico (D.F.), and 41% in Peru (Lima)) (see Figure 3.2).

Figure 3.2
Knowledge of pension systems in Metropolitan Lima, 2008; Mexico City, 2008, and Chile, 2006 (as a percentage)



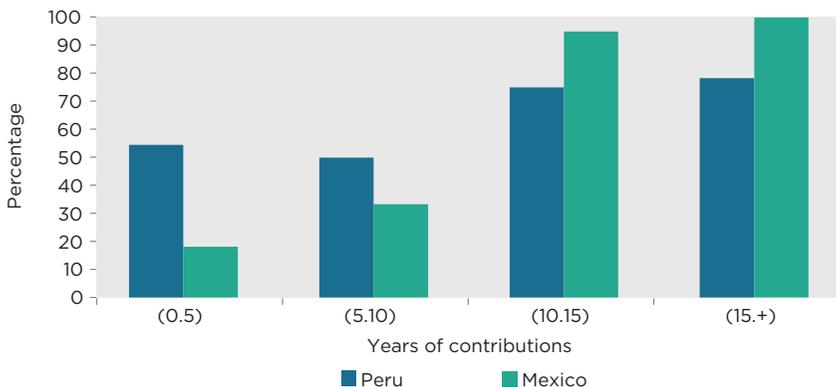
Source: EPS for Chile (2006) and EPS for Mexico and Peru, IDB (2008).

Based on this lack of information, individuals incorrectly calculate how much they will have for their retirement. Many workers believe they will obtain a pension even though they have clearly not made sufficient contributions. The IDB surveys asked people how much time they had paid into a pension system, at what age they were planning on retiring, and how they planned to fund their old age. Surprisingly, a significant portion of those surveyed stated that they expected to finance their old age with a pension even though they had not contributed enough years to generate a pension. For example, of those who had contributed to a pension system for fewer than five years and expected to retire in under five years, 55% in Peru and 18% in Mexico assumed (incorrectly) that they would fund their old age with a pension (see Figure 3.3).

- *Behavioral factors:* even if people lived in a world with perfect information and they fully understood the information, they probably would still not make the right decisions to be able to finance their old age. This situation has been confirmed by an emerging body of specialized literature on behavioral economics which studies the decisions of individuals. Individuals systematically do not make “rational” decisions, either due to

Figure 3.3

Percentage of individuals who think they will fund their old age with a pension and expect to retire within 5 years, according to number of years of contributions



Source: Authors' calculations based on the EPS in Mexico and Peru, IDB (2008).

impatience, negligence, inertia, or lack of channels to facilitate choosing the optimal savings option. People generally choose the path that requires not choosing. This behavior postpones future decisions that should be taken today (like saving for old age) or even puts off making the optimal decision forever (see Box 3.1).

This trend towards inertia—not making decisions—could explain why most workers appear to have given little thought to financing their old age, even those that are approaching retirement age. The social security surveys carried out in the Mexican capital and metropolitan Lima indicate that around 70% of workers between the ages of 25 and 35 have not thought about how to finance their old age. Even among the 50–55 age group, who are much closer to retirement age, between 50–60% of workers have given little or no consideration to the issue.

- *Lack of income:* another obstacle that could explain inadequate contributions and the widespread difficulty of generating long-term savings is insufficient income that prevents workers from attaining a minimum level of consumption. According to the social security surveys (IDB, 2008), a large majority of workers who do not pay into a pension plan say they do not do so because of lack of resources. Approximately 30% of those who do not contribute argue that this is due to insufficient income (see Figure 3.5). The hypothesis states that the inability to save is a considerable restriction to accumulating adequate savings for old age and that this situation could be the reason behind the high correlation between a country's per capita income and the percentage of workers that save through a pension plan, and between an individual's income level and the probability he or she will contribute.
- *Other priorities:* for lower-income individuals and families, saving for the long term to fund a pension may not be an optimal decision. If a household reaches the point where its savings capacity surpasses a subsistence level, it may be more efficient to invest in more and better education, both for adults and children, as well as health or purchasing a home.

Box 3.1 Behavioral economics and pension savings

First-year economics students at hundreds of schools around the world learn that economic agents make rational consumption decisions, i.e. they elect the consumption level that brings them the greatest satisfaction within the framework of their budget limitations, which determine their purchasing power.

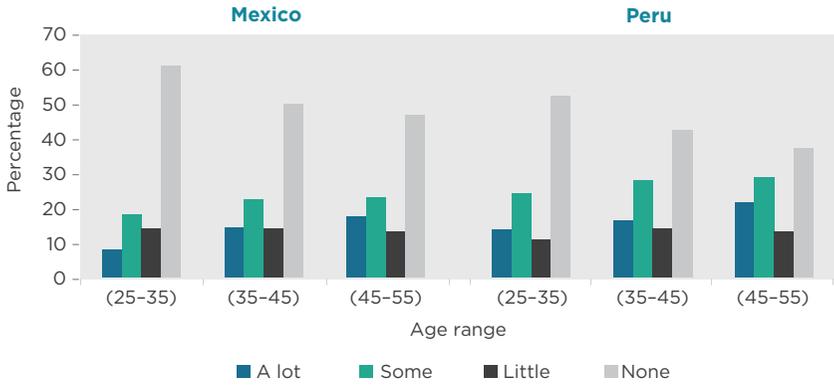
A new school of thought, which mixes insights from economics and psychology, questions this way of thinking. Behavioral economics (see, for example, Thaler and Sunstein, 2008) argues that economic agents make decisions based on simple rules of thumb, which do not always take into consideration preferences. Rather, these decisions are based on context and how this is presented to the decision maker. According to behavioral economics, the inability to pay attention to all of the details of a life decision and risk aversion create a natural tendency among economic agents to not change the status quo, even if these changes are beneficial. Consumption, savings, and investment-related decisions are riddled with inertia on the part of economic agents, which skews the outcome of these decisions toward not choosing at all. This theory explains why people continue to pay subscriptions for magazines they never read or gym memberships they never use.

This hypothesis manifests itself in the context of pension savings, as many individuals who do not save because they simply never made the decision to do so. It also causes defaults to take on unusual importance. An important series of studies carried out in the United States (Choi et al., 2004; Madrian and Shea, 2001) documented that automatically signing workers up for a 401(k) pension plan enormously increased the rate of participation in these plans; in some groups, the rate jumped from 30% to 90%. What this default registration means is that when an individual starts a new job, he or she is automatically signed up for a plan *unless he or she opts out*. A priori, if a worker were to choose the optimal savings level, the default option should not be important; however, evidence categorically refutes this.

Although automatic registration is very effective at increasing participation in savings programs, the default options can also be counterproductive: the systems obtain high participation levels, but most workers are “anchored” to the default contribution rates, which tend to be very low (between 2–3%). Such is the power of inertia.

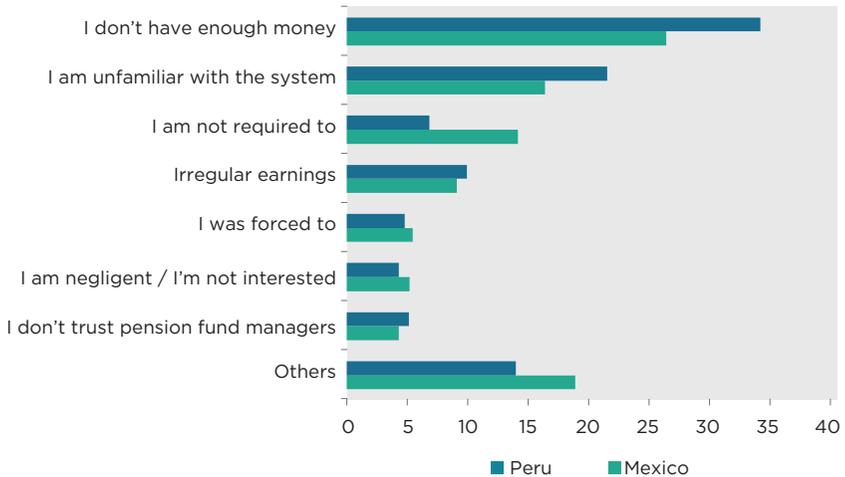
Another lesson of behavioral economics in the savings context is that reducing hurdles to signing up boosts participation rates, although not to the same degree as default registration (Madrian, Laibson, and Choi, 2009; Beshears et al., 2011; Madrian and Shea, 2001). This lesson also shows that sending reminders to individuals to take savings-related actions could be a useful tool, particularly if the reminders are geared toward achieving a specific savings goal (Karlan et al., 2012). Some of these experiences will be explored in more detail in the following chapter.

Figure 3.4
How much thought have they given to how they will fund their old age? Mexico City and Metropolitan Lima, 2008



Source: Authors' calculations based on the EPS in Mexico and Peru, IDB (2008).
 Note: All respondents between 25 and 55 years old.

Figure 3.5
Why workers do not contribute? Mexico City and Metropolitan Lima, 2008



Source: Authors' calculations based on the EPS in Mexico and Peru, IDB (2008).

The design and functioning of pension systems

Given the challenges people face for individual long-term savings, pension systems play the role of efficiently transferring current consumption to future consumption. However, these systems are

unable to provide a pension to a large portion of the region's elderly adults for two reasons: i) because they were not designed to provide universal pension coverage to all citizens, and ii) because their efficient functioning is tied to the labor markets' capacity to create jobs in the formal sector. Below, we offer arguments suggesting that both reasons are contributing to low pension savings levels throughout LAC.

Social security design: insuring workers or citizens?

Social protection systems in the region emerged in the image of the Bismarckian social security system implemented in Germany at the end of the 19th century, which maintained the idea that social benefits are for salaried workers who acquired them through shared contributions made with the employer. According to Bismarck, the motivation for the system was that "the real grievance of the worker is the insecurity of his existence; he is not sure that he will always have work, he is not sure that he will always be healthy, and he foresees that he will one day be old and unfit to work." This type of system spread rapidly through continental Europe and was adopted by LAC countries by the mid-20th century.

With this architecture in mind and driven by the International Labor Organization (ILO) conference held in Santiago in 1936, the Social Security Institutes were created in the region. The Ecuadorian Social Security Institute, for example, was founded in 1935 and underwent a series of expansions in the 1940s. Peru established its Social Security Institute in 1936. Other countries followed: Argentina (1946), Colombia (1945), Costa Rica (1941), El Salvador (1949), Guatemala (1946), Mexico (1943), Panama (1941), Paraguay (1943), Uruguay (1943), and Venezuela (1946). The regional trend continued into the 1950s with Bolivia (1956), Honduras (1957), and Nicaragua (1956). One of the key resolutions emerging from the ILO conference was making salaried work the basic target of social insurance through a combination of wage deductions and employer contributions.

This model was adopted primarily for three reasons: i) it had been successful in Europe, ii) the limitations of the region's governments to provide benefits and collect taxes made establishing a model to guarantee universal coverage untenable, and iii) it was expected that

social security benefits played a role in redistributing income from employers to employees (Kaplan and Levy, 2012).

Although continental European countries did provide social security through compulsory worker contributions, there were alternatives. The 1942 Beveridge Report suggested a plan that “covers all citizens without upper income limit, but has regard to their different ways of life (...): i) employees, that is, persons whose normal occupation is employment under contract of service, ii) others gainfully occupied, including employers, traders and independent workers of all kinds, iii) housewives, that is married women of working age, iv) others of working age not gainfully occupied, v) below working age, vi) retired above working age (...). The sixth of these classes will receive retirement pensions (...) which will be paid from the National Exchequer.”

Using this initial design as a foundation, various countries in the region began to slowly include other groups of workers into the basic structure of the pension systems, such as non-salaried workers, domestic employees, and unpaid workers (see Table 3.1). Currently, approximately half of the countries require non-salaried workers to contribute. Some of these countries allow them to voluntarily contribute and a minority of the countries does not let them contribute at all.

This design is especially problematic for the region for at least two reasons: i) a high percentage of employees are non-salaried, ii) there is significant mobility between non-salaried and salaried jobs as confirmed by studies carried out in the last ten years—which give a window into where a worker is working at a given time, as well as the sequence of jobs that the same employee has over a period of time (see Chapter 2, Fact #7). Moving from a job that requires contributing to a job that does not creates a pattern of erratic contributions for the worker that affects the contribution density and the pension he will ultimately be able to collect.

For this reason, a system designed to provide workers with a savings mechanism for the future cannot be universal. Even if the pension system were to work flawlessly, some groups would not have access to an old age pension. This is the case, for example, of groups that do not belong to the workforce or have lower participation in the labor

Table 3.1
Compulsory contributions for salaried and non-salaried workers

Country	Salaried		Non-salaried		
	Compulsory	Voluntary	Compulsory	Voluntary	Excluded
Argentina	x		x		
Bahamas	x		x		
Barbados	x		x		
Belize	x		x	x (o)	
Bolivia	x			x	
Brazil	x		x		
Chile	x (a)	x (e)	x (j)	x	
Colombia	x		x		
Costa Rica	x (b)		x (k)		x (q)
Ecuador	x			x	
El Salvador	x	x (f)		x	
Guatemala	x			x	
Honduras	x			x	
Jamaica		x (g)		x	
Mexico	x			x	
Nicaragua	x			x	
Panama	x (c)		x (l)	x (p)	
Paraguay	x				x
Peru	x		x (m)	x (q)	
Dominican Rep.	x	x (h)			x
Uruguay	x (d)	x (i)	x (n)	x (i)	
Venezuela	x			x	

Source: Prepared by the authors based on the SSA (country profiles) and SSA (2008, 2012).

Notes:

^a For workers who joined the workforce after December 31, 1982.

^b Workers over the age of 54 in 2005 stay in the social security system, not the individual savings account system.

^c Mandatory for new workers who have joined the work force since 2008 in the individual savings account system.

^d Mandatory in the social security system.

^e Voluntary protection for workers covered by social security since before January 1983.

^f Voluntary for individuals 36 and older in 1998.

^g Provides voluntary coverage for adults over the age of 18 and those under the normal retirement age.

^h Voluntary for public sector workers and private sector workers over the age of 45 in 2003.

(continued on next page)

Table 3.1
Compulsory contributions for salaried and non-salaried workers (continued)

ⁱ In individual savings accounts, coverage is voluntary for salaried and non-salaried workers with monthly income of \$24,709 or less.

^j Coverage gradually extended to non-salaried workers between 2012 and 2015.

^k Mandatory in the social security system, but excluded from individual savings account.

^l The individual savings account system is mandatory for non-salaried workers under the age of 35 in January 2007 and with monthly income over B/.500.

^m Social security is mandatory for some types of non-salaried workers.

ⁿ Mandatory in social security.

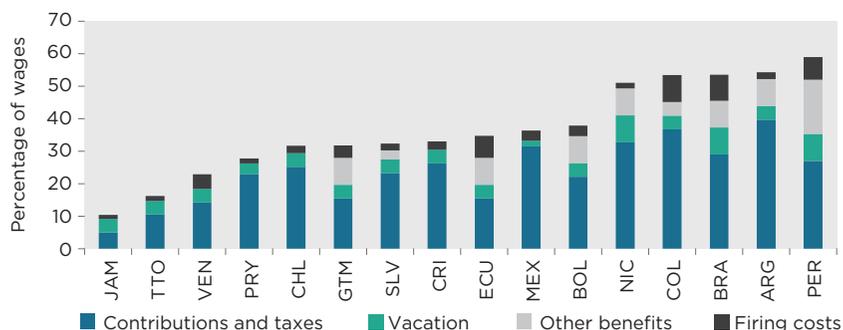
^o For individuals over the age of 65 who became non-salaried workers and have made at least 150 contributions as employees.

^p Not mandatory for all types of non-salaried workers.

^q Only applies to individual savings accounts.

market, like women. In higher-income OECD countries, where the systems work well and most workers contribute regularly, coverage gaps left by the Bismarckian design are easily filled with universal coverage of workers. The result is all remaining elderly adults are covered through families and limited assistance pension programs for specific groups. This problem, however, is exacerbated in LAC by the fact that many workers are explicitly excluded from the design, either because of the size of these groups in the region or due to their high levels of mobility, which means that at some point in the life of many workers, they will work at a job that does not require contributing

Figure 3.6
The costs of formality in Latin America and the Caribbean, 2010



Source: Pagés (2010).

into the system. Added to the design issues are problems with how well the system works, as described below.

How the pension system works: using the labor market as a pension savings mechanism

As salaried workers are the target population for social security, how well the labor market works plays a crucial role in generating pension savings. The integration of the pension system through the labor market binds together tax, labor, and social policies. In other words, any change to taxes, labor-related institutions, and social entitlements could indirectly affect the pension system, and vice-versa. The design of these policies (pension, tax, labor, and social) determines the costs and benefits for the three main decision-makers in the labor market: government, workers, and firms.

Government as judge and jury in the labor market

In addition to deciding the basic tenets of the pension system, governments also play a main role in the way it functions. There are three main areas of intervention for the government:

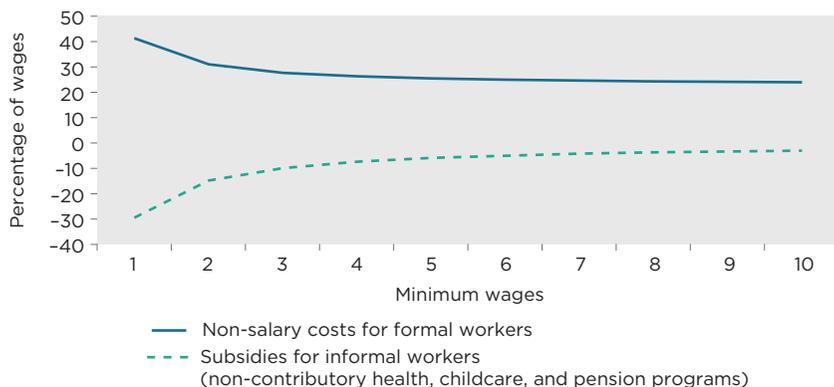
1. Governments set the costs and benefits of operating in the formal economy, which include compulsory contributions from firms and workers to finance healthcare and pensions, as well as other costs that firms must incur to operate in the formal economy. This includes start-up costs, minimum-wages, firing costs, and other regulations. The non-salary related costs for operating in the formal economy can account for up to 50% of wages (see Figure 3.6). Governments are also key actors in establishing the quality of benefits that stem from these contributions, given that it has considerable oversight in provisioning of these services (either directly or through oversight of providers) and the regulation thereof.
2. Governments decide which benefits (subsidies) a worker in the informal sector will receive. The costs and benefits associated with being formal or informal are crucial for determining the balance in the distribution of jobs in the formal sector. In some cases, the difference between the costs of operating in the formal sector

and subsidies for the informal sector can be quite significant, especially for low-income workers. For example, in Mexico, the cost of being a formal worker (as a percentage of wages) is higher for low-income workers because healthcare is financed through a fixed rate of 20.4% of the minimum wage. This means that the relative cost is much higher for those who earn less. Similarly, governments provide a series of subsidies to informal workers, which increase as the income level decreases, in relative terms. The resulting difference between the cost of working in the formal economy and the subsidy granted to workers in the first income decile working in the informal economy is more than 70% (see Figure 3.7). If the value of the formal benefits is not much greater than the value of the advantages to working in the informal sector, there is little incentive for low-income workers to obtain formal employment.

3. Governments influence the level of compliance with the regulations that they enforce. The degree of official oversight is an indication for firms and workers about how much it actually costs to operate in the informal sector. Often, government behavior gives the impression that if a firm is sufficiently small or informal, it will not be fined for non-compliance. For example, in Argentina,

Figure 3.7

Non-salary costs for formal workers and subsidies for informal workers, by number of minimum-salaried workers in Mexico



Source: Authors' calculations based on data from the Mexican Social Security Institute, and Antón, Hernández, and Levy (2012).

irregular activities are explicitly excluded from government oversight, which targets firms that have already been formally set up (see Box 3.2). Another important aspect of the governments' tolerance of evasion may be rooted in the lack of institutional capacity to monitor the labor market. This led to the decision in many countries to exempt non-salaried and domestic workers from paying social contributions.

There is certainly ambivalence in countries throughout the region as to the desired role of the government vis-à-vis the existence of informal employment. On the one hand, illegal informal employment is punished with onerous nominal fines handed out to firms that do not follow the regulations. On the other hand, oversight primarily targets firms that already have a relationship with official institutions, either because they are registered or because some of their workers are formal. Furthermore, there is a complex framework of incentives for workers and firms, in the form of benefits for formal workers in exchange for contributions, while there are parallel benefits offered specifically to informal workers (like Seguro Popular in Mexico, the healthcare subsidy system in Colombia, and non-contributory pension programs designed solely for informal workers). Some of this ambivalence may be due to the fact that the governments recognize that the informal sector is an important driver of job creation: lower tolerance for informal employment would result in more formal employment, but also probably higher unemployment (Almeida and Carneiro, 2012).

Workers and the costs and benefits of informality

The nominal benefits for workers in the formal economy are clear. In most countries, a registered job provides access to healthcare and pension plans, among other advantages. However, the key variable is not which benefits, but also the value workers assign to these benefits in relation to the contribution they must make. If the value is equal to or greater than the contribution, then the worker could be willing to assume the costs of participating in the formal sector, in the form of lower net wages. In contrast, if the value is lower, the worker most likely will not be willing to accept these deductions and the firm will

Box 3.2 Oversight of formal firms

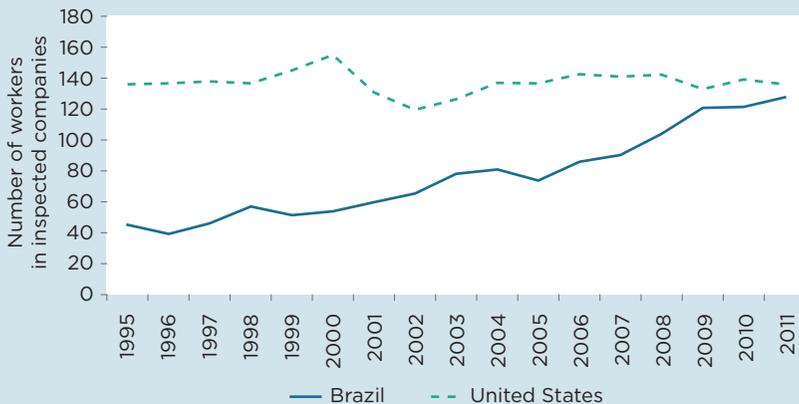
Several of the region's countries are putting measures into place to expand oversight of the labor market. Brazil and Argentina, among others, have significantly increased oversight in recent years.

To counteract the high percentage of unregistered jobs that have been hindering salaried employment since the beginning of the 2000s, Argentina implemented the National Plan for the Regularization of Employment in 2003. This oversight explicitly targeted formal firms that already had a history of paying into social security and those that had previously detected irregularities. Subsistence firms were intentionally left out. Specifically, in accordance with the Argentine Ministry of Labor, Employment, and Social Security, the oversight adopted the following strategy: Focusing on economic activities under expansion, thereby avoiding punishing the weakest sectors of the formal economy and prioritizing firms and sectors with contributory capacity. Informal and/or subsistence firms are excluded from the sphere of action.

Brazil is another example of a country that has implemented an aggressive fiscal oversight program. Although the number of labor inspectors has remained unchanged since the 1990s (around 3,000), oversight has increasingly targeted larger-size firms. In 1995, the average registered firm had around 45 employees. In 2011, this number was 120—very similar to the average in the United States. This growth means that the number of jobs inspected has risen from 250,000 per year to around 700,000.

Inspecting the largest and most formal firms may be efficient in terms of tax collection, but the message that is sent is that as long as the firm is small, it will go undetected by the government. This means that if a firm grows and contributes, it could incur the added cost of being inspected. Informal micro-enterprises could take this into consideration when making decisions on the size of their firm.

Figure 3.2.1:
Average size of inspected company in the United States and Brazil, 1995–2011



Source: Ministry of Labor (Brazil) and Occupational Safety and Health Administration (OSHA).

have to assume them, in the form of lower profits, less formal employment, or higher prices.

The key question is how much workers are willing to pay. The answer is not very encouraging, given that the obstacles to predicting old-age needs, in addition to severe myopia and inertia, suggest that overall willingness to contribute to pension systems is low, especially among lower-income groups. Although there is no systematic data on this issue, the evidence available indicates that the value assigned to benefits (or the willingness to pay) is not very high—especially for pension systems. In Ecuador, for example, 27% of those asked in a survey how much they would be willing to pay monthly if they were offered a retirement plan with good services and an adequate pension said they would not be willing to pay anything at all (INEC, 2007). On average, workers are willing to give up 4% of their monthly wages, which is similar to the figure they are willing to pay for healthcare. In practice, Ecuadorian salaried workers pay 6.6% of their wages, while the employer must pay another 3.1% to fund pensions (IDB, World Bank, and OECD, 2013). In Colombia, workers would be willing to pay between 13% and 20% of their salary into an integrated package that includes pension and health (Cuesta and Olivera, 2010). But the shared package cost for firms and workers is around 50%.

Moreover, income levels do influence willingness to pay. In Ecuador, 46% of workers in the lowest decile of income distribution answered that they would not be willing to contribute anything at all to a pension plan. That figure dropped to 34% for middle-income deciles. Even in the richest decile, 23% reported they would not be willing to contribute one dollar to a pension system that granted fair pensions.

A crucial point that often goes unnoticed is that this cost/benefit analysis for workers participating in the formal sector is not in absolute terms, but rather compares the costs and values placed on the benefits of being an informal worker. The expansion of non-contributory programs in healthcare and pensions alters the cost/benefit analysis that workers do when deciding whether to look for a formal or informal job. Levy (2008) suggests that for unqualified workers in Mexico, once you take into account the value that formal and informal workers assign to the respective packages offered by the government, the “net

tax" on being a formal worker is 34% of wages. This tax is comprised of the sum of the portion of services that formal workers must pay for and do not value and the services that informal workers receive and do not pay for.

Finally, the value that workers place on the benefits of being part of the formal sector will determine how much of the costs associated with being formal or informal a firm can transfer to workers through lower wages and, therefore, how the demand for jobs will react to changes in contributions to social security. Evidence emerging from the region indicates that part of this cost comes out of the firm's pocket, but there is no consensus in the literature on this issue (see Box 3.3).

Firms and the costs and benefits of formality

Firms collect the savings from workers and channel them either to the PAYG system or the financial system. If the firms could transfer the costs of pension contributions, healthcare, and other social benefits (or even costs for which the firm is responsible) to workers by lowering wages, they would be but mere intermediaries. If this were the case, firms would be indifferent to hiring workers either formally or informally. There are, however, multiple reasons that prevent firms from just being an intermediary:

1. As explained above, workers may not value the benefits at the cost paid and may not be willing to accept lower wages. In such a case, if a firm wants to hire within the current laws, they may have to assume costs that are not legally their responsibility.
2. Statutory variables like minimum wages prevent firms from transferring all of these costs to minimum-salary workers or those with similar wages.
3. The cost of formal employment for firms goes beyond social benefit contributions. Although direct compliance with entitlement program obligations is not high and it is possible to transfer them through lower wages, *forcing* workers to contribute to pension savings entails taking on other obligations provided for in the labor code, such as severance pay and additional labor-related

Box 3.3

Who really pays social security contributions and payroll taxes?

What is the real effect of reducing social contributions and payroll taxes? Over the last two decades, numerous international academic institutions have recommended lowering social contributions to encourage job creation. Behind this proposal is a surprisingly diverse array of economic justifications. For some (European Commission, 1994; OECD, 1994), reducing payroll taxes is a way to lower labor costs and, as such, promote labor demand. For others (Prescott, 2004), cutting taxes would increase net wages and the job supply. Likewise, in emerging economies, especially in Latin America, some authors underscore the positive effects of reducing taxes on formal employment (Levy, 2008; Pagés, 2010).

Any of the options require understanding who is really bearing the tax burden. As regards social contributions that firms must pay, they can be absorbed by the firms (increased labor costs lower after-tax-profits), they can be *transferred backwards* to employees (through reduced net wages), or they can be *transferred forward* to consumers (through increased product prices). Ultimately, this is an empirical question.

Literature on this issue is far from unanimous. Recent studies show results varying from the full transfer through lower salaries (Gruber, 1997, for Chile; Alesina and Perotti, 1997, for a sampling of Nordic and Anglo-Saxon countries), to partial or no transfer (Cruces, Galiani, and Kidyba, 2010 for Argentina; Heckman and Pagés, 2003, for a sampling of OECD and Latin American economies, and Kugler and Kugler, 2008, for Colombia). It bears noting that for countries with high levels of informal employment—when there is no transfer of costs and, therefore, formal employment drops—informal sector wages could be impacted as the supply of informal workers would expand.

This lack of consensus on the issue stems from measurement challenges. It is an extremely complex task to isolate the effect of tax changes, because they generally affect everyone equally, are very gradual, and/or are carried out in conjunction with other reforms to the goods and services markets. Major reforms must be carried out to design good experimental evaluations.

With this consideration in mind, the labor economy has highlighted various political and socio-economic factors that affect the ultimate distribution of tax burden among workers, firms, and consumers:

1. *Economic and labor institutions, especially the degree of centralization and coordination in salary negotiations, the interaction with the minimum wage and the efficiency of the public sector:* contributions have a less negative impact on employment if the collective bargaining is very centralized or very decentralized, if the minimum wage is low, and if the government is efficient in its spending (Calmfors and Driffill, 1988; Alesina and Perotti, 1997; Daveri and Tabellini, 2000; Kugler and Kugler, 2008).
2. *The type of pension system and, especially, the perceived relationship between taxes and pensions:* if the agents perceive that they are fully

(continued on next page)

Box 3.3**Who really pays social security contributions and payroll taxes?** *(continued)*

linked, social taxes become deferred wages and do not increase labor costs (Gruber and Krueger, 1990; Gruber, 1994a and 1994b; Disney, 2004).

3. *The temporal horizon:* nominal rigidities in wages and prices mean that contributions tend to have a greater impact on employment in the short term (Hamermesh, 1993).

Results are influenced by the definition of the tax burden, given that the base for indirect taxes, personal income taxes, and employee and employer social contributions differ, as do their economic impacts (OECD, 1990 and 2007). González-Páramo and Melguizo (2013) corroborated these results quantitatively through a meta-analysis exercise performed with 52 empirical studies. On average, workers assumed anywhere from 70% of the tax burden in continental European and Anglo-Saxon economies through lower salaries, to almost 90% in Nordic countries. The impact on incomes is much less in the short term when firms assume half of the tax burden.

Understanding the real impact of these policies is particularly important for Latin America, due to the challenges the region's countries are facing in restructuring and guaranteeing the sustainability of their pension systems. This will have an enormous impact on informal employment.

regulations (minimum wage, health and environmental regulations), which can imply substantial additional costs.

Other costs associated with formal employment are difficult to quantify and may create enormous uncertainty, which is folded into the cost of hiring employees formally. The clearest example is dismissal costs. In most of the region's countries, the cost for dismissing a formal employee are high (Heckman and Pagés, 2003) and can vary significantly depending on the litigious nature of the system and the type of dismissal. In Mexico, for example, if an employee sues a firm for wrongful termination and the judge rules in his favor, the firm must pay all back wages since the dismissal of the worker through the end of the trial. The uncertainty that these potential labor costs create could discourage firms from hiring formal employees, particularly small and medium-sized firms that do not have the mechanisms in place to cover any extraordinary costs.

Finally, calculating the costs and benefits of formal employment for a firm also requires an analysis of the level of oversight by the government in the labor market. This will determine how expensive it is for a firm to operate informally. Thorough oversight could dissuade firms from operating informally, despite the high costs associated with formal employment, and prevent low-productivity firms, which can only operate informally, from being created in the first place. Empirical evidence indicates that inspection in the region targets large firms that are already formal. The result is limited incentive for small firms to contribute, as the cost for non-compliance is relatively low.

The equilibrium in the labor market: the different faces of informal employment

The interaction between the governments, workers, and firms can be represented as an equilibrium in four quadrants, which show the four possible combinations, costs exceeding or not the value assigned to benefits—with firms on the vertical axis and workers on the horizontal axis (see Diagram 3.2). The division between the quadrants is determined by the institutional framework of costs and benefits provided by governments, as well as the perception of the benefits held by workers and firms.

Within this scheme, non-salaried workers are differentiated from salaried workers based on their relationship with the social security system, as they are both worker and firm at the same time. This places all non-salaried workers in quadrants I and IV. It is important to distinguish this group from salaried workers for two reasons: 1) in some countries non-salaried workers are not required to contribute and 2) regardless of their legal status, they do not have the mechanism for forced savings. This distinction has considerable consequences. First, a worker that does not wish to be formal may make the decision to be self-employed. Second, non-salaried workers—whether they are required to contribute or not—must make a proactive decision to pay into the social security system.

- *Quadrant I: informal by choice.* The costs of formality exceed the benefits, both for firms and for workers. Also in this quadrant are non-salaried workers who perceive the benefits of formality

Diagram 3.2
Understanding formality

	Cost > v(benefit) Worker	Cost < v(benefit) Worker
Cost > v(benefit) Company	<p>I. Informal by choice</p> <p>Non-salaried workers assign low value to SS and are not subject to forced savings mechanisms.</p> <ul style="list-style-type: none"> • Informality is optimal. <p>Salaried workers who do not value SS and work in small companies that easily evade.</p> <ul style="list-style-type: none"> • Informality is optimal: social objectives not met. 	<p>II. Exclusion</p> <p>Salaried workers value SS, but work for small companies that easily evade.</p> <ul style="list-style-type: none"> • Informality that excludes.
Cost < v(benefit) Company	<p>III. Evasion</p> <p>Salaried workers who do not value SS, but work in large companies that cannot easily evade.</p> <ul style="list-style-type: none"> • Impact of SS on companies. • Look for mechanisms to not contribute. 	<p>IV. Optimal formality</p> <p>Salaried workers value SS and work in companies that do not evade.</p> <ul style="list-style-type: none"> • Formality is optimal. <p>Non-salaried workers assign high value to SS, but they do not have forced savings mechanisms.</p> <ul style="list-style-type: none"> • Contributing is optimal, but they may not contribute due to lack of mechanisms.

Source: Prepared by the authors.
 Note: SS represents social security benefits.
 v(benefit) = value of formality benefits.

to be insufficient and, as such, are unwilling to assume them. As expected, this quadrant includes firms whose formality-related benefits are perceived to be low: firms with low capital and external financing and firms that easily go undetected by the government (micro and small enterprises). This quadrant includes workers who assign a low value to the pension and healthcare programs (this could include people with little culture of contributing to pensions, those who are extremely myopic on the issue or low-income earners who perceive a high opportunity cost associated with long-term savings). It is important to emphasize that, in this case, the individual objectives of firms and workers are met, but social objectives are not. This is particularly important given that individual decisions may not be optimal

from the standpoint of the life cycle due to myopia, negligence, and misinformation, which can create inconsistencies over time and too little consumption in old age.

- *Quadrant II: informality as a form of exclusion.* The costs of formal employment are greater than the value assigned to the benefits for firms, but not for workers. This quadrant includes workers who are willing to give up part of their wages to obtain other social security benefits, but they cannot find employment in a firm that formally declares its employees. This would be the case, for example, of workers who value the benefits of a formal job and who work in a small or micro-enterprise that does not want to register them as that would entail incurring a series of costs associated with formal employment (firing costs, phytosanitary regulations) that the firm does not see in its interest given the low likelihood of being inspected. This quadrant matches the traditional perspective of informality as the result of segmented markets (see Perry et al., 2007).
- *Quadrant III: informality as a form of evasion.* The costs of formality are greater than the value assigned to the benefits for workers, but not for firms. This quadrant reflects the case in which firms, due to their size or their visibility, should hire formal employees. However, they employ workers who assign little value to formal employment. As transferring the cost of social security to the worker is more difficult, it is more expensive for the firm to hire these workers. This would be the case, for example, of large firms who hire people who are not very willing to give up present consumption. This would explain why, even in large firms (with more than 50 employees), around 10% of workers are still informal.
- *Quadrant IV: when formality is optimal.* This quadrant is where formal jobs are created because the value assigned to the benefits of formality is greater than its costs, for both workers and firms. In this framework, the relationships established are formal. Workers are more willing/able to contribute to social security (as higher-income and higher-education employees tend to be). The same applies to firms that—due to their visibility, size, or need for external capital—must operate in the formal sector.

Closing the loop: policies that redesign how social security is provided (Block 3)

The last obstacle, which completes the conceptual framework, deals with the policies that governments are putting into place to reduce lack of pension coverage that change the incentives in the labor market balance described above. As a response to the lack of old-age protection created by payroll contribution-based systems, governments have been implementing non-contributory social security program as a parallel system to traditional schemes.

From a conceptual standpoint, these policies aim, to a certain degree, to switch from a worker-protection design to a citizen-protection design. The best example is *Renta Dignidad* in Bolivia—a non-contributory pension that is granted to all citizens of a certain age, regardless of their work history or income level (with a 25% reduction if the individual collects a pension from the contributory system). However, many of these policies do not target the citizen, rather the worker that was not or is not currently registered. In Mexico, for example, Seguro Popular de Salud (a public health insurance plan) is available only to those who are not contributing to a contributory health service. Non-contributory pensions in Mexico and Brazil are only granted if a person can prove that he is not collecting a pension from the contributory system.

Furthermore, given that these policies emerge as an alternative to a system already in place, there tend to be duplications and overlap with other social safety nets. In Mexico, in addition to the non-contributory federal pension program “65+” (previously 70+), there are 16 state plans that grant subsidies to elderly adults with varying levels of generosity and eligibility criteria. In the state of Baja California, these benefits may be collected at the age of 60, while in other states only after the age of 70. The plans’ generosity also varies: from \$759 per month in Mexico City (US\$106) to \$300 per month (US\$42) in Zacatecas. In some of these states, this benefit is added to the federal subsidy while in others a person can only receive it if they are not collecting from any other social plan (Águila et al., 2010).

These programs are essential to achieve universal pension coverage. However, policymakers must take into account that, as shown by the labor market balance in Block 2, the existence of these type of

programs does impact the cost/benefit decisions of workers and firms. How much the willingness to contribute diminishes will depend on various factors, including the quadrant in which the informal worker falls and how the design and implementation of the non-contributory programs move the cost/benefit margins between formality and informality (see Box 3.4).

Why does the region have so many informal workers?

The facts described in Chapter 2 indicate that the region's labor market balance creates 55% of jobs in quadrants I, II, and III, where contributions are not made into a pension system. Exactly which quadrant informal workers fall into is the subject of much academic debate, on which there is still no consensus. While some authors believe that informal workers are excluded from formal institutions because they work in informal firms (quadrant II), others maintain that informality emerges rationally based on labor market incentives (quadrant I; see Fields, 2009, and Perry et al., 2007).

Informality patterns seen in the region could provide some valuable clues to understanding the possible causes of why the labor market works poorly. Here we will analyze some of the underlying reasons for this situation, through the prism of the conceptual framework described.

Labor policies, like minimum wages, can stymie the hiring of low-income workers

The minimum wage can significantly impact the decision to contribute or not, as it determines the minimum level of income of a formal worker. If the minimum wage is very high (*vis-à-vis* the country's average income), lower-income workers could be left out of the formal sector.

The average minimum wage in LAC falls within the third decile of income distribution (Bosch, Melguizo, and Oliveri, 2013). Consequently, workers falling in the two lowest deciles are predominantly informal.

Box 3.4 The theoretical effects of non-contributory pensions on the labor market

One of the biggest innovations in recent decades has been the region's unprecedented expansion of non-contributory pensions. These types of pillars have taken on many shapes, in terms of their level of generosity and who can receive them (see Table 2.2 in Chapter 2). They have allowed millions of elderly adults to access a pension. However, these subsidies raise some serious questions. The most important issues—how they affect participation in the labor market and how much they influence incentives to participate in contributory systems—will be addressed below.

Impact on participation in the labor market

By having additional income, a person receiving a non-contributory pension may view participating in the labor market as a less attractive option. This is normally called the income effect. All non-contributory pensions, regardless of their design, create some type of income effect that will cause a reduction in the beneficiary's labor supply. There is widely documented evidence that the pensioners receiving a non-contributory pension quit working when they are eligible for this type of subsidy. The result of these programs is that elderly adults do not have to work until old age. This is not necessarily a negative impact, especially if the pensions are granted at a relatively advanced age, when the elderly adults should be lowering their labor supply. The situation is more questionable if the pensions are granted at an earlier age, at a time when there are significant gains in life expectancy. For example, rural pensions in Brazil are granted to women when they turn 55 years old and to men when they turn 60. Another example of this income effect is workers approaching retirement age (but still are not eligible) who move up their retirement or reduce their working hours in expectation of receiving the pension.

Impact on contributions to the contributory system

A distinction must be made between two related effects. First, just as non-contributory pensions reduce labor market participation, they also lower worker pension contributions. This occurs when workers who decide to reduce their participation in the labor market were previously contributing to the pension system. If these workers had not received a non-contributory pension, they would have continued contributing longer.

Second, there is an additional effect that is particularly relevant in the region. The division between formal and informal employment begs the question about whether non-contributory pensions have the potential to reduce the incentive to contribute (to be a formal employee) over a person's working life. This is where the design of the non-contributory pension plays a crucial role. Theoretically, one of the fundamental parameters is how the government's subsidy changes (as a non-contributory pension) when a person pays into the contributory system. If the amount of the subsidy

(continued on next page)

Box 3.4

The theoretical effects of non-contributory pensions on the labor market *(continued)*

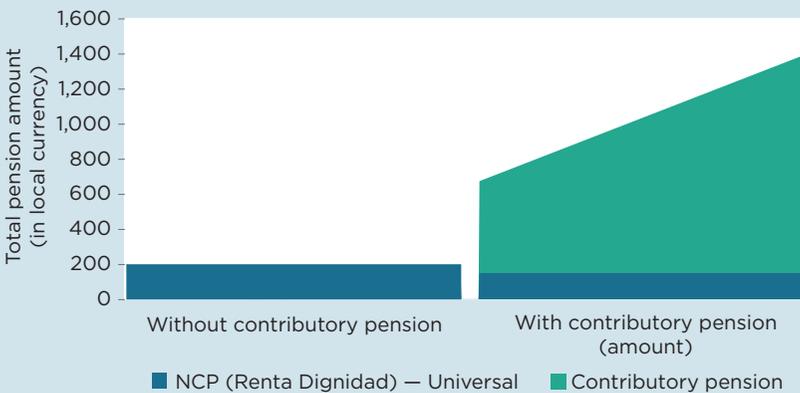
goes down when contributions are made into the contributory system, this imposes a sort of tax on contributions.

Throughout the region, non-contributory pensions take on a variety of designs, with differences in the potential to affect the contributory systems. There are three models:

- *Bolivia, an integrated universal pillar.* In Bolivia, all women over the age of 60 and men over the age of 65 have the right to receive a non-contributory pension (*Renta Dignidad*). This can be collected in combination with the contributory pension, regardless of the individual's wealth. However, the non-contributory pension is reduced by 25% for those who have a contributory pension. The amount of the non-contributory pension is relatively low compared to the minimum pension granted through the contributory system.

Figure 3.4.1

Contributory and non-contributory pillars, by income level in Bolivia



Source: Authors' calculations based on system parameters.

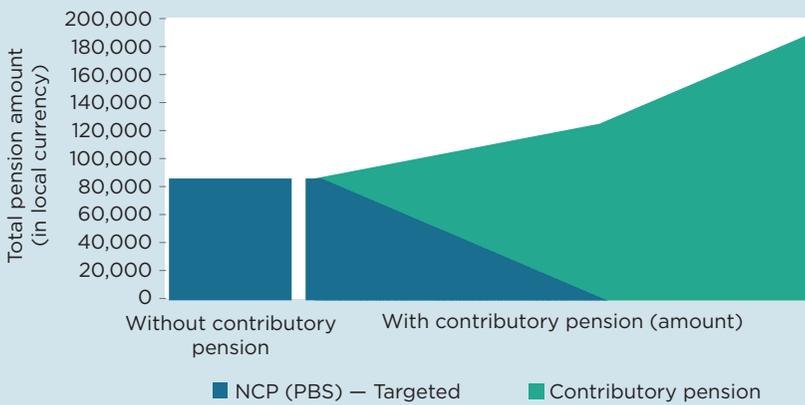
- *Chile, an integrated, progressive, and targeted solidarity pillar.* In Chile, a citizen has the right to collect the maximum non-contributory pension if he does not have money accumulated in a retirement account (and if he is part of the poorest 60% of the country). As in Bolivia, the solidarity pillar can be combined with the contributory pension, but progressively: as the balance in the retirement account increases, the amount of the non-contributory pension decreases. As such, the final pension

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Box 3.4
The theoretical effects of non-contributory pensions on the labor market *(continued)*

amount (the sum of the contributory and non-contributory) is always higher the more a person has accumulated. This shows that a 100% tax is imposed on the non-contributory pension for individuals with large savings and close to 0% for those who have barely accumulated savings in their account.

Figure 3.4.2
Contributory and non-contributory pillars, by income level in Chile

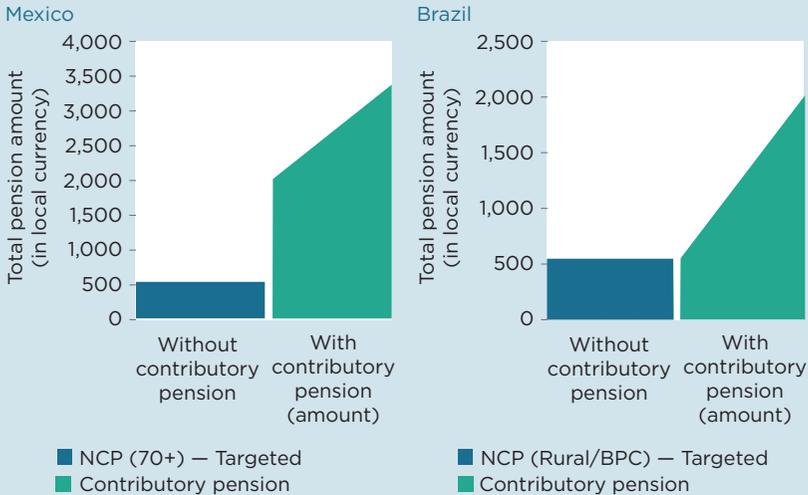


Source: Authors' calculations based on system parameters.

- Mexico and Brazil grant benefits to citizens without a contributory pension.* In both countries, citizens who receive a contributory pension are not eligible for a non-contributory pension. However, they differ in the relationship between the amount of the non-contributory pension and the contributory pension. The non-contributory pension in Brazil is equal to the minimum pension (the minimum wage). In Mexico, the solidarity pillar is barely one-fourth of the minimum pension.

Of the three models above, those that provide high non-contributory pensions and impose higher taxes on those that have a contributory pension are those that have the potential, at least theoretically, to alter incentives for workers to contribute. This does not mean that all non-contributory pensions that exclude individuals with contributory pensions will promote informality. As this chapter has explained, this depends on many other factors. Chapter 4 critically evaluates the empirical evidence on the scope of these new non-contributory pillars and their impact on the labor market.

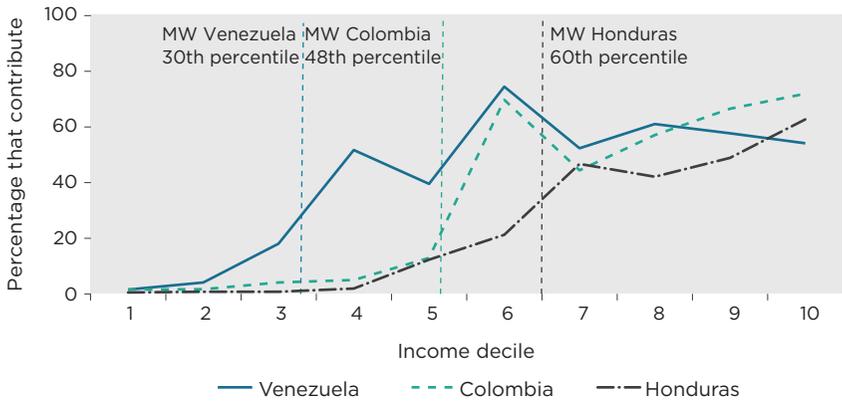
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Box 3.4**The theoretical effects of non-contributory pensions on the labor market** *(continued)***Figure 3.4.3:****Contributory and non-contributory pillars, by income level in Mexico and Brazil**

Source: Authors' calculations based on system parameters.

Some countries have higher minimum wages. For example, the minimum wage in Venezuela is in the 30th percentile, i.e. 30% of workers earn less than the minimum wage. In Colombia, 48% of workers earn less than the minimum wage. In Guatemala, Honduras, and Paraguay, only four out of every 10 workers earn equal to or more than the minimum wage (see Figure 3.8). As the minimum wage increases, it is more difficult to find formal workers falling in the middle of the income distribution. For example, within the fourth decile of income distribution (which is higher than the minimum wage in Venezuela, but not in Colombia or Guatemala), the number of Venezuelan workers contributing is between 40–50 percentage points greater than Colombian and Guatemalan workers. In the sixth decile of income distribution, Colombia and Venezuela are equal in terms of the percentage of contributors, but this is not the case in

Figure 3.8
Percentage of contributing workers, by income decile:
Colombia, Honduras, and Venezuela



Source: Authors' calculations based on household surveys (circa 2010).

Note: MW = minimum wage.

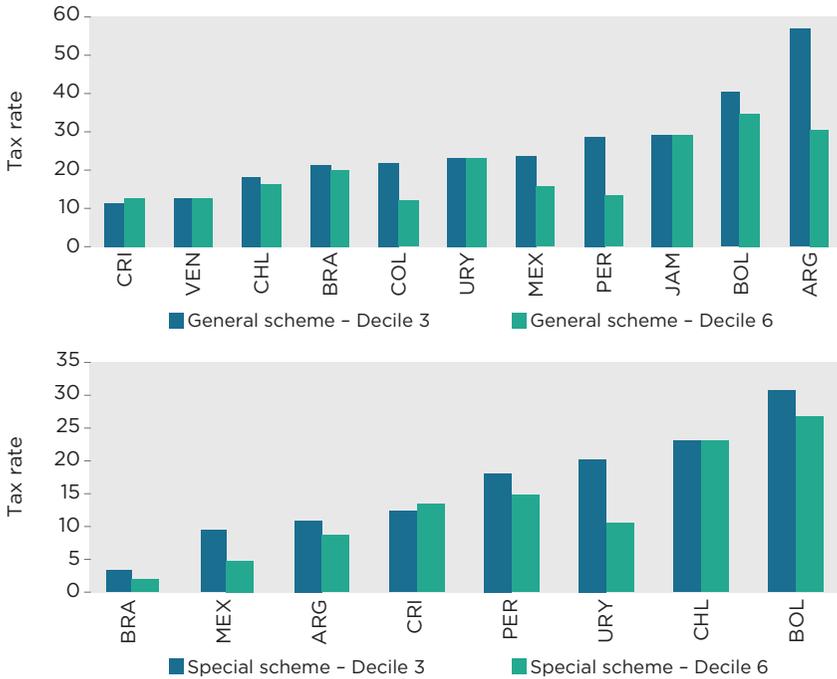
Honduras. The differences among countries disappear or drastically drop by the seventh decile. These figures reflect the considerable impact that the minimum wage has in creating formal employment in the middle range for income distribution. It also illustrates the high level of integration of labor and pension policies.

The costs of formality can be higher for lower-income workers, especially for non-salaried workers

Payroll taxes as a percentage of wages can be higher for lower-income workers. This happens when there are fixed contributions and taxes and minimum contributions thresholds or maximum contribution caps. This effect is noted particularly among non-salaried workers, given that in many countries they must pay a fixed amount, either as part of the general tax scheme or the special scheme. The result is social contributions that are much higher for low-income non-salaried workers (as a percentage of their income). For example, the tax rate for a non-salaried worker in the third decile in Peru is nearly double that for a non-salaried worker in the sixth decile under the general tax scheme (similar to Argentina and Uruguay under their special scheme) (see Figure 3.9).

Figure 3.9

Non-salaried worker contributions as a percentage of their income, 3rd and 6th labor income decile, 2010



Source: Aguirre (2012).

The benefits of informality are greater and, therefore, the value assigned to formality is lower among lower-income workers

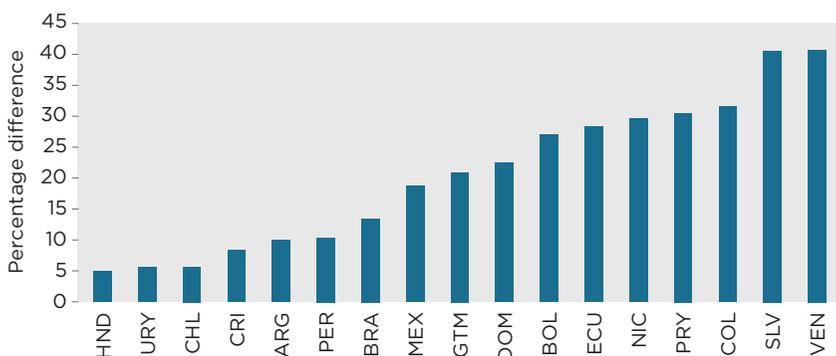
The design of certain social programs, whose beneficiaries are primarily lower-income workers, may reduce the incentive to participate in the formal sector. Some programs, in fact, are only available for informal workers. This is tantamount to granting a subsidy for being informal as it diminishes the value workers place on formality. Examples of this type of program include the *Seguro Popular* in Mexico (Bosch and Campos-Vazquez, 2010) and the subsidized system in Colombia (Camacho, Conover, and Hoyos, 2009), both negatively impact formal job creation, especially in small firms. Likewise, several studies have shown that conditional cash transfer programs can limit

incentives to contributing to social security (Amarante et al., 2011; Bosch, Maldonado, and Schady, 2013; see Box 3.5).

The costs of formality are relatively high for small firms, which tend to hire lower-income workers

On the basis of the same income level, small-firm workers are informal at a higher rate. The size of the production unit is a determining factor even for higher-income workers, for whom minimum wage requirements are not restrictive (see Figure 3.10). A possible explanation of this is that the size of the firm is proportionate to its capacity to absorb the fixed cost of having formal workers. These fixed costs, which are independent of productivity and worker wages, may come from varying sources, such as economies of scale of personnel and equipment to maintain a formal structure, firing costs, or regulatory standards. Another feasible interpretation is that the higher productivity of larger firms (see, for example, Pagés (2010), where there is a strong relationship between firm size and productivity) allows them to absorb the costs of formality. This correlation could also be interpreted the other way around. Firms can only grow when they can absorb the costs of formality. Furthermore, given that firm size affects the likelihood of being inspected, the larger the firm is, the higher

Figure 3.10
Difference in the percentage of salaried workers contributing in the 7th income decile: large companies (50+ workers) vs. medium companies (6–50 workers)



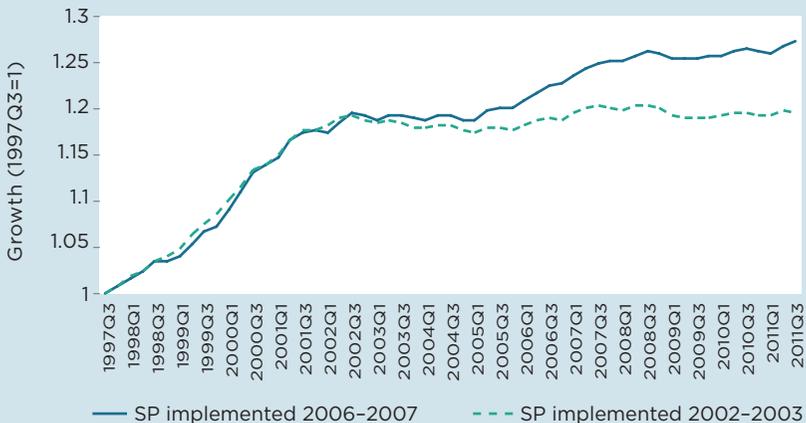
Source: Authors' calculations (IDB) based on household surveys (circa 2010).

Box 3.5 Social programs and the pension system

Policies to expand the healthcare coverage of informal workers actually increase the lack of coverage in the pension system

The *Seguro Popular* (Popular Insurance) program was implemented in Mexico in 2002 to provide health insurance to the more than 50 million medically uninsured. The only condition for accessing this free insurance was to not contribute to the Mexican Social Security Institute (IMSS). The program was rolled out in phases by municipality. This enabled impact evaluations on the labor market (see Bosch, Cobacho, and Pagés, 2012). As the Popular Insurance expanded, the municipalities that implemented it first experienced a drop in the registration of formal firms, which translated into fewer employers registering. Paradoxically, finding the solution to lacking healthcare coverage based on non-contributory programs that are separated from social security can actually reduce the generation of pension savings.

Figure 3.5.1
Growth in the number of companies with 1-50 workers registered in the Mexican IMSS, 1997-2011



Source: Bosch and Campos (2010).

Cash transfers can lower participation in social security

Since the Education, Health and Nutrition Program (PROGRESA) was developed in Mexico in 1997, conditional cash transfers have grown in popularity throughout the region. In 2003, Ecuador began to systematically hand out the Human Development Bond (BDH). As in other countries, the Ecuadorian targeting mechanism gives a score based on a series of variables, which do not include paying into social security. Once the score is obtained, the sample group can be divided, in the case of women, into a treatment group

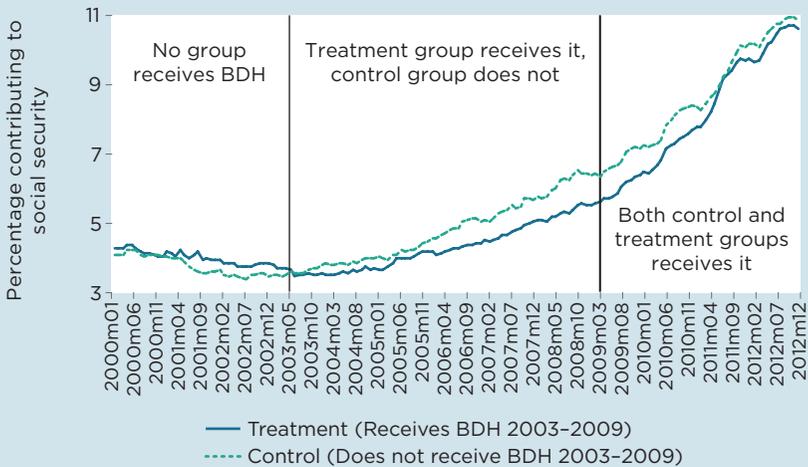
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Box 3.5
Social programs and the pension system *(continued)*

(people who barely qualified to receive it) and a control group (people who were just barely unqualified to receive it).

Six years later, even though collecting the BDH is not tied to whether or not a person contributes to social security, the treatment group is less formal by about one percentage point (16% less), compared to the control group. These results clearly show that this conditional cash transfer in Ecuador was impacting the percentage of women who paid into social security. What was interesting about the recertification of the BDH in 2009, when the target score was given again, is that the treatment and control groups were more or less equally likely to receive the bond beyond 2009. Two years after the recertification, the percentage of women contributing to social security in the original treatment and control groups was the same. This reinforces the idea that receiving the BDH determines whether or not a person will pay into Ecuadorian social security.

Figure 3.5.2
Percentage of women contributing to social security in Ecuador between the ages of 30 and 45, treatment group and control group for the Human Development Bond, 2000–2011



Source: Bosch, Maldonado and Schady (2013).
 Note: The contribution levels of the treatment and control groups were obtained through a regression discontinuity design for each month where the dependent variable is whether the individual contributed or not, and the independent variables are a dummy variable that determines eligibility, standard score, and the standard score interacting with the dummy variable. The sample is restricted to individuals with scores between -2.5 and +2.5 of the cut-off point.

the costs of formality. In fact, having a low-scale production could be ideal for some firms.

From the conceptual framework towards universal coverage

In practice, there are basically two different ways to increase access to an adequate pension for the millions of elderly adults who will retire in the coming decades.

1. **Ex-post policies.** Coverage can be expanded by providing non-contributory pension benefits to individuals who reach retirement age with no savings or no pension rights.

As shown in Chapter 2, this type of solution has been very effective in expanding coverage in the short term, but there are questions as to the fiscal, economic, and institutional consequences in the long term, especially if it has not been well integrated into the contributory system.

This effect is clear in light of the conceptual framework. If the programs exclusively target informal workers, these non-contributory pensions and other similar policies increase the relative cost of being formal over being informal.² This impacts the value that workers assign to formality and reduces the size of Quadrant IV, which is where formal jobs are created (see Diagram 3.3).

Theoretically, the magnitude of this effect depends on the economic policy design, particularly those regarding eligibility rules and how generous is the non-contributory benefit. The more generous the non-contributory benefit, the greater the loss in value assigned for the equivalent benefits that must be paid. For example, giving a very generous non-contributory pension (100% of GDP per capita) to all citizens turning 65 years old could have negative repercussions on incentives to save for old age during the active life of individuals, as those same people know that they will have a guaranteed good pension without having to contribute during their productive lives.

² Furthermore, if firms create policies based on the fact that workers receive benefits for being informal, they could offer informal contracts—which are now more attractive—to reduce costs.

Diagram 3.3
Ex-post policies and their impact on the labor market

	Cost > v(benefit) Worker		Cost < v(benefit) Worker
Cost > v(benefit) Worker	I. Informal by choice		II. Exclusion
Cost < v(benefit) Worker	III. Evasion		IV. Optimal formality

→

Source: Prepared by the authors.
 Note: v(benefit) = value of formality benefits.

The next chapter provides evidence from empirical studies obtained on the effects of these pillars in the region.

In conclusion, ex-post non-contributory policies do indeed have the advantage of rapidly increasing coverage. They also solve the design problems of pension systems by targeting all citizens and not just workers. However, these benefits must be designed to not negatively impact incentives for workers to save during their working lives or, at the very least, minimize this effect. The very generous benefits paid exclusively to informal workers (or those which were informal for most of their working lives) will reduce the value of being formal perceived by both workers in their active years and firms. It will also diminish the creation of registered jobs.

2. **Ex-ante policies.** The other big policy hurdle is boosting pension savings during workers’ active years. This entails implementing policies that alter the current labor market balance to create more formal employment and, therefore, more pension savings. These policies are varied and do not necessarily have to be associated with the pension aspect of being formal. For example, reducing taxes on firm benefits could boost formality.

These policies aim to optimize the cost/benefit analysis that workers and firms carry out when deciding to operate in the formal sector. As Diagram 3.4 shows, this requires augmenting the size of Quadrant IV. The way to grow this quadrant necessitates

Diagram 3.4

Ex-ante policies and their impact on the labor market

	Cost > v(benefit) Worker	Cost < v(benefit) Worker
Cost > v(benefit) Worker	I. Informal by choice	II. Exclusion
Cost < v(benefit) Worker	III. Evasion	IV. Optimal formality

Source: Prepared by the authors.

Note: $v(\text{benefit})$ = value of formality benefits.

improving the perceived value of benefits of formality, on the part of both firms and workers, reducing the cost of formality, expanding oversight, or fine tuning the contribution channels for non-salaried workers.

Policymakers have a diverse set of tools they can combine to shift these margins: 1) increase incentives to contribute through prices, either by delivering better benefits for the same cost (contribution) or providing the same benefits at a lower cost; 2) fully integrate non-salaried workers into social security; 3) optimize information and the perceived value of benefits, since increasing the perceived value of benefits over a constant cost base will create greater formality; 4) tighten government oversight to prevent evasion; 5) improve contribution channels (a very important measure for non-salaried and salaried workers who are disconnected from participating in social security through traditional channels).

Nonetheless, both ex-ante policies and those that aim to promote contributions will spark changes in the labor market whenever they alter restrictions that prevent the creation of formal jobs. For example, if the restriction that is preventing formal job creation is an expensive benefits package, then reducing the costs of formality could remove this restriction. In contrast, if the restriction is a high minimum wage, cutting costs may not be effective, especially for workers who receive wages falling well below the minimum due to their lower productivity. This is an empirical issue and depends on the design of the policy and the context of the country.

Conclusions

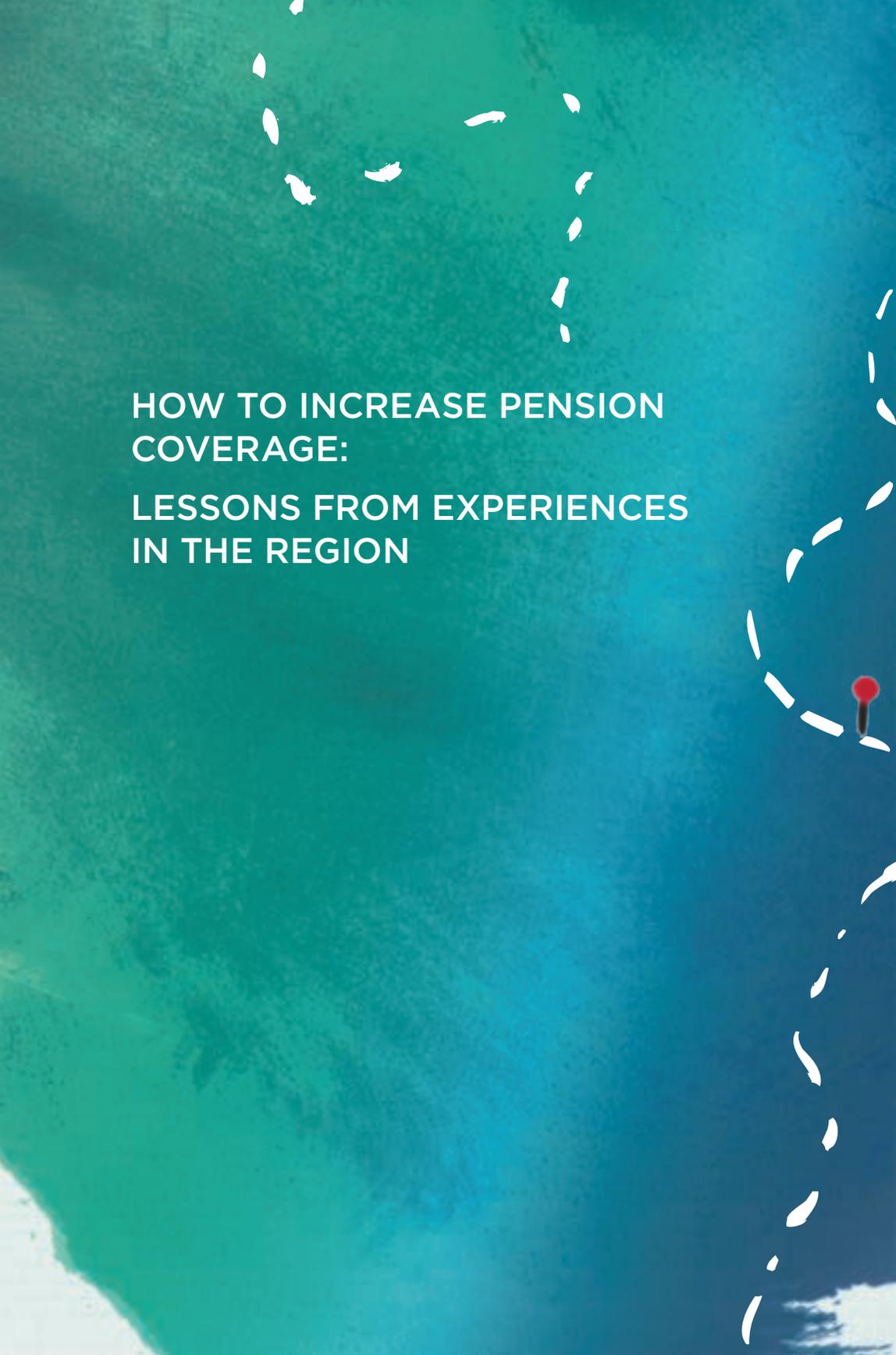
Saving for the long term is challenging in any context, but even more so in LAC as it is a lower middle-income region with a distorted labor market that creates little formal employment.

The pension system is part of a social protection and regulatory system that is hinged on the labor market. The results of this integration are economic policies that, while on the surface do not appear to be related, can have serious impacts on pension savings. The region's experience shows the high level of interaction between labor, social, and pension policies.

Most of the region's countries are trapped in a non-virtuous balance that generates insufficient pension savings, specifically among medium- and low-income workers and salaried workers in small firms. The high probability of large firms being inspected distorts the decisions of workers and firms, which in turn drives a proliferation of low-productivity small firms. Furthermore, the situation motivates public policymakers to offset inadequate coverage (of pensions and other benefits). In many cases, these same initiatives can exacerbate the existing distortions in the labor market.

Understanding the connection and the balance between policies that seek to immediately reduce poverty in old age (*ex-post*) and those that aim to foster savings during workers' productive years (*ex-ante*) is crucial to expanding coverage today and simultaneously ensure greater savings for the future. However, this process must not neglect the basic principles of fiscal sustainability, equality, and an efficient labor market.

Achieving universal coverage requires design changes and improvements to the labor market functioning. How can a system escape the vicious cycle of low savings, low participation, and low coverage and move towards a virtuous cycle? The answer is not simple, especially if the end goal is efficient and equitable solutions. The next chapter will show the various experiences of countries in the regions that have implemented policies to expand coverage. It will also analyze what is currently known in terms of how coverage and the labor market have been impacted.

An aerial photograph of a coastline, showing the transition from dark blue water to lighter turquoise and then to a sandy beach. A red pushpin is stuck into the water on the right side of the image. The text is overlaid on the left side of the image.

**HOW TO INCREASE PENSION
COVERAGE:
LESSONS FROM EXPERIENCES
IN THE REGION**

4

Summary:

This chapter analyzes the initiatives of countries throughout Latin America and the Caribbean (LAC) to expand pension coverage. We draw on lessons that could be useful for future reforms and pose a series of questions that should be answered to move forward. There are two ways to expand pension coverage. One way to increase coverage entails granting a pension to those who reach retirement age without social protection. The other requires that the generations currently active in the labor market save for their future. These two pension expansion policies have their pros and cons. Striking a balance between these two strategies that is capable of providing coverage to today's retirees and insuring those who will retire in the future is a challenge that policymakers must address in the region.

Introduction

All policies present trade-offs. There is no single method that can solve all pension-coverage problems. Or, at least, no country in LAC has found one yet. As part of the strategies to expand pension coverage, any course of action should be measured both in terms of how effective the action is at expanding coverage and what both the economic and fiscal consequences of implementing the action would be (in the short and long term).

There are several aspects that must be considered when analyzing policies to expand coverage. How will the policy affect national savings? Is the policy fiscally sustainable? How will the policy impact the labor market? In the short run, will the policy encourage or discourage worker contributions and formal salaried work? And, what will happen in the future?

As Chapter 3 described, the region's countries basically have two types of policies to expand coverage. One policy entails granting non-contributory pension benefits to individuals who reach retirement age without savings or a right to a pension (ex-post policies). This type of solution has been particularly effective at providing social protection to individuals who worked most of their lives in the informal sector. The ex-post type of policy has also been effective at covering groups who sporadically participated in the labor market or never did so. However, this type of policy's long-term fiscal, economic, and institutional consequences are questionable, especially if the non-contributory systems are not well integrated with the contributory system.

The other large block of possible pension-coverage expansion policies seeks to increase the pension savings of workers throughout their active lives (ex-ante policies) through strategies that create more formal jobs and stimulate the contributions of both employees and employers. These policies include diverse measures, such as tightening oversight of the labor market, improving awareness about the perceived value of social security, encouraging employees and firms to participate in pension systems, and developing adequate mechanisms to include non-salaried workers in the system. These ex-ante reforms attack the root of the problem (insufficient worker pension savings) and could

positively influence the labor market performance and the country's productivity. But there are also several drawbacks: the initiatives do not reach all citizens; the real efficacy and potential of the reforms are unknown; uncertainty exists regarding whether they are even cost-effective; and, in any case—due to the long periods of saving accumulation necessary to finance a pension—the impact on pension coverage will only be achieved after several decades of improvements in the labor market.

This chapter draws from selected experiences among the initiatives that have been implemented in LAC to expand pension coverage. Given their design and implementation, it is possible to thoroughly assess the outcomes of some of these initiatives. Other experiences do not offer the same clarity—either because the impacts cannot clearly be quantified or because they have not yet been evaluated and, as such, only potential effects and what preliminary evidence suggests are documented. This chapter addresses the main lessons we can learn from the region, while LAC countries seek to expand coverage and pose the big questions still unanswered to pave the way for new pension reforms.

Ex-post actions: a fast way to expand coverage

Non-contributory pensions is the path that most LAC governments have chosen to expand old-age pension coverage. Granting benefits that are not tied to past contributions is the only way, in the short term, to ensure a minimum level of income for the generations who either did not participate in the labor market or who did so informally or sporadically (by not generating pension savings during their active life, they cannot fund their pension once they stop working).

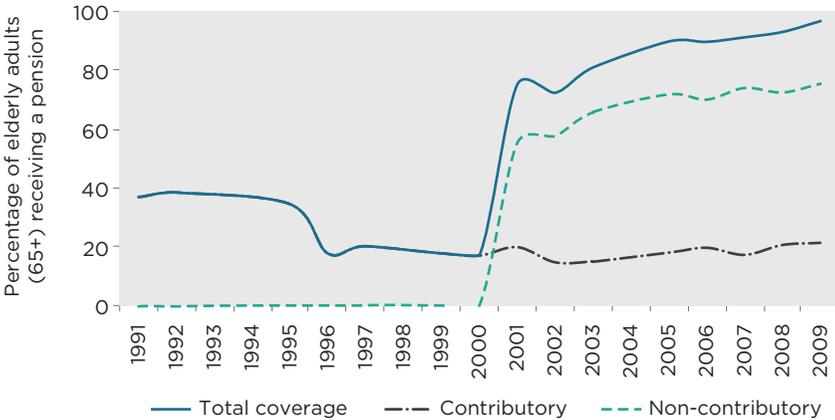
Non-contributory pensions have been effective at increasing the number of individuals who have access to a pension. The experiences of countries that have implemented this type of policy are proof of this. Argentina, Brazil, Chile, and Mexico (all upper-middle income countries) have made great strides in their pension coverage (at least in terms of the percentage of individuals who receive a

pension), especially for groups for whom it is difficult to incorporate into the contributory system, like women, non-salaried workers, and rural workers. Lower-middle income countries, like Ecuador and especially Bolivia (see Figure 4.1), have achieved notable increases in their coverage levels, given the fact that the share of workers contributing is barely 20%.

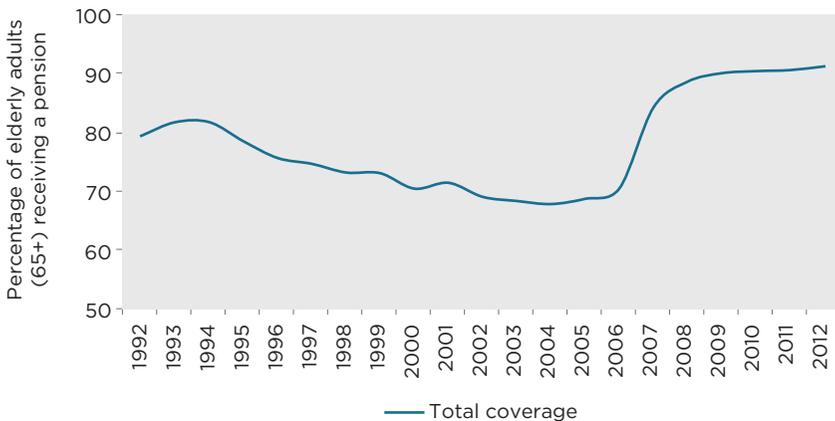
Figure 4.1

Percentage of elderly adults (65+) receiving a pension, Bolivia (1989–2007) and Argentina (1990–2010)

Bolivia



Argentina



Source: Authors' calculations based on household surveys (circa 2010).

Note: The jump in Bolivia in 2001 reflects the introduction of the Renta Dignidad program and in Argentina in 2007, the pension moratorium plan.

Impact on labor participation

The increases in pension coverage made possible by these policies are undeniable. However, this type of transfer has the potential to change the decision of beneficiaries on whether or not to work and, perhaps even more importantly, could influence future retirees about whether or not they will contribute to a pension system. These effects will depend on how the programs are designed and implemented.

The most documented (and expected) result is that having access to a subsidized pension seriously impacts the labor supply of beneficiaries. Non-contributory pensions significantly reduce the labor supply for eligible individuals. Impact evaluations of various non-contributory programs in the region have provided evidence to back this. For example, Previdencia Rural in Brazil, the moratorium program in Argentina, and the rural program 70+ in Mexico have reported a considerable reduction in the labor supply of individuals eligible for a non-contributory pension, ranging from 5–11 percentage points, or a drop of between 10% and 20% in the participation rate (Carvalho Filho, 2008; Bosch and Guajardo, 2012; Rodrigues de Oliveira and Kassouf, 2012; Juárez and Pfutze, 2012).

In some contexts, there is a decrease in the labor supply of individuals who are not collecting a direct contributory pension. According to Galiani and Gertler (2009), the labor supply dropped for individuals who still were not eligible for the *Adultos Mayores* program in Mexico, but before they were eligible to receive a pension.

Bosch, Popova, and Sánchez (2013) note that, in Brazil, the labor supply of adults approaching retirement age falls when their spouses begin drawing a non-contributory pension. However, these indirect reductions in the labor supply tend to be small compared to the benefits obtained for eligible adults. The reduction in labor supply never exceeds 2%.

Effects of pension savings

Do non-contributory pensions negatively affect the contributory system? This is the great unknown. There is sound evidence that non-contributory health programs and other conditional cash transfer programs in the region are negatively affecting the creation of

formal jobs (see Box 3.5) and are indirectly affecting pension savings. Theoretically, the deterrence effect of non-contributory pensions is clear; however, there is not sufficient compelling evidence to quantify how much pension savings is lost by implementing a non-contributory pension program. There are some documented cases in the literature, Bosch and Guajardo (2012), to give an example, found that upon implementing the pension moratorium in Argentina—which provides a pension regardless of whether or not the individual has completed the required 30 years of contributions—women with formal employment who were approaching retirement age actually retired “early” from the labor market. These women could have contributed a few years more to obtain a higher pension, but they did not do so because of this program.

The more important question is whether pension savings of workers whose retirement dates are still far off are affected. Again, there is very little evidence in this regard. Simulations of the 2008 Chilean reform—which includes a significant non-contributory solidarity pillar (see Box 4.1)—suggest that there is the potential for sizable savings reductions. Attanasio, Meghir, and Otero (2011) maintain that the solidarity pillar discourages paying into the contributory system, although the magnitude of the effect varies among different groups of workers. For those over the age of 40, for example, the solidarity pillar reduces the likelihood of paying into the contributory system by 0.4%. The effect is greater for women and older workers. Todd and Joubert (2011) found that as workers approach retirement age, the incentive to contribute to the pension system is much lower than before the solidarity pillar was implemented. It bears noting that these estimates are based on simulations of behavioral changes within a specific economic model, not on real observed changes. The information still clearly illustrates the theoretical potential incentives for discontinuing contributions. Evidence in the coming years will certainly be able to answer some of the hypotheses proposed in these studies.

An added consequence of these transfers to elderly adults is the reduction in other types of private assistance, like those given by family members. Juárez (2009) states that for every peso that the government allocates to an elderly adult in Mexico City, private transfers drop 87

Box 4.1 The Solidarity Pillar in Chile

In 2008, Chile carried out a comprehensive reform of its pension system. The primary change was the introduction of the New Solidarity Pillar, which aimed to eliminate the impact of poverty on elderly adults. The system is now comprised of the Basic Solidarity Pension (PBS – in Spanish) and the Solidarity Pension Contribution (APS – in Spanish).

According to the new standards, individuals who do not make contributions (i.e. those who do not have an accumulated pension fund) have the right to collect an old-age PBS after having turned 65 years old and if they meet the eligibility criteria for income level and residency.¹ Those who made contributions, but fund a pension falling below a defined threshold (maximum welfare pension (PMAS), in Spanish), have the right to receive an APS, as long as they comply with the same income and residency requirements. The APS is a progressive system—the amount gradually diminishes as the value of the self-funded pension increases, until the cap is reached for those whose pensions are equal to or greater than the PMAS. The rate applied to gradually lower the APS ensures that the sum of the self-funded pension and the basic pension grow the more the worker saves.

There are two noteworthy elements in the design of the New Solidarity Pillar: 1) the strong integration of the contributory system with the solidarity pillar, and, 2) the attention paid to the contributory incentives created by this integration. This integration guarantees that all individuals falling in the three lowest quintiles will receive a pension equivalent to at least the PBS. If the benefit had set a ceiling (as with disability pensions), strong disincentives to contributing would have been created for low-income individuals, given that their pensions would not go up with the number or amount of their contributions. This design allows the total old-age pensions to constantly grow along with the savings funded by individuals, i.e. each additional peso saved will always increase the pension, although the ratio will not be one-to-one.

The results of the implementation of the New Solidarity Pillar in Chile reveal that, at the outset of the reform (July 2008), the number of PBS beneficiaries totaled 381,000. These people generally had a welfare pension based on the old system. This number had grown to 619,000 by December 2011, at which time the APS had 463,000 beneficiaries. It bears noting that women are the majority in the solidarity pension system. In fact, of the more than one million beneficiaries in the system (PBS and APS) in June 2013, 37% were men and 63% were women. For a future cost prediction, see Melguizo et al. (2009).

¹ The income requirement is a test that determines whether the individual is part of the richest 40% of the population (60% in the first year). The initial implementation (originally a two-year period) was carried out based on the Social Protection Card (FPS, in Spanish), a targeting instrument that calculates the vulnerability of household members using information on their capacity to generate income, the income that individuals report themselves, administrative data on pensions collected, and adjustments made according to member needs based on age and level of disability. The residency test requires individuals to have been a resident of Chile for a minimum of 20 years, starting from the individual's 20th birthday and at least three of the five years prior to requesting the benefit.

cents on the peso (of which 57 cents stem from domestic transfers and 30 cents from remittances). The impact of lower private transfers is greater among poorer elderly adults. If these results are repeated in other countries, this would create a significant crowding out of social programs. The result does not necessarily have to be negative; this analysis simply suggests that part of the benefits of non-contributory programs spill over to family members who would financially support the elderly adult.

Generosity, adjustments, and both the fiscal and institutional consequences

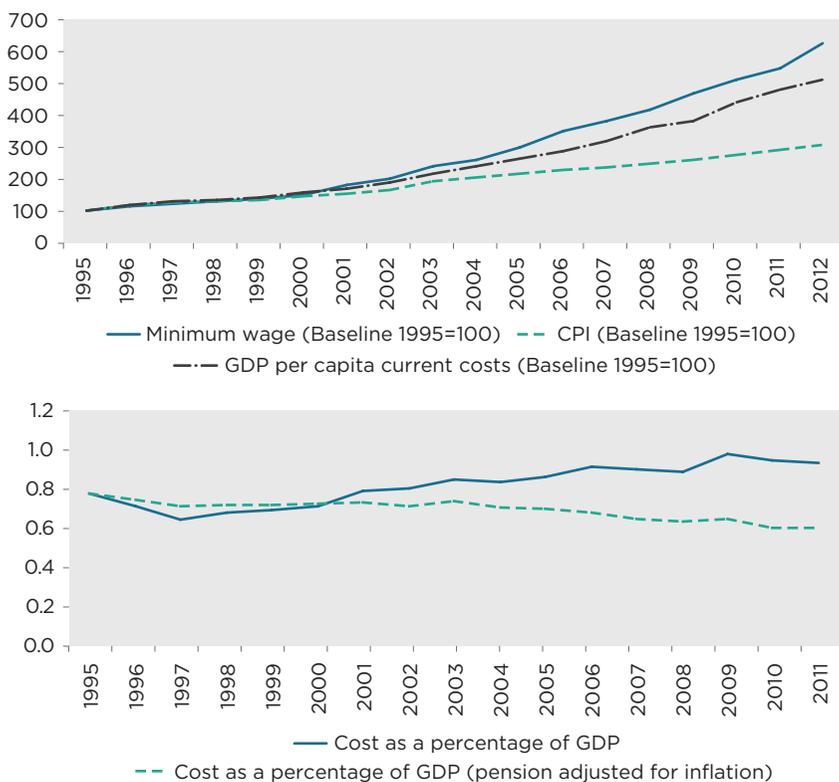
Two factors will characterize the effect these pensions have in the future: how generous these pensions are now and what mechanisms will regulate any adjustments made in the future. First, because these conditions could exacerbate disincentives for workers to participate and obtain formal employment. Second, because these two conditions are the key determining factors driving the long-term fiscal costs of these programs. These fiscal costs have two components: direct (the cost of paying out the pensions) and indirect (pensions reduce formality and, therefore, tax collection).

Some countries, like Brazil, peg non-contributory pensions to changes made in the minimum wage. Any minimum wage hike is automatically transferred to the fiscal costs of non-contributory pensions. Over the last decade, the minimum wage in Brazil has outpaced inflation and GDP per capita growth. In real terms, since 1997, the real minimum wage has doubled. Rural pensions (mainly non-contributory), which in 1997 accounted for 0.6% of GDP, jumped to 0.9% of GDP in 2011. If adjusted for inflation, 2011 pensions should have accounted for 0.6% of GDP, a savings of 0.3% of GDP, and the pension level would have stayed well above the poverty line (see Figure 4.2).

Many non-contributory programs currently in the region lack strict eligibility criteria or automatic update mechanisms. This lack of institutional framework could cause various political forces to compete for offering more and better pensions, especially during elections. Some examples are Ecuador and Mexico, as seen in Diagram 4.1, which illustrates this phenomenon of political one-upmanship, which we call the “slippery slope of non-contributory pensions.”

Figure 4.2

The minimum wage and the cost of rural pensions in Brazil, real and counterfactual value, 1995–2011



Source: Authors' calculations based on data from Previdencia Rural (2012) and the IMF.

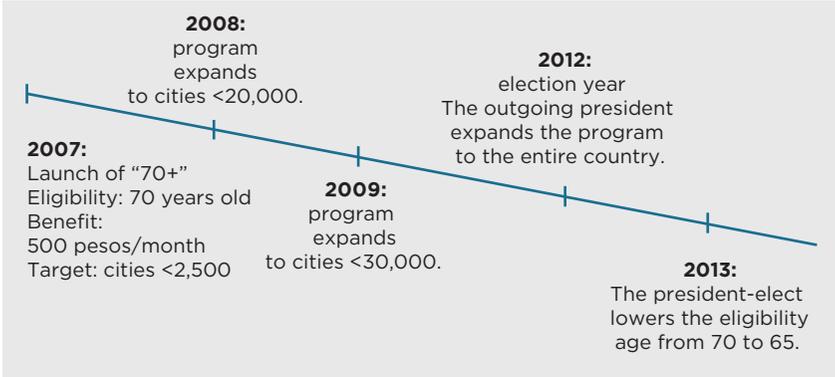
In Ecuador, during the 2013 elections, the various political parties pledged to increase the conditional cash transfer (the Human Development Bond, BDH), to which non-contributory pensions are pegged. There was clear competition between the ruling party and the opposition during the campaign as to the amount of the transfer. Starting January 1, 2013, the BDH—and consequently, the non-contributory pension—jumped from US\$35 to US\$50 per month, a 42% increase.

However, competition between the political parties is not limited to the generosity of the pension; competitive pressures also expand to who is eligible to receive a pension. The “70+” non-contributory

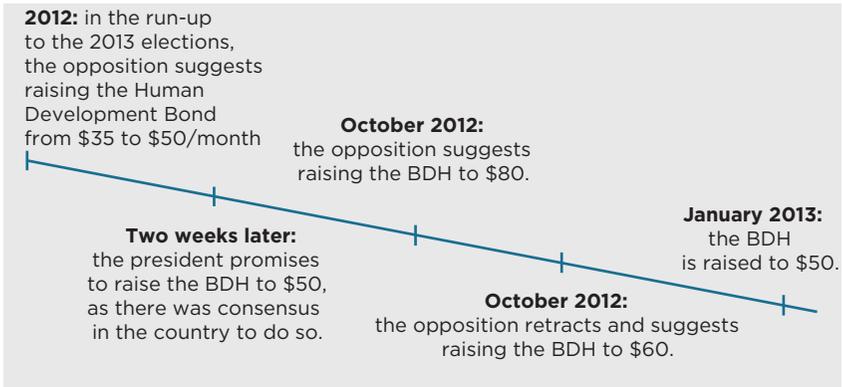
Diagram 4.1

The slippery slope of non-contributory pensions: Mexico (2007-13) and Ecuador (2012-2013)

Mexico, 2007-2012



Ecuador, 2012-2013



Source: Prepared by the authors.

pension program in Mexico, which provides non-contributory benefits to elderly adults, began in 2007 in towns with populations of 2,500 or less. Over the following five years, this program was gradually expanded to towns with populations of 30,000 or less. This growth was not built into the program's original plans. However, the biggest expansion happened during the 2013 election cycle. As part of its campaign, the ruling party pledged to expand 70+ to the entire country. The opposition (who went on to win the elections) not only promised to expand the program to the entire country, but also to lower the eligibility age from 70 to 65.

This political one-upping, both regarding target populations and the generosity of the pensions, could artificially grow fiscal costs without meeting the sufficiency and sustainability standards, thereby pushing the system towards a slippery slope.

The region's experience strongly suggests that non-contributory pensions are effective at increasing the number of individuals that have access to a pension. In fact, monetary transfers of this type are the only tool that can provide coverage to elderly adults who are currently going without social protection and, most likely, the generations that will retire in the coming decades that have worked informally for the majority of their working lives. It is also clear that these pensions reduce the labor supply of those who are eligible and those who are nearing eligibility age. This is a desired effect, as long as the eligibility age for these pensions is not set too low. In some cases, this causes a drop in contributions to the contributory pension system and, therefore, pension savings dwindle, since those who could have continued paying in for several more years stop doing so. However, little is known about the long-term effects on the pension savings of workers who are far from retirement age. Theory suggests that that it could potentially lower incentives to contribute, although there is still no conclusive empirical evidence. The LAC experience shows that moderating the fiscal costs of this type of pension over time will be a complex challenge. In some countries, this problem with costs is due to the lack of institutional frameworks and a clear funding structure for the benefits. In other countries, difficulty in moderating costs is due to the fact that the rules for adjusting the pension can be too generous. Creating the appropriate institutions or rules to oversee and update pensions will be key for their fiscal viability.

Expanding coverage in the long term: ex-ante experiences

The other primary way to improve coverage is at the heart of the system: optimizing the way the labor market functions as an efficient mechanism to generate savings. This strategy entails a much

broader and varied series of policies than that required by strictly pension-related reforms. As shown in Chapter 3, any policies that affect the labor market equilibrium could alter the capacity to generate pension savings. For example, increases in the costs of formality (i.e. costs for starting a business, firing costs, or the minimum wage) tend to grow the informal economy and, as such, depress pension savings. Although the quantitative impact (elasticity) of changes to regulations and costs on the formal sector is among the most sought-after data in the region, there is still no consensus on its exact magnitude (see Box 4.2).

The conceptual framework in the previous chapter identified four issues that directly affect how the labor market works as a mechanism to generate savings: 1) improving incentives to contribute by using prices, 2) optimizing information and the perceived value of benefits, 3) bolstering government oversight to prevent evasion, and, 4) streamlining the channels through which an individual can contribute.

Some of the region's countries have developed policies to tackle one or several of these issues. Here, we will analyze these experiences to illustrate the mechanisms that work to improve pension savings.

Improving incentives to contribute by using prices

Reducing social security contributions could increase the percentage of formal workers

Several studies analyze the region's big social security reforms of the 1980s and 1990s in order to understand the connection between social security contributions and the creation of formal jobs. For example, Kugler and Kugler (2008), based on a panel of firms, examined the increase of social security-related costs in Colombia over this period. The results indicated that only around 20% of social security costs translate into lower salaries. The rest of the adjustment manifested itself through a drop in formal jobs, i.e. a 10% increase in the cost of social security caused around a 5% decrease in formal employment. The authors believe that these data and analysis suggest that increasing demand for work by lowering contributions to social security could be an effective method for expanding formal

Box 4.2**Labor reform can be an effective pension reform**

The way that the size of the formal sector reacts to tax or regulatory changes is, perhaps, one of the most important elasticities to ascertain in order to design economic policy in the region. However, evidence is lacking and is restricted to a small number of countries that have undergone some sort of economic policy reform. Here, we analyze the evidence stemming from three types of policies: changing firing costs, minimum wages, and start-up costs.

- *Lowering firing costs could expand the size of the formal sector and, therefore, pension savings.* Kugler (1999) maintains that the reform in Colombia in the 90s, which drastically decreased firing costs, intensified the exit of workers from the formal sector. But, this policy change also increased the re-incorporation of the unemployed into the formal sector. Consequently, unemployment fell and the proportion of formal jobs in the economy grew. Bosch, Goñi-Paccioni, and Maloney (2012) noted that the 10 percentage point increase in informality in Brazil during the 90s was largely due to constitutional changes that hiked firing costs, granted more bargaining power to unions, and lowered the maximum number of work hours. Specifically, this series of reforms explains the 30–40% increase in informality over this period.
- *Lowering start-up costs could encourage the registration of formal firms.* Another potential disincentive for formality is the red tape associated with formalizing a firm. Bruhn (2011) and Kaplan, Piedra, and Seira (2011), for example, maintain that a program that facilitated the formalization of firms in Mexico boosted formal employment, although the effect was relatively limited. These three authors also show that the effect is greater in places where other regulatory costs are lower.^a Some studies, however, argue that this formalization has no impact on firm performance indicators, whether they be outcome (performance) variables, like income and earnings per worker, or intermediate outcome variables, like number of employees, access to credit, and investment in infrastructure and machinery (input) (see Jarramilo and Alcázar, 2012).
- *In some cases, minimum wages can be an obstacle to the creation of formal employment.* Bell (1997) estimated that the increases in the minimum wage in Colombia in the 80s destroyed between 2% and 12% of low-skilled labor that was also formal employment. Maloney and Núñez Méndez (2004), in a later study, showed that the elasticity of formal employment, as it relates to the minimum wage in Colombia for low-skilled workers, is around 15%; therefore, the 9% increase in the minimum wage in 1999 would have reduced formal employment by 1.4%. However, other studies have not found such a strong relationship between formal employment and minimum wages. See, for example, Bosch and Manacorda (2010) or Bell (1997) for Mexico or Neumark, Cunningham, and Siga (2006) for Brazil.

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Box 4.2 Labor reform can be an effective pension reform *(continued)*

As noted in Chapter 3, any attempt to encourage the creation of formal employment in the region will have to contend with a variety of restrictions. The challenge is to understand the magnitude of these restrictions, according to the context of each country.

^a Bruhn and McKenzie (2013) described the negative impact of a similar program in Brazil. The possible underlying reason is that the program prevented “partial compliance,” given that the paperwork and registration were merged into a single process.

employment. Heckman and Pagés (2004) presented similar findings based on country-level panel data. They observed that a 10% increase in social security contributions lowered salaries by 3.6% and formal employment by 4.5%.¹

Country context is important, not all papers analyzing reduced social security contributions describe this positive impact on the creation of formal employment. Gruber (1997) did not observe any impact on formal employment in Chile following a reduction of social security costs as part of the 1981 reform. However, he does suggest that lowered social security costs were fully transferred to higher wages and that, as a result, there was no impact on formal employment.² Cruces, Galiani, and Kidyba (2010), using a differences-in-differences method, analyzed the consequences of reducing social security contributions in Argentina at the end of the 90s. They note that around 50% of this reduction led to higher wages. However, paradoxically, they warn of the impact on the creation of formal jobs.

¹ Betcherman et al. (2010) describe the same outcome in Turkey, a country that also has a strong informal sector. The authors describe a reform that substantially reduced social security contributions gradually, by province. The study conclusively documented a rate of formal job creation of between 5% and 15% as a result of the reforms. However, the authors suggest that there were serious losses, given that some of the formal jobs would have been created without lowering social security contributions.

² See Edwards and Cox-Edwards (2002) and Arenas de Mesa and Mesa-Lago (2006) for similar results.

One of the strategies available to increase coverage through prices is found in the experience of a number of countries in the region who targeted groups for whom it is difficult to make sustained contributions to social security, like young people in Chile, the self-employed in Brazil and Costa Rica, and both employers and employees of small firms in Brazil.

Of course, each policy is nuanced, but the common factor is that for each one, the government backs the cost reduction in order to foster social security contributions.

Targeting youth

Young people are one of the largest demographics of informal workers in the region. On average, LAC employees between the ages of 15 and 24 contribute at a rate of 15 percentage points lower than workers between the ages of 25 to 34. As such, some countries, like Chile, have implemented initiatives to boost youth contributions through social security subsidies.

The youth employment subsidy in Chile grants a benefit equal to 30% of the wages (20% to the employee and 10% to the employer) for workers 18–24 years old who fall into the most vulnerable 40% of society (based on the social protection card). In order for young workers to access the benefit, the government must first verify the contribution payment to the pension, health, occupational injury insurance, and unemployment insurance. In order to receive the benefit, the firm must be current on all pension payments for all its employees. The worker's gross income cannot exceed the maximum allowed amount.

Based on the results from Centro de Microdatos (2012), there are compelling estimates that this type of scheme does influence the contribution rate for eligible youth by between 2.1 and 4.5 percentage points. This shows that policies designed to reduce labor costs can positively affect formal employment and, therefore, pension savings.

However, this program teaches another lesson. Coverage has been limited: only 21% of young workers eligible for the subsidy receive it during any given month. It also bears noting that firm participation is even lower. Of the firms that employ youth who meet the wage and vulnerability eligibility requirements, only 3.5% to 4% receive

the subsidy. This could be due to the fact that one of the program requirements is that all worker pension payments be up-to-date. It could also be as simple as workers and employers are unaware of this type of measure. The subsidies do, indeed, seem to work, but implementation has not been problem-free.

How to connect non-salaried workers

As shown in Chapter 2, non-salaried workers in many of the region's countries are not plugged into the social security system—often because of the design of the social protection system itself or poor functioning of the labor market. Three examples illustrate how countries create incentives through prices in order to connect with one of the largest groups of non-salaried workers: the self-employed. Evidence suggests that the approaches have positively affected the registration of self-employed workers. However, none of the actions have been systematically assessed. Many include not only reduced costs of formality, but also measures such as mandatory contributions or simplified contribution mechanisms. As such, it is difficult to determine whether the effects on contribution result from reduced prices or other measures.

Costa Rica imposed mandatory insuring of this group of workers in 2000 (Chile followed in 2008, see Box 4.3). Unlike other systems implemented throughout the region, the Costa Rican case provides a government subsidy to the contributions of workers with a lower contribution capacity. According to this design, high-income self-employed workers receive no government subsidy on contributions. The contribution scale for the self-employed dictates that the government puts up 27% of the final contribution (out a total of 7.75% of the applicable wages) for workers earning less than two minimum wages. Workers earning more than 10 minimum wages receive no subsidy (see Figure 4.3).

Although the impact of this reform has not been evaluated, the change in contribution patterns of self-employed workers suggests that these policies, as a whole, could be bearing positive results. Costa Rica Social Security Fund (CCSS) data reflect this: the coverage for self-employed workers jumped from 15.4% in 2002 to 42.4% in 2010. The number of self-employed workers contributing,

Figure 4.3

Distribution of the contribution rate according to the contribution scale (a) and insured self-employed workers (in numbers and as a percentage of the total) (b)



Source: Costa Rica Social Security Fund.

as a percentage of the total insured in the system, grew from 14% in 2005 to 24% in 2012.

Perhaps the most ambitious program for registering self-employed workers in the region is the Individual Micro-entrepreneur program (MEI) in Brazil, which aims to formalize millions of self-employed workers who operate in the informal economy, in exchange for a low monthly payment. Originally, a self-employed individual had to pay

Box 4.3 Mandatory contributions for self-employed: the Chilean case

For around half of the region's countries, contribution to the pension system for self-employed workers is voluntary. The limited literature available on this issue indicates that establishing mandatory contributions for self-employed workers increases the number of contributors, but does not fully solve the overarching problem: the low level of contributions made by this group of workers (see Auerbach, Genoni, and Pagés, 2007, and Da Costa et al., 2011). A quick glance at the data reveals this challenge. In countries where the self-employed must contribute, like Brazil and Uruguay, the percentage of contributors is between 30% and 40%, far from the 80% contribution rate for salaried workers.

Chile, as part of its comprehensive 2008 reform, proposed a staggered transition toward a mandatory social security contribution system for the self-employed. The situation prior to the reform was similar to many other countries in the region: self-employed workers could voluntarily contribute to the pension system, but were not required to do so. In fact, only 5% of self-employed workers contributed (Berstein, 2011). In order to ensure that the change to mandatory contributions was effective and to prevent a sudden impact, Chile implemented a transition period. The goal was to avoid the flight of self-employed workers to the informal economy.

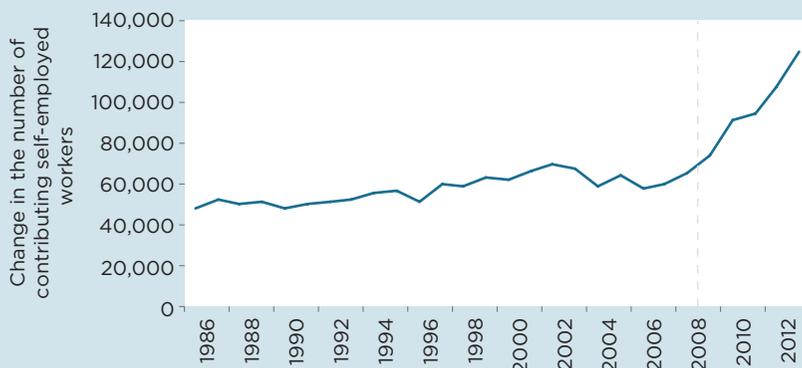
With this in mind, the reform established a three-year period, starting July 2008, to inform workers as to the importance of contributing. Using income-tax returns, a mechanism that deducted contributions was then gradually implemented and the contributions were integrated into the individual worker savings account in the corresponding Pension Fund Manager (AFP) or into a new fund. The first year, 2012, the amount was equivalent to the contribution on 40% of taxable income, the next year 70%, until reaching 100% in 2014. After this transition period, mandatory full deduction of pension contributions by the Internal Revenue Service begins. Health contributions for these workers will also be mandatory, as provided for in the same reform, starting 2018.

It is still too early to assess the true impact of the reform, but the initial results are promising. From 1987 to 2007, the number of contributing self-employed workers grew by 8,000, i.e. at an annual rate of 0.7%. From 2008 to 2013, this number doubled (from 60,000 to 120,000), for an annual rate of 12.5%. However, the percentage of self-employed workers contributing to social security is still very low: according to official figures, approximately 10%. If the annual growth in the number of contributors were to stay at 12.5%, it would take 20 years to attract the 1.5 million individuals who currently work as self-employed in the Chilean formal sector.

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Box 4.3**Mandatory contributions for self-employed: the Chilean case**
(continued)**Figure 4.3.1:**

Change in the number of contributing self-employed workers in Chile, 1986–2012

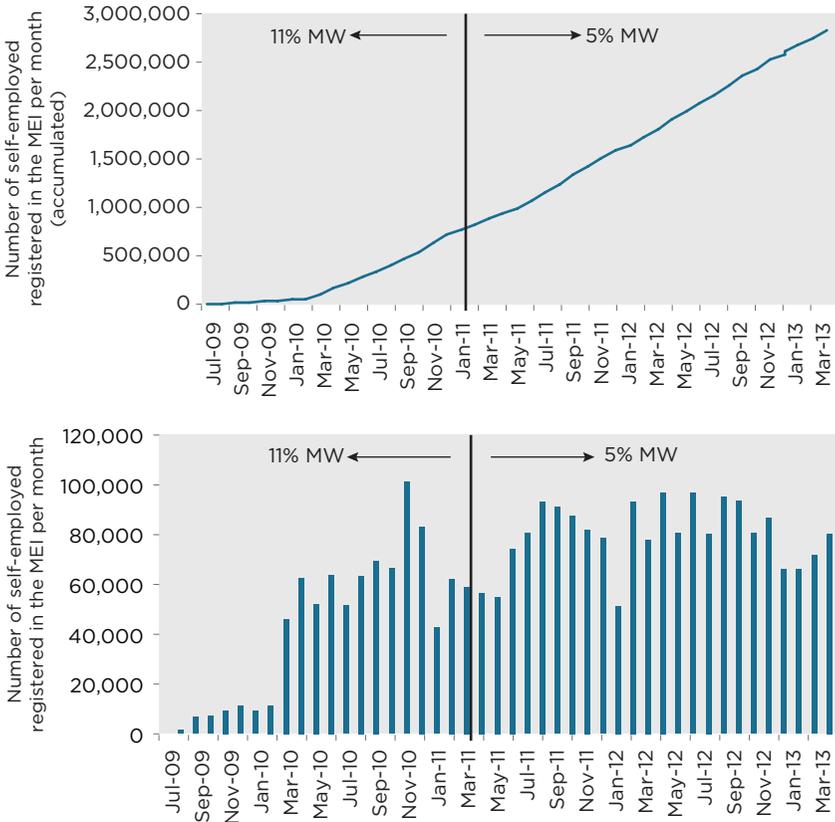


Source: Authors' calculations based on data from the Pension Superintendent in Chile.

around 20% of his or her income to social security. The MEI cut that amount to 11% of the minimum wage and then subsequently to 5%. The lower contribution costs were implemented in conjunction with a large marketing campaign. Three years out, the program has been able to register three million out of the total 16 million self-employed in Brazil. According to Nagamine and Barbosa (2013), the percentage of the self-employed operating in the formal sector has risen from 20% in 2009 to 24% in 2011. The real test, however, of this program has been maintaining a regular flow of contributions. SEBRAE's figures (2012) indicate that only 44% of self-employed workers registered through MEI actually contribute at any given time. Although great strides have been made, the level of contributions reveals how hard it is for this group to systematically contribute to social security, even when the cost is low.

It is necessary to determine the extent to which these cost reductions for formality for certain groups are fundable, in actuarial terms. Nagamine and Barbosa (2013) suggest that the cut to contributions from 11% to 5% within the MEI program could bear the brunt of blame

Figure 4.4
Self-employed contributing to the Individual Micro-Entrepreneur Program (MEI) in Brazil, 2009-13



Source: Sebrae (2013).
Note: MW = minimum wage.

for the program’s growing actuarial imbalances, with no appreciable gains in MEI contribution patterns (see Figure 4.4).

Helping small firms: the SIMPLES program

Several countries have experimented with lowering the costs of formality for small firms to help them and their employees with compliance. An example of this type of policy is the Combined Tax and Contribution Payment System for Micro and Small Enterprises (SIMPLES) in Brazil. This program lowers the social security contributions required of the employer and transfers them to a sales tax.

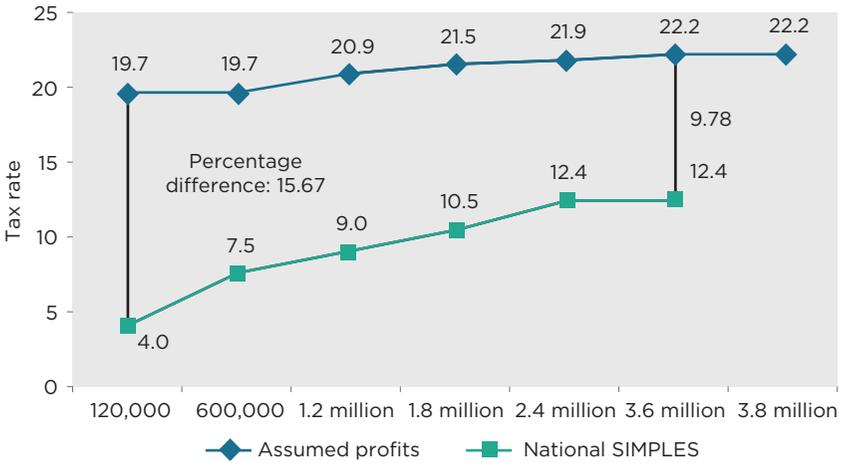
This case does have a compelling impact evaluation strategy that provides reliable results. Based on this, Maloney, Fajznylber, and Montes-Rojas (2011) highlight that low hiring-costs allows firms to grow their formal labor force. The SIMPLES program, which entailed an average 8% reduction in the cost to firms to operate formally, increased the number of formal workers between 10% and 40%. These data suggest there is high elasticity, but with the caveat that this elasticity is mostly limited to very small firms. It bears noting here that this type of program has two facets: 1) reducing costs per se, and, 2) simplifying regulations (in this case, several taxes were combined in a single payment). These simplifications can have a significant impact on formality (see Box 4.4).

These examples, which include self-employed workers and small firms, clearly show that reducing costs attracts the contributions of sectors that are partially disconnected from the social security system. But these special or policy schemes targeting specific groups pose their own challenges. Pagés (2010) argues that this type of firm-size based tax incentive can create an abrupt tax change between schemes for small- and medium-sized firms and the general social security systems. The SIMPLES program, for example, lowers social security payments for firms as long as they fall below a certain sales level. Once this threshold is surpassed, the firms fall under the general system. When a firm in the Brazilian services sector exceeds this level, its social security payments jump 44.1% (see Figure 4.5); while in other sectors, like industry or commerce, the extra burden is only 12% and 9%, respectively.

The larger question is whether favoring specific groups of individuals or firms of a certain size incentivizes the downsizing of the production scale (and, consequently, productivity) in order to stay in the more favorable tax scheme. For example, in the MEI case in Brazil, 44% of the new formalized entrepreneurs were previously formal salaried workers at their last job.³

³ Alternatively, instead of downsizing the production scale, what could happen is a downsizing of reported revenue, i.e. you would be incentivizing the underreporting of sales and thereby tax evasion.

Figure 4.5
Contribution rate for companies based on sales level: general scheme (assumed profits) and National SIMPLES, Brazil 2012



Source: Brazilian Ministry of Finance.

Although the region’s experience has been limited, observation shows that reducing formality costs has the potential to boost worker and self-employed contributions. However, there are still many unknowns as to the real potential of these reductions.

Optimizing the perceived value of and information on benefits

Higher contributions, higher benefits: reforms in Uruguay

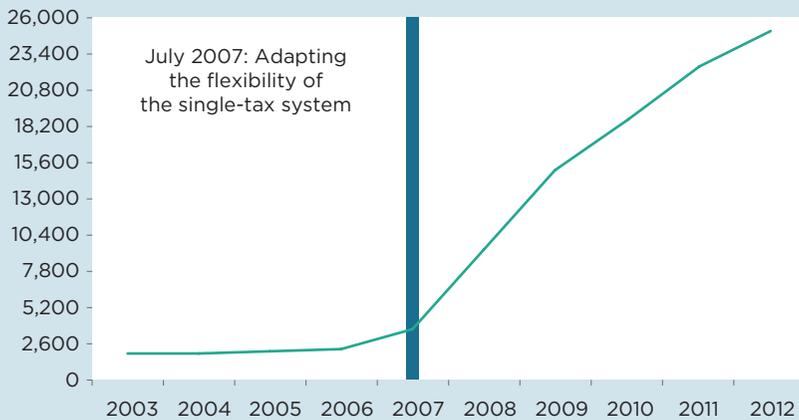
Some countries have grown their social security contributions by providing more and better services. In 2008, Uruguay substantially increased contributions that were earmarked for funding healthcare (from 3% to 6%) and also expanded medical care for the children of contributors to the social security system. These changes had an interesting impact on incentives: interest in contributing grew among workers with children and dependents; however, there was no increased incentive for both parents to pay in, since one contributing parents is enough for the children to be covered.

Bérgolo and Cruces (2011) provide data that is fully consistent with this hypothesis. The rate of formality of individuals with children rose 1.3 percentage points (around 5%), compared to individuals

Box 4.4 Simplifying social security contribution payments

An interesting experience can be seen in the single tax systems in Argentina and Uruguay. Both countries have endeavored to simplify compliance with tax and pension obligations for small contributors, to incorporate informal workers into the social security system, and to lower the burden in terms of time and cost associated with the benefits and payment process for contributors. But the two country cases show that the implementation of this type of system cannot be achieved in isolation, as it cannot necessarily guarantee the incorporation of informal workers into social security programs.

Figure 4.4.1:
Number of companies active in the single-tax system in Uruguay, 2003-12



Source: Social Pension Bank of Uruguay (2012).

Uruguay's single-tax system incorporates firms that perform certain very small-scale economic activities through a single-tax payment that replaces all national taxes and contributions to the social security system. This payment grants access to all of the system's services (except unemployment insurance, which is considered an employer activity). This initiative is not just a personal insurance system; the initiative also establishes a comprehensive special tax system for small firms. Although Uruguay's single-tax system was created in 2001, after six years, the system had not met its incorporation goals for most individuals with informal employment. The Tax Reform Law of 2007, aiming to incorporate a larger proportion of workers, promoted amendments to make the requirements more flexible. The primary changes were: eliminating the restriction on the location of the activity, types of activities, types of firms, conditions for sales, and the cap on billing. A comparison of the post-reform data to data collected prior to implementation of the amendments to the single-tax system with the data after implementation shows that the number of firms active in the system quadrupled in four years.

without children. The likelihood that, then, one of the two parents of a family with children is formal also grew, but the probability that both parents contribute remained unchanged following the reform.

This type of outcome confirms that workers not only respond to changes in the absolute price, but also to the relative benefits provided by social security, which, in this case, is expanded access to the healthcare system.

Learning about the benefits

Chile recently began executing a series of initiatives to provide information on pensions to workers to motivate them to fully participate in the pension system. This decision was the result of various studies indicating that workers show more interest if they have access to more information about the consequences of not saving for old age. Against this backdrop, Fajnzylber, Plaza, and Reyes (2009) underscore the impact of sending customized information to contributors about the predicted pension they will receive, based on their pension contribution history. This information has been sent to workers along with quarterly bank statements since 2005. The study concludes that for workers 40–50 years old, the pension prediction information increases the likelihood that they will voluntarily pay into the pension system by 1.4 percentage points. The impact on the behavior of younger workers has been less. This finding is expected, given characteristics attributed to this age group, such as myopia and limited liquidity.

Financial literacy

Other examples suggest that the more financially literate a contributor is, the higher his or her pension savings. In Chile, Landerretche, and Martinez (2011) showed that educating people about pension plans translates into greater savings and a higher probability of changing the type of pension fund. Skog (2006) showed that male adult workers, who are in better health, have reached higher education levels, and are married, as well as union members, those with higher incomes, and employees of large firms, are better informed about the Chilean pension system. In Mexico, Hastings and Tejada-Ashton (2008), based on a survey and field experiment on the private

pension system, note that, although many system participants are well informed about their options, few have experience investing in financial assets outside of their savings and pension accounts. Hastings and Mitchell (2011) and Hastings, Mitchell, and Chyn (2010) observed that individuals with more financial literacy choose pensions with lower administrative costs. Finally, Behrman, et al. (2012) conclusively established that both higher education level and increased financial literacy translate into higher accumulated wealth within the private pension system.

Changes in oversight

The degree of oversight is directly related to a country's development and level of formality

Some of the region's countries have substantially improved their labor market oversight systems to lower informality. According to the Brazilian Ministry of Labor (2011), every year since 2000, between 500,000 and 600,000 workers join the formal sector due to oversight actions. This means that every year, 0.5% of workers register. In Argentina, between 2005 and 2011, the National Work Regularization Plan inspected nearly one million firms; 28.3% of the workers in these firms were not registered. Of these unregistered workers, 37% were regularized. This plan has led to a 0.3% annual increase of workers joining the formal sector. Both Argentina and Brazil significantly increased their formality rates over this period. According to statistics taken from the Permanent Household Survey (EPH), Argentina's rate rose from 45% to 51% between 2000 and 2011 (exclusively for salaried workers). Brazil's rate grew 13 percentage points, from 48% to 61%, between 2001 and 2011, based on data from the National Household Sample Survey (PNAD). These data suggest that the impact of government oversight could have been an important factor in expanding formality in Brazil and Argentina in recent years.

The administrative registries in Argentina and Brazil, however, do not provide causal evidence as to the real impact oversight has on the labor market. Stricter oversight could not only create more formal employment, as suggested by the figures on regularization stemming from oversight actions reported by the Ministries of Labor,

such oversight could also increase the costs associated with informality and participating in the labor market.

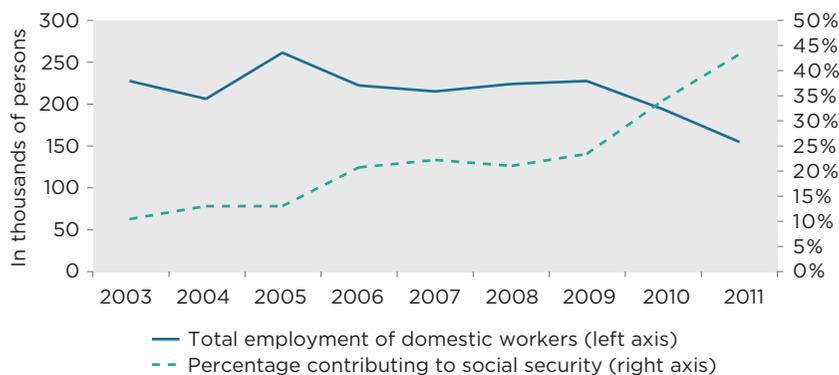
Two studies carried out in Brazil convincingly illustrate the power of oversight to bolster formal work and its added impact on the labor market. One of these studies, an experimental assessment by Andrade, Bruhn, and McKenzie (2013), divided a group of firms into four groups, which were randomly assigned different incentives. One group was sent detailed information on how to register in the SIMPLES program and the costs and benefits of the program. Another group was sent the same information, but they also received an added monetary incentive for registering and the services of an accountant (required for operating in SIMPLES) free of cost for one year. The third group was paid a visit by a Labor Ministry inspector. The last group was the control group. Surprisingly, neither the information nor the monetary incentives changed formalization activity. However, increased oversight substantially increased the likelihood that small firms would register in the SIMPLES program. In fact, the municipal inspector's visit led to a three percentage-point increase in the probability that the firm would register (50% higher than the control group). The authors believe that these results suggest that informal firms do not benefit from registering and, as such, lowering the cost of becoming formal is an insufficient incentive to induce them to register. Therefore, the cost-benefit analysis for this type of firm is highly skewed towards informality.

In addition to boosting formal employment, oversight has a general equilibrium effect on the labor market. Almeida and Carneiro (2012) analyzed the consequences of tightening inspection of informal firms, employment, and wages in Brazil. The primary findings confirm the theoretical prediction: increasing the number of inspectors in a region increases employment in the formal sector, but it also increases the number of individuals without a job (either unemployed or inactive).

There is descriptive evidence in other countries about this possible added impact of greater oversight of the labor market. For example, in 2010, Ecuador launched a program to defend the rights of domestic workers, thereby forcing employers to comply with social security requirements. The campaign was intense, with house visits to detect

Figure 4.6

Number of domestic workers and the percentage paying into social security in Ecuador, 2003–2011



Source: Enemdu (2003–11).

pension contribution violations. It was successful to a certain degree (see Figure 4.6)—after 2008, the percentage of contributing domestic workers grew considerably. However, this measure seems to have had an unexpected effect: the number of domestic workers fell drastically. In other words, although the initiative did achieve the goal of a higher percentage of domestic workers paying into social security, the initiative also destroyed many jobs for individuals who have few options in the labor market.

The evidence, although limited, tends to confirm the theoretical effects of greater oversight of the labor market: expanded creation of formal jobs and a drop in overall employment. The latter effect of employment drop is due to the fact that some informal jobs would not be profitable if they were formal and, therefore, cease to exist. Policymakers must understand that while tightening oversight boosts the percentage of formal jobs, the policy must be accompanied by other measures. More research is necessary to understand the real effects of oversight on labor markets with higher levels of informality.

Changing behavior at a low cost: improving channels

The literature on behavioral economics underscores that the context in which the decision is made is often more important than prices or agent preferences (see Box 3.1). As such, modifying a specific behavior, like

contributing to a social pension system, requires changes to monetary incentives, as well as the circumstances in which decisions are made.

As shown in Chapter 2, the experience of developed countries indicates that the best way to increase worker pension savings occurs when the default option (the one that occurs if the worker does not take any action) is to save (Madrian, 2013 and Box 4.5). To a certain degree, this experience is also the case with the region's formal salaried workers. However, the big problem in the labor market is that the default option for informal employees—self-employed or non-salaried—is to not contribute. Other measures that have proven effective are simplifying the contribution processes, convincing an individual to commit to saving when he or she receives a future raise, and sending reminders on the benefits of saving (see Box 4.6).

Experiences of this type are rare in the region. There are, however, small-scale pilot programs that illustrate how this type of mechanism can help drive individual pension savings.

Experimental, and therefore very reliable, studies carried out in Bolivia and Peru determined that receiving a reminder could help individuals take action to save (Karlan et al., 2012). In Peru, the reminders were sent as hard copy cards that highlighted the incentives upon reaching specific savings goals. In Bolivia, text messages were sent to self-employed workers offering incentives to save towards a Christmas bonus and obtain a free life and accident insurance plan (which is canceled if the deposits are not made).

In Bolivia, such reminders increased savings account balances by an average of 6%. This figure rose to 16% when the message mentioned a specific savings goal. Although the improvement is moderate, Karlan et al. (2012) highlight that this percentage is relatively high for the sample's poorest families.

Conclusions

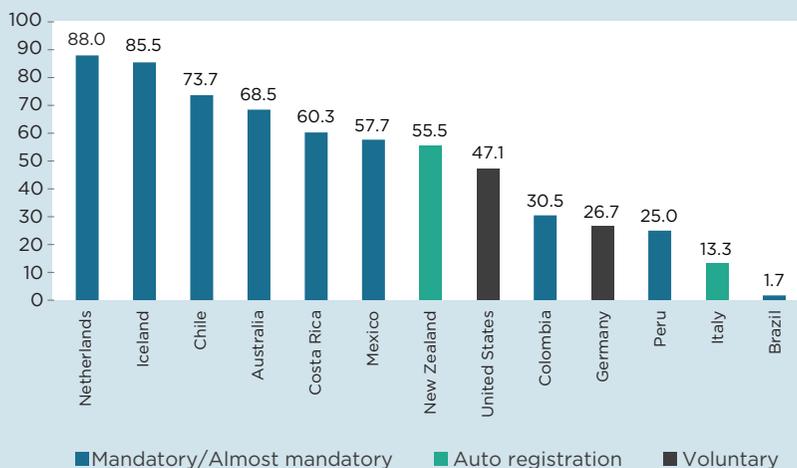
If fixing the low pension coverage problem in LAC were easy, it would no longer be a problem 60 or 70 years after the creation of the region's first contributory pension plans and 20 years after the structural reforms of the 80s and 90s.

Box 4.5 Private pension savings in Latin America and the OECD

Although the capitalization of private pensions is rapidly growing as a source of retirement income in most OECD and Latin American countries, their savings levels (measured as individual holders of assets or benefits accumulated through a plan) are quite unequal, and vary from country to country. The higher pension savings rates in voluntary systems are in New Zealand and the United States (around 50% of the working-age population). This rate far exceeds the figures in Italy (13%) and Brazil (2%), most likely due to the generosity of the two latter countries' public pensions.

Some countries have significantly expanded voluntary private pensions through the introduction of automatic registration (with a default option) and/or financial incentives. Germany saw a considerable increase in private pension savings when it introduced the Riester pension plan, which includes a sizable government subsidy. The case that stands out the most is New Zealand: the percentage of savers had fallen to less than 10% of the working-age population in 2007. Only three years later, the KiwiSaver scheme—which provided for automatic registration, shared contributions with the employer, and government subsidies—was able to push coverage to close to 55%. In contrast, Italy has been less successful at raising its coverage rates following the introduction of automatic registration: the percentage of the working-age population registered in private pension plans barely increased from 9% to 13% between 2007 and 2010. Therefore, the success of automatic registration depends on plan design and interaction

Figure 4.5.1
Private pension savings in select OECD and Latin American countries (% of asset holders out of total working-age population)



Source: OECD.

(continued on next page)

Box 4.5**Private pension savings in Latin America and the OECD***(continued)*

with incentives to help ensure that individuals do not opt out of the system en masse.

Ultimately, automating mandatory registration seems to be the most effective policy for raising pension savings in OECD countries. For example, in Iceland, Chile, and Australia, about 70% of the working-age population subscribes to a pension plan, due to the minimum contribution (or benefit) rates. High coverage is also achieved through almost-mandatory systems, such as industrial or national collective bargaining agreements, like in the Netherlands, which covers nearly 88% of the working-age population. Nonetheless, there is no one-size-fits-all formula. Mandatory private pension services in Colombia, Costa Rica, Mexico, and Peru, for example, have not created high coverage levels or sufficient contribution densities.

Given the limited capacity of pension systems to generate savings in the labor market and expand coverage, LAC countries have undergone a series of policy changes to close these gaps. These policies have been diverse in design, scope, and magnitude. This chapter provides lessons about the economic policies and poses questions that remain unanswered.

Based on experiences in LAC, non-contributory pensions are a useful tool to expand coverage and eradicate poverty in old age. They do, however, significantly impact the decision that eligible individuals and those approaching eligibility age make regarding whether or not to participate in the labor market. Additionally, there are serious challenges in the institutional framework. The generosity of the pension and the way it is adjusted will determine the system's future sustainability. The great unknown is whether, in the long term, this type of pension could undermine the incentives for individuals far from retirement age to contribute.

Generating adequate pension levels in the future requires increasing pension savings in today's labor market. This chapter shares several initiatives that target increasing pension savings.

Reducing social security-related costs, to give an example, seems to be an effective way to create formal jobs in some contexts—especially among groups that tend to be disconnected from the pension system, like young, non-salaried workers, and small firms. However,

Box 4.6 Behavioral economics in action

Simplifying pension savings plans increase coverage because the simplification acts on the propensity to postpone complex financial decisions. Beshears et al. (2011) studied a low-cost intervention designed to simplify the registration process for 401(k) pension plans in the United States. They demonstrated that providing simplified registration opportunities increased participation rates: with three repetitions, the rate jumped 105%, compared to only 10% with one repetition. Another experiment performed on a group that was already contributing consisted of mailing a simple table with contribution and return scales. This measure boosted the contribution rate by 15%. The results were also evaluated 54 months post-implementation and participation remained equal.

Another method for increasing savings is for the individual to make a commitment to save. If the individual has information about recommended savings, but knows that he will be tempted to not do so in the future, he can obtain the benefit of self-satisfaction about his decisions in the future. Ashraf, Karlan, and Yin (2006), for example, described this case in the Philippines: 28% of individuals who had the option to start a savings plan with a savings commitment accepted the offer. After 12 months, the survey balance had increased an average of 81%.

Thaler and Benartzi (2004) evaluated the outcome of a prescriptive savings plan called Save More Tomorrow (SMarT), in which people committed in advance to allocate a portion of their future salary increases toward retirement savings. The authors noted that a high percentage (78%) of those invited to join the plan actually signed up. The average savings rate of plan participants grew from 3.5% to 13.6% over the course of 40 months.

In two field experiments, including 2,687 micro-entrepreneurs in Chile, researchers Kast, Meier, and Pomeranz (2012) analyzed the effectiveness of self-help peer groups as a savings commitment mechanism for low-income micro-entrepreneurs. The arrangement consists of publically committing in front of a group of business owners to paying into a savings account and submitting to accountability monitoring. The authors concluded that these monitoring groups are a powerful tool for increasing savings (the number of deposits more than tripled and the average savings balance almost doubled). There was a follow-up experiment with mobile phones in which the participant had to provide a weekly account update to a group through his or her phone. The mechanism was almost as effective as the public meetings, which shows how effective oversight and demand for accountability are, even beyond the public observer effect.

Behavioral economics applied to savings provides some evidence as to the effectiveness of some design aspects of savings plans, such as simplifying the processes, sending reminders about specific savings goals, and making a commitment to increase savings. These mechanisms, if well designed, seem to be effective even for low-income groups and self-employed workers.

these measures do not come cheaply and could incur considerable fiscal costs. The appropriate reduction to maximize coverage based on an actuarial balance between contributions and benefits is still unknown. Depending on the design of the subsidies, this type of initiative could dissuade small firms from growing or encourage self-employment over salaried work.

Several studies suggest that increasing formality (especially in small firms) calls for developing greater oversight and improving the value of formality perceived by firms and workers. Evidence clearly shows that heavier oversight pressure on the labor market boosts the number of formal jobs; but this level of oversight also destroys jobs that cannot survive in the formal sector, either due to their low productivity or because the firms or workers underestimate the benefits of social security. Stronger oversight must go hand in hand with optimizing the services accessed by participating in the formal sector and/or cutting the cost of these services.

The way that governments, in general, and social security agencies, in particular, communicate with citizens could potentially be a low-cost policy to expand pension coverage.

There is no—nor should there be—one-size-fits-all policy capable of correcting all the region's coverage problems. The countries of the region are at very different starting points and where efforts are focused will depend on the specific challenges on the ground in each country. The hope is that future reforms move in the right direction. The next chapter builds upon the conceptual framework established in Chapter 3 and the lessons learned here from the region's experiences to define policy guidelines that will improve the way pension systems work in the region.



THE WAY FORWARD FOR
PENSION REFORM

5

Summary:

This chapter outlines the main recommendations for reforming pensions systems to reach universal pension coverage in the Latin America and Caribbean (LAC) region, both in the short and long term. Two overarching objectives provide the foundation for these recommendations. First, in order to eliminate poverty in old age, every citizen, and not only workers, should be the target of social security programs. Second, all workers should be integrated into the contributory systems to boost pension savings and to ensure an adequate pension level in the future. To this end, we propose a set of instruments that include the implementation of a basic universal anti-poverty pension, the gradual mandatory inclusion of non-salaried workers into contributory pension systems, progressive subsidies on pension contributions for all workers (regardless of their occupational category), stricter oversight of the labor market, increased investment in financial literacy, and the development of new channels to reach especially difficult groups. The relevance and applicability of one or more instruments will depend on the challenges, the resources, and the starting point of each country.

Introduction

LAC pension systems were originally designed based on a single instrument that consisted of contribution payments made throughout the active life of salaried workers. These payments were expected to be collected through the labor market and used to finance pensions during retirement. In this structure, the two primary functions of the pension systems—combating poverty and smoothing consumption—overlap and leave those who never participated in the labor market, or did so intermittently or through irregular non-salaried employment without income in old age. These groups that are left out must depend on their families or social welfare to have some sort of income in their old age (see Chapter 1).

The region's social pension systems have recently begun to address the anti-poverty and consumption-smoothing functions with different instruments. In addition to the traditional contributory pension system, new non-contributory pillars have emerged that aim to close the coverage gaps created by contributory pillars. These non-contributory pillars can become a safety net against poverty in old age. Some of these pillars are integrated into the pension system; others are deemed social welfare. As previous chapters have noted, access to these pillars varies as well. In some countries, access is universal. In others, only those who do not have a contributory pension are eligible. This arrangement, often, creates a *de facto* parallel social security system that could undermine the already limited contributory systems. Since the time of the original design of social pension systems, some of the region's countries have been gradually incorporating non-salaried workers, either into the general system or systems specially created for this type of group. However, success has been relatively low (see Chapter 2).

This chapter will present policy principles and instruments with the following objectives: 1) create universal access to a pension for all citizens to eradicate poverty in old age taking into consideration sustainability and efficiency principles, and, 2) increase the pension savings of all workers over the coming decades, especially middle and lower-middle income ones, to ensure the pension system is able to smooth consumption. These two objectives will require

a battery of instruments, from a universal anti-poverty pillar, to measures that facilitate the inclusion of all workers into pension systems.

Some of these instruments are already in use throughout the region to some degree. Whether one or all of the described tools are implemented and the specific parameters of these proposals depends on several factors: each country's social preferences for fighting poverty and inequality, income levels, how well country labor markets work, and the existing systems in place. Therefore, it is neither feasible nor advisable to create a one-size-fits-all reform for all LAC countries. For this reason, the last sub-section of this chapter will describe different generic types of situations that countries face, often times with very unequal starting points and challenges.

Starting with the principles

Even though pension reforms will obviously depend on the starting point of each of the countries in the region, there are a series of key principles applicable to any of the reform options:

- **Global approach.** It is vital to understand the social security system as a whole. Retirement pensions must be framed in a broader social benefit group of systems that includes disability and survivor's pensions, health and unemployment insurances, among others; and there must be proper integration of these systems.
- **Integrity.** The design of the pension system pillars must be consistent. Each pillar must work in coordination and be integrated with the others.
- **Simplicity.** Simple rules tend to work better than complex rules, because citizens and firms can understand them and behave accordingly.
- **Transparency.** The instruments employed in any pension reform must have a clear and transparent objective. Given the two overarching principles of the pension system (preventing poverty in old age and smoothing consumption), at least two separate economic policy instruments would be advisable.

- **Efficiency.** Any reform will impact the overall pension savings of a country (private and public), as well as the labor market (labor supply and demand). Reforms must be designed to create strong incentives to save and participate in the formal labor market.
- **Adapted to institutional capacity.** The reforms should be built on structures and institutions that work well. Those factors that do not work well should be improved, such as availability of information, oversight capacity, and the type of pension system (public or private, pay-as-you-go or capitalization, and defined contribution or defined-benefit).
- **Innovation.** Many savings-generating mechanisms have not worked in the region, especially those designed for non-salaried workers. As such, the region needs to experiment and to evaluate new channels.

Objectives and families of instruments for reform

The two fundamental objectives of pension systems are eliminating poverty in old age and smoothing consumption upon retirement, while ensuring short- and medium-term sustainability. As previous chapters have indicated, these objectives are only met for a small portion of elderly adults in LAC.

This book maintains that the target of social security to prevent poverty in old age should be the citizens, regardless of whether or not they have worked or regardless of the type of work they had during their productive life. An adequate pension system should be capable of providing this security through some sort of universal pillar that does not depend on an individual's decision in the labor market. Similarly, consumption smoothing should apply to all workers, regardless of occupation and labor status during his or her working life (see Diagram 5.1).

We propose four families of instruments to reach these two objectives. The families are interconnected and are applicable based on coverage levels as well as each country's institutional development and fiscal capacity.

Diagram 5.1

Pension system objectives by type of citizen/worker

		Preventing poverty in old age	Smoothing consumption
Non-workers		Universal pillar	
Workers	Non-salaried	Universal pillar	Social security
	Salaried		

Source: Prepared by the authors.

1. *Non-contributory anti-poverty pension for all citizens.* The purpose of this pension is to create a universal pillar that eradicates poverty in old age. The pension must be designed with strict age-based eligibility criteria, have a stable funding source, be compatible with contributory pension systems, and have a strong institutional framework to provide long-term fiscal sustainability and protection from the political cycle.
2. *Gradual inclusion of non-salaried workers.* Smoothing consumption for all workers requires designing a path toward mandatory contributions for all workers, regardless of their occupational category (salaried or non-salaried), if the contributions are not already mandatory. The system must also ensure that non-salaried workers have exactly the same subsidies and benefits as salaried workers. The unique characteristics of non-salaried workers must be taken into account allowing more innovation in the way contributions are made; further, the system must be more flexible to achieve their full transition of these workers toward social security.
3. *Subsidies for pension savings on the labor market.* The government could incentivize contributions by subsidizing mandatory worker contributions (salaried and non-salaried workers), promoting the inclusion of lower middle-income workers to make formal work cheaper, and offering incentives to attract workers and firms to participate in social pension systems.
4. *Oversight, information, and education.* The role of the government should be to expand oversight of the labor market and provide a constant flow of relevant information to citizens about

the status of their pension system contributions and the future benefits derived therefrom.

Many aspects of Chile's recent 2008 reform, as described in Chapter 4, fit into this family of instruments and include all of the points detailed. This reform introduced a non-contributory pension that, while not universal, covers the poorest 60% of the population. Accessing the subsidized pension is not contingent upon not having a contributory pension, although the amount does decrease, based on the individual's contributory pension. The reform also requires non-salaried workers to pay into the system and a transition period was established to ease compliance. The reform also created subsidies for contributions, based on income and age. Chile has been carrying out a series of ambitious initiatives focused on improving financial literacy and understanding of the system, and has also made significant institutional progress.

This family of instruments regarding possible avenues for expanding pension coverage is far from being a silver bullet for all of the region's reform challenges. In fact, sustainability issues will require additional coordinated reforms. The fiscal consequences of population aging, even in countries with low contributory coverage, demand unavoidable parametric reforms (see Box 5.1). Enhancing and promoting sustainability is an essential requirement for expanding coverage, because the fiscal problems of a system with innate sustainability shortcomings will only grow if new affiliates and beneficiaries are added.

The set of instruments in depth

A universal pillar for all citizens

This pillar is similar to that of many of the region's existing non-contributory pensions and certain cash transfer programs targeting elderly adults. This universal pillar would mean cash transfers without requiring past contributions. There are, however, real design differences when compared to some of these programs that could help eradicate

Box 5.1 Fiscal costs of public pay-as-you-go systems: unavoidable reforms

Although LAC, in conjunction with Central and Eastern Europe, has been the most active region in adopting individual capitalization and privately managed pension systems,^a many of the current systems are built on the traditional public pay-as-you-go and defined benefit system design. This is the case not only in countries that have not made structural reforms (Brazil, Ecuador, Paraguay, Venezuela, and most Caribbean and Central American countries), but also in countries that kept the public system as an option (Colombia and Peru), as a pillar within the general system (Costa Rica and Uruguay), or in countries which reversed the reforms (Argentina).

The fiscal sustainability of these public pay-as-you-go and defined benefit systems will come under growing pressure from population aging, since the number of workers per retiree will fall. Current projections suggest that spending as a percentage of gross domestic product (GDP) will balloon in the coming decades, solely due to the demographic transition. For example, the International Monetary Fund (IMF) predicts public spending on pensions could reach 11.9% in Argentina by 2050 (compared to 7.4% in 2010) and 16.8% in Brazil (compared to the current 9.1%) (Clements et al., 2012).

Against this backdrop, international experience suggests undergoing a series of parametric reforms that have been widely debated and implemented in OECD countries (Organization for Economic Cooperation and Development), where demographic aging is already evident (OECD, 2012 and 2013). These reforms include increasing revenue (in general, through taxing consumption and, to a lesser degree, through higher contributions by expanding their tax bases) and, in particular, cutting spending by lowering pensions (with a more modest indexing or increasing the pension calculation period). These reforms also include raising the retirement age (mandatory through the legal age or voluntary through incentives to delay retirement).

In LAC, these parametric reforms should not introduce additional disincentives to formality. Increasing pension and health contributions should be avoided where they are already high, and especially when they interact with labor regulations such as the minimum wage. On the spending side, changes should target adjusting the retirement age to life expectancy. This measure, however, must take into consideration the employability of the elderly, as well as ensure that the pension level is adequate to actually combat poverty and smooth consumption.

^a Nine countries (Argentina, Bolivia, Colombia, Costa Rica, El Salvador, Mexico, Peru, Dominican Republic, and Uruguay) followed Chile's pioneering experience. Ecuador and Nicaragua passed legislation on a reform, but the policy has not yet been implemented. Many others, like Brazil, have made substantial changes to their pay-as-you-go systems and introduced measures to promote the voluntary pillar (Mesa-Lago, 2004).

poverty in old age, minimize its negative impact on contributory systems, and guarantee long-term fiscal sustainability.

Universality

We support a poverty-eradication program for elderly adults that is based on the principle of universality, for two primary reasons. First, this program covers all citizens by design, and guarantees that all elderly adults, regardless of their work history or past contributions, have a secure income level in their old age. Second, the fact that the pension is universal reduces the adverse impact it may have on the labor market. Since the pension is not contingent upon having stopped working or not receiving a contributory pension, it does little to alter labor market decisions, i.e. the age at which an individual retires or whether or not a person will pay into a social security system. The pension program will impact income, but the potential disincentives will be small if the pension is relatively modest (for other positions, see Box 5.3).

However, the region has a long history of targeting specific social programs, conditional cash transfers being the clearest example. Targeting is attractive because it reduces the fiscal cost of social policies and, in theory, delivers benefits to the most needy. However, the more targeted the social protection programs created within these systems, the higher the risk of increasing incentives to manipulate these instruments, or even worse, to create poverty traps. The latter can occur when income-boosting strategies incur heavy costs for individuals, as they could lose access to a large number of benefits. Evidence indicates that this type of targeting instrument could be subject to manipulation by both program administrators and beneficiaries (Camacho and Conover, 2011).

To address fiscal concerns or preference-related issues surrounding improvement of the redistribution of tax spending, it could be possible to tax this pension with the personal income tax system. The region's tax system design—in which only the upper deciles pay income tax—would lend itself to a highly progressive redistribution. A similar alternative would be to propose small reductions in this pillar for those who collect a contributory pension. For example, Bolivia lowers the *Renta Dignidad* benefit by 25% for elderly adults with access to a contributory pension.

Generosity and indexing

The generosity of a citizen pension would have to be adjusted to meet its goal of eradicating poverty in old age. An amount set too high could negatively impact pension savings and cause heavy losses in the labor supply. If the pension amount is too low, the basic needs of elderly adults could go unmet. This pillar's level will largely depend on how poverty and inequality are defined within a given country. The level will also depend on current fiscal situations and the dynamic of the future generations that will draw a pension.

A benefit of between 10% and 20% of per capita income would eliminate poverty in old age; this benefit range is affordable today and, with proper indexing rules, in the future. In countries like Argentina, Chile, and Uruguay, the benefit consists of a pension ranging between US\$4 and US\$8 per day. In lower-income countries, like Bolivia, Guatemala, and Honduras, the benefit ranges between \$1.20 and US\$2.50 per day. It bears noting that what constitutes an adequate anti-poverty pension depends on social preferences and the definition of poverty in each country (see Box 5.2).

The long-term sustainability of the universal pillar largely depends on how its level is adjusted. A pension that provided 10% of GDP per capita in 2010 would have cost between 0.4 and 1.4 points of GDP in 2010 (on average, 0.7 points in the region) and, if adjusted for inflation, this GDP percentage would remain relatively stable through 2050 (see Figure 5.1). An indexing mechanism higher than inflation, however, could be much more fiscally onerous and potentially unsustainable. For example, if the pension level is adjusted by nominal GDP per capita growth (inflation and productivity), the cost (relative to the adjustment only based on inflation) would increase by a factor of 2.8. The previous chapters suggest that the most common indexing mechanisms outpace inflation, either because the adjustment is indexed to other indicators like minimum wage, or because this type of pension was updated at a given time through discretionary decisions. Whatever the case may be, inflation-based adjustments mean that, in the long term, the relative value of the universal pillar will drop compared to a country's median income. If we assume a 2.5% yearly GDP per capita growth, the relative value of the universal pillar would drop from 10% of GDP per

Box 5.2**How much is an adequate non-contributory anti-poverty pension?**

The level of an anti-poverty pension depends on the perception that each country has of poverty, an indicator that is measured and monitored differently in each country. The most common measure is the poverty rate, which shows the percentage of the national population with a standard of living below a defined benchmark threshold: the poverty line. The way poverty lines are defined varies considerably from one country to another; many countries base the line on a multitude of alternatives. This makes it difficult to determine a useful standard poverty line for the purposes of a multi-country analysis.

Most developing countries measure poverty in absolute terms, using a poverty line established based on the monetary value of a predetermined consumer basket of goods and services. In contrast, most analyses of poverty in advanced countries, including most OECD countries, measure poverty in relative terms, by setting a poverty line as a fixed percentage of the country's average standard of living. Standard of living is measured by income level or household consumer spending (which is another source of variation among countries). For example, Table 5.2.1 shows how the poverty levels of selected Latin American countries vary substantially based on the notion of poverty in each country.

Table 5.2.1

Poverty rates in select Latin American countries (as a percentage of the population)

Country	National poverty line	National poverty line (60% of the median)	US\$1.25/day
BRA	24	31	4
CHL	14	27	0
COL	45	33	16
DOM	36	29	4
ECU	37	30	5
SLV	31	30	11
GTM	51	38	13
HON	62	32	18
MEX	43	27	0
PRY	41	29	7
PER	45	29	8

Source: Garroway and De Laiglesia (2012).

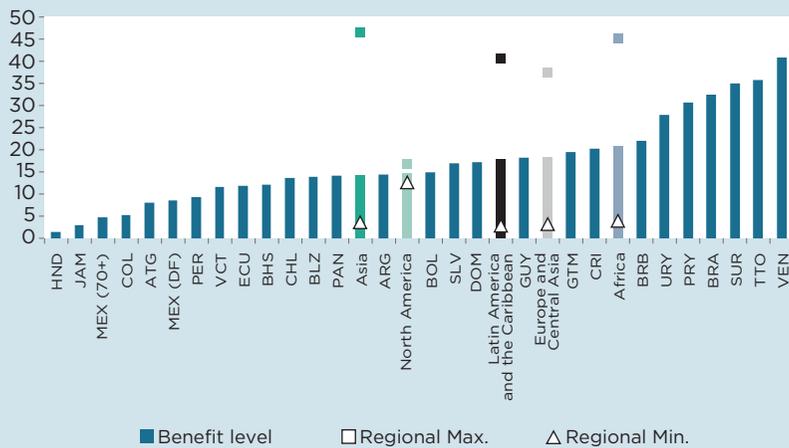
(continued on next page)

Box 5.2**How much is an adequate non-contributory anti-poverty pension?***(continued)*

This figure reveals the wide disparity in contributory pension levels in countries across the region. Figure 5.2.1 shows benefit levels in relation to GDP per capita. Most of the region's countries offer benefits between 10% and 20% of GDP per capita, although countries like Colombia, Honduras, Jamaica, Mexico, and Peru are clearly less generous. On the other end of the spectrum, Brazil, Suriname, and Trinidad and Tobago provide non-contributory pensions exceeding 30% of GDP per capita. Venezuela is the most generous in the region in terms of non-contributory pensions. Both the regional average and the variation of benefits within the region are similar to other regions in the world. Africa is the region, on average, with the highest pension (21% of GDP per capita vs. 18% in LAC); however, most of the countries on the African continent that provide benefits are in southern Africa, and the continent is home to many of the planet's poorest countries that offer no benefits. Non-contributory pensions have gained in popularity in Asia over the last decade, although perhaps not as markedly as in Latin America, with pension levels for the Asian region slightly below those of LAC (15% of GDP per capita, on average).

Figure 5.2.1

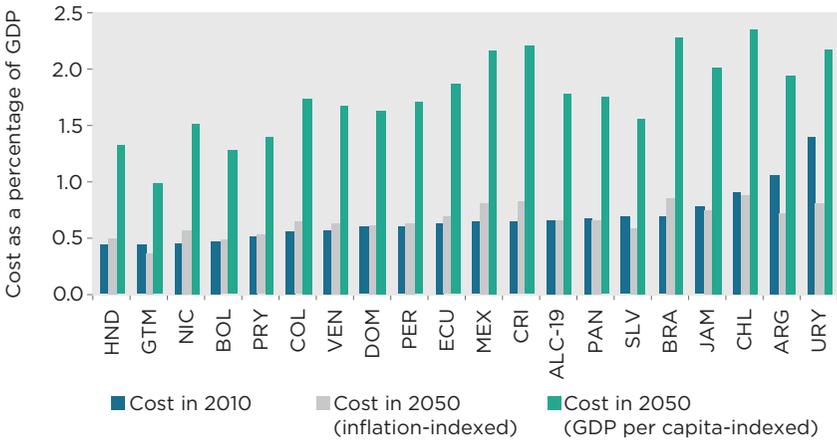
Benefit level in LAC and other regions around the world (as a percentage of GDP per capita)



Source: Authors' calculations based on HelpAge data (2012).

capita in 2010 to 4.2% in 2050. For this reason, the cost vis-à-vis GDP remains constant, even though the number of beneficiaries nearly triples.

Figure 5.1
Cost of providing a 10% of GDP per capita pension
(as a percentage of GDP)



Source: Authors' calculations.

Institutional framework

Given the region’s demographic outlook, this type of pension will only be sustainable in the future if sound institutional groundwork, which establishes an intergenerational social contract separate from political competition, is laid. We propose several mechanisms designed to ensure the sustainability of this type of pillar:

Establish independent institutions that set the pension level and perform regular actuarial reviews to adjust funding and benefits. Both the starting pension level and subsequent adjustments must be subject to rules that protect them from the political cycle, within a fiscal framework (ideally, fiscal rules that include present and future costs of the pensions and ways of funding them); further, these pension details should be evaluated by independent bodies, like Chilean Pension Advisory Council (see Chapter 6 for more details).

Link contributions to benefits through pre-funding of the universal pillar. One way to set the universal pension level is by prefunding the capital that will fund the future pension flow. This type of design, proposed by Antón, Hernández, and Levy (2012) for workers in

Mexico, is based on the idea that the government makes systematic contributions to the individual accounts of workers during their working lives (for example, between the ages of 18 and 65), regardless of whether they are formal or informal workers. As such, the resulting pension would be determined by the flow of contributions during a person's working life.

This type of design has clear advantages. Design can limit the discretionary nature of pension increases, which can create serious fiscal sustainability problems. In order to raise pensions, monthly contributions would also have to be raised, which would only create an increased pension level in the long term. This system would also force the government to save to cover pensions. These savings would, in turn, generate interest revenues that would lower the cost of these pensions in the long term.

An added benefit of this system is that it could help create formal jobs, given that such a system would enable lowering mandatory contributions to social security for workers and firms. Antón, Hernández, and Levy (2012) suggest that the government should contribute to all workers' accounts the same amount that a worker earning two minimum wages should have to contribute. This means that workers earning between one and two minimum wages (and the firms for whom they work) would not have a mandatory contribution. Employees and employers would only have to contribute once the wages exceed two minimum wages, but only the difference between what they contributed before and the subsidized public contributions. More broadly speaking, if the government contributes part of the pensions in the form of non-contributory pensions, the mandatory contributions paid by firms and workers to the contributory system could be reduced.

The government's prefunding of a universal non-contributory pension could be a more natural fit in individual capitalization systems that already have an individual pension account infrastructure. However, there is no reason why government prefunding cannot be implemented in countries with a pay-as-you-go system. A prefunded non-contributory pillar could be created through individual accounts or the public sector could prefund a reserve fund that would accumulate resources to pay future pensions.

One of the drawbacks of prefunding is that the system is not effective in the short term, given that sufficient funding cannot be secured for future generations at retirement age; thus, the need for ex-post transitional measures in the short term to provide universal coverage for today's elderly adults.

Create a funding source exclusively for a universal pension. Regardless of whether the pensions are prefunded with government contributions during the working life of the worker or paid for ex-post during old age, creating an exclusive source of funding could be useful to lay a strong institutional foundation. To this end, the government could create a consumption or commodity tax or earmark a certain percentage of a tax exclusively to funding a universal pillar. This tax would generate resources that could not be transferred to any other type of current government spending. If the amount exceeds spending, the difference could be saved in a special fund (which would also play a stabilizing role). Citizens would also associate tax collection with clear social rights, which would lend transparency to fiscal management (see Chapter 6).

Integrate non-salaried workers

The weight of the number of non-salaried workers (around 30% of the region's workforce), their notable disconnection from pension systems (barely 17% contribute), and their unique characteristics demand that special attention be paid to this group.

Mandatory contributions

A first step could be requiring non-salaried workers to contribute as salaried workers. These non-salaried workers should also have access to the same economic-incentive frameworks, i.e. they should have the same obligations and benefits. The purpose of this access is to prevent distortions in economic activity, due to a change in the relative return between being salaried and non-salaried or to single-owner economic entities versus larger entities. When non-salaried workers are exempt from contributing or their contributions are subsidized, the production costs of smaller-scale firms fall; this can have potential repercussions on aggregate productivity, given the

Box 5.3**A universal pillar: the ILO and World Bank vision**

The current approaches based on pension-system design and functioning tend to differ on aspects such as the type of plan (defined benefit or defined contribution), type of administrative system (public, private, or mixed), type of benefit (programmed income payments or annuities), among other aspects. It is no surprise, then, that international organizations, like the World Bank and the International Labor Organization (ILO), and other experts on the topic often differ when debating the pension design issue. However, when pension system reform is addressed through the prism of universal coverage, the Multi-Pillar Pension System proposal (World Bank) and the Social Protection Floors Recommendation (ILO) coincide on many aspects.

Regarding objectives, both the World Bank (Holzmann and Hinz, 2005) and the ILO (ILO, 2012) assert the urgency of alleviating poverty and creating greater equality and social inclusion through redistribution and solidarity mechanisms. These needs stem from the mistakes identified in the system's design and functioning, namely shortfalls in the efficiency and efficacy in providing benefits (World Bank) and the high degree of social exclusion the most vulnerable groups are subject to (ILO). These two international institutions proposed implementing a multiple-pillar model, composed of a non-contributory pillar for the most vulnerable sectors—the zero pillar—(World Bank) and the creation of a legal universal right to benefits^a through the social protection floor recommendation (ILO). Both concepts fall squarely within this book's proposal: making citizens the target of social insurance in order to achieve universal coverage.

The similarities of these proposals are not limited to diagnosis or reform objectives. They also agree on the following goals: 1) providing a modest social pension with strict eligibility criteria that guarantees a minimum level of income in old age for all sectors of the population; 2) prioritizing the most vulnerable groups, for example, by including rural populations in the funding and insurance systems (World Bank) or protecting and including those who work in the informal economy (like non-salaried workers and domestic employees, according to the ILO); 3) guaranteeing the financial sustainability of the system, given fiscal and demographic growth-related risks, by, for example, funding future benefits (which will obviously depend on the specific conditions of each country); 4) strengthening institutional transparency to guarantee "healthy financial management and administration" (ILO) and to prevent political manipulation that threatens to distort markets (World Bank); and, unavoidably 5) bolstering a functional administrative capacity that permeates the coordination of actions (i.e. among institutions, policies, pillars, systems, methods of delivering benefits, etc.) and the effective implementation of the reform.

^a ILO recommendation R202: "[3] (...) Members should apply the following principles: (a) universality of protection, based on social solidarity; (b) entitlement to benefits prescribed by national law" (ILO, 2012).

lower productivity of micro-enterprises compared to that of larger firms (see Pagés, 2010).

The region's experience and the challenges in monitoring non-salaried income indicate that making contributions mandatory will not ensure compliance with labor and pension laws. In fact, despite the fact that non-salaried workers are already required to contribute in many countries, they do so to a much lesser degree than salaried workers. Household survey data show that non-salaried workers falling within the three highest income deciles contribute at a similar rate as the three lowest income deciles of salaried workers.

However, making contributions mandatory—even if only on paper—is a good first step toward the full integration of non-salaried workers into social security.

Flexibility, but without creating imbalances in the system

Without prejudice to the principle of equality, non-salaried workers probably require special administrative measures to facilitate their social security contributions. For example, given the volatility of their income, the contribution system could provide for flexibility in terms of the regularity of the payments (i.e. half-yearly or yearly), strengthened oversight mechanisms, and innovative non-financial savings incentives.

The most common solution in the region has been to exclude non-salaried workers from the general system and grant them special treatment through parallel systems. While this has significantly increased the number of contributors, the solution type has also heightened the regressive nature of the system (often, those who benefit the most from the subsidies are high-earning non-salaried workers). Other side effects are possible incentives for creating “fake” non-salaried workers (i.e. salaried workers are registered as non-salaried contractors) or for not growing the firm's size (see Table 5.1).

Non-salaried workers should, indeed, receive the same treatment and subsidies as salaried workers. The lack of automatic savings mechanisms is an accepted fact. As such, this group is the target of additional proposed instruments to simulate the automatic savings mechanisms available to salaried workers.

Innovative savings mechanisms

Behavioral economics literature indicates that automatic savings mechanisms are equally effective as price-related incentives, or perhaps even more so. Several studies (Box 4.6) show that a very effective (and possibly cheaper) way to increase savings is through default savings programs, without any action required from the worker, such as automatic withdrawals. In fact, this type of mechanism is the foundation for systematic savings programs for salaried workers (as long as the work is in the formal sector), because firms automatically withhold part of the worker's wages. Much of the workforce, however, does not have access to these savings mechanisms. Even if informal salaried workers and non-salaried workers value social pensions and most are willing to contribute, many will not do so simply because they do not have this default option.

The challenge is, therefore, to develop automatic pension savings mechanisms for non-salaried workers when there is no third party (like a formal firm) to withhold the savings.

Recent technological advances allow social pension fund managers to be in constant contact with contributors. Various experiences indicate that reminders sent via mobile phone, letters, or emails are effective at increasing savings. These types of techniques could be an easy, low-cost option to expand and turn this strategic communication into common practice for social security agencies to remind contributors of the long-term benefits of contributing (as well as the consequences of not doing so). Automatic scheduled withdrawals from savings accounts or automatic payments through mobile phone recharges or electric or water bills could be an option as well.

The overall lesson is that mechanisms must go outside traditional savings systems that are limited to extracting contributions from formal salaried workers. There are some field experiments throughout LAC and other emerging regions that provide strong examples of how small innovative-design changes—often at low cost—can obtain significant results in membership and contributions. If these changes and innovations actually work, their potential benefits could push countries to experiment and to innovate the way they incentivize citizens to save for the long term.

Table 5.1
Special schemes for non-salaried workers, select LAC countries, 2010

Category	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Mexico	Peru	Dominican Rep.	Uruguay	Venezuela**
Acronym	Monotributo	RTS (simplified tax regime)	EI	RTSPC	RS-IVA (simplified regime-VAT)	RTS (simplified regime)	REPECOS (small taxpayer regime)	RUS (single simplified tax system)	PST (simplified tax procedure)	Monotributo	—
Taxable persons	natural persons and de facto corporations	natural persons	natural persons	natural persons	natural persons	natural and legal persons	natural persons	natural persons	natural and legal persons	natural persons and de facto corporations	natural persons
Scope	businesses, industry, services, primary sector	artisans, stores, sutler	businesses, industry, services, primary sector	businesses, services, artisans	businesses, artisans, agriculture and livestock	businesses	businesses, industry, transportation, agriculture	businesses, services, industry	businesses, services, industry	businesses	sale of goods and services
Categorization	Gross annual earnings*	Capital and inventory*	Gross annual earnings	Invested capital	Equity, gross annual earnings*	Annual purchases and fixed assets*	Gross annual earnings	Gross earnings*	Gross earnings and purchases	Gross earnings	Gross earnings
Contribution	Fixed	Fixed	Fixed	Fixed	Exempt	Proportional	Fixed	Fixed	Proportional	Fixed	Exempt
Payment period	Monthly	Bi-monthly	Monthly	Annual	—	Quarterly	Bi-monthly	Monthly	Monthly	Monthly	—
Replacement tax	VAT, IG (income tax), IGMP (estimated min. income tax)	VAT, IT (transaction tax), IUE (corp. income tax)	ISS (service tax), ICMS (tax on circulation of goods and services)	IR (income tax)	VAT	ISV (sales tax), IR (income tax)	ISR**(income tax)	IGV (general income tax), IR (income tax)	ITBIS (tax on the transfer of industrialized goods and services), ISR (income tax)	IR (income tax), others	VAT
Retirement contribution	Yes	No	Yes	No	No	No	No	No	No	Yes	No
Healthcare contribution	Yes	No	Yes	No	No	No	No	No	No	Yes	No

Source: Aguirre (2012).

(*) Other parameters or additional limitations are applied to categorize the scheme.

(**) This could also include the Value Added Tax (VAT), determined on the basis of the real value.

(***) There is no special tax scheme for small-scale contributors, except a VAT exemption for sales under 3,000 taxable units per year.

Promote formal employment

Preventing poverty in old age is not enough. The coming decades will see LAC move from being a lower-middle income region to an upper-middle income region (Moreno, 2011). This favorable outlook contrasts with the reality that, for most countries the emerging middle classes are mostly informal (as shown in Chapter 2). These are middle and lower-middle income workers who are registered in the social security system and exhibit a capacity to save regularly, but currently their contributions are highly irregular, if they pay in at all.

The implementation of a universal anti-poverty pillar as described cannot guarantee an adequate replacement rate for the middle-income sector, for whom the only long-term solution to guarantee sufficient consumption smoothing would be to increase pension savings.

Progressive subsidies on social contributions

The government could stimulate pension savings by improving the differential between the perceived value of being employed as formal, as opposed to being informal and its cost. This incentive could be achieved by subsidizing worker and firm pension contributions, regardless of their occupation category, in conjunction with an overhaul of programs that effectively function as subsidies on informality (e.g. non-contributory healthcare programs or certain conditional cash transfers). The costs associated with becoming formal could be lowered either partially or fully by subsidizing a progressive reduction of mandatory worker-employer contributions for all workers (salaried or not) within a country's existing system (defined contribution and individual capitalization and/or public pay-as-you-go and defined benefit). The extent and target of this reduction will depend heavily on the country's income and contribution structure, and other labor regulation restrictions, such as the minimum wage.

Determining how the formal employment sector will respond to reduced social security contributions will be a vital component in the design of economic policies. Economic theory dictates that lowering costs boosts the willingness of firms to hire formal workers, if these reductions are not offset by higher salaries (see Chapter 3). The

extent of this response, or *elasticity* in economist jargon, has not yet been sufficiently studied. At least three studies (on Chile, Turkey, and Colombia) found that cutting social security contributions generates more formal jobs (University of Chile, 2012; Betcherman et al., 2010, and Kugler and Kugler, 2009). In Uruguay, improved social security benefits for certain groups of workers increased formal employment for particular groups, even when contribution rates also went up (Bérgolo and Cruces, 2011). However, other studies show a limited response in formal employment to changes related to contributions.¹ Overall, research indicates that part of social security costs are directly absorbed by workers through lower wages. But, the research also shows that, at least in some cases and countries, lower worker-employer contributions can cause firms to hire more formal employees. Lastly, the research suggests that cutting contributions for lower-income workers can be an incentive for more workers to contribute.

As shown in Chapter 3, the fact that most people, especially low-income workers, claim insufficient income as the main reason they do not contribute to social security suggests that price-related mechanisms that lower the cost of contributing could reduce informality.

Lowering pension contributions

A simple way to progressively lower contributions is by granting a fixed subsidy to all workers who contribute, to be designed in such a way that the percentage of the reduction would be higher for lower-income workers. In Brazil, for example, where the minimum wage falls in the third decile of income distribution, a subsidy equal to 50% of the contributions of a minimum-wage earner would lower the contributions of a worker in the fifth decile by 40% and between 14% and 5% for workers in the ninth and tenth deciles, respectively.

Attracting workers to the formal sector through subsidies could benefit not only the pension system, but also the economy. First, from a productivity standpoint, increased formality could have a multiplier effect to the extent that firms would be more productive

¹ For Argentina: Cruces, Galiani, and Kidyba (2010); for Chile: Gruber (1997).

and, thus, stimulate potential GDP growth in the long term. Second, from a social protection standpoint, new formal workers will not only have access to pensions, but also all of the added benefits of formality (job security, training programs, healthcare). Finally, the tax base will grow, which expands tax collection (on payroll taxes and other direct and indirect taxes), without creating any significant inefficiencies.

The proposed subsidies would improve the progressive design of pension systems by incorporating low-income individuals into the system. However, as previously indicated, the system must be sustainable and streamlined. If not, the expanded coverage will incur a fiscal cost stemming from both the cost of the subsidies and the implicit debt (if the sum of contributions is less than the sum of benefits) that each additional system participant entails.

Interacting with other labor market institutions

Chapter 3 showed how the effectiveness of lowering contributions depends on the interaction with other labor market institutions, particularly if these other institutions determine the low rate of formality. One of the clearest examples is minimum wages. For countries like Bolivia, Brazil, Chile, Mexico, the Dominican Republic, Uruguay, and Venezuela, lowering contributions would begin to have an impact at the third decile of income distribution. But for other countries, like Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Panama, Paraguay, and Peru, the impact would only be felt starting at the fifth to seventh deciles (see Table 5.2). In the case of the second list of countries, the subsidies to reduce contributions would not reach the lowest deciles, where they are most needed. Similarly, certain segments of workers in some countries that probably have pension savings capacity do not save due to system constraints.

An alternative that could provide monetary incentives to workers earning less than minimum-wage is implementing these subsidies through mechanisms outside of the basic social security systems. Several countries have experimented with instruments that include matching contribution systems. The advantage of this matching mechanism is that it aims to promote saving by informal workers or groups

Table 5.2**Labor income and minimum wage in Latin America and the Caribbean**

Country	Average earned income (PPP \$/day)	Minimum wage/ average wage	Percentage of workers with income below the min. wage
ARG	35.7	0.9	43.0
BOL	9.6	0.7	21.0
BRA	14.6	0.7	16.9
CHL	24.1	0.7	16.3
COL	12.4	1.0	48.0
CRI	16.9	0.9	34.4
DOM	9.4	0.7	25.3
ECU	14.3	1.0	43.0
GTM	7.0	1.4	59.5
HND	8.3	1.6	60.3
JAM	8.1	1.0	29.3
MEX	11.4	0.6	24.5
NIC	7.2	1.1	54.6
PAN	16.1	1.0	39.1
PER	10.1	1.1	47.4
PRY	13.2	1.4	64.4
SLV	9.1	1.1	39.7
URY	12.0	0.7	20.1
VEN	14.8	0.8	30.9

Source: Authors' calculations based on household surveys (circa 2010).
PPP = purchasing power parity.

for whom it is especially difficult to contribute to social security (like non-salaried workers or those in small firms).

However, this type of institutional design could create a *de facto* subsidy on pension savings for informal workers outside the system, thereby working against the ultimate goal: strengthening contributory pension systems without fragmenting them into sub-systems. The key is to create integrated, not parallel, systems that build on the social security system's principles of integration and equity (see Box 5.4).

The extent of the expanded coverage of contributory systems will depend on each country's capacity to create formal jobs at the middle and lower end of the income distribution, especially for non-salaried

Box 5.4

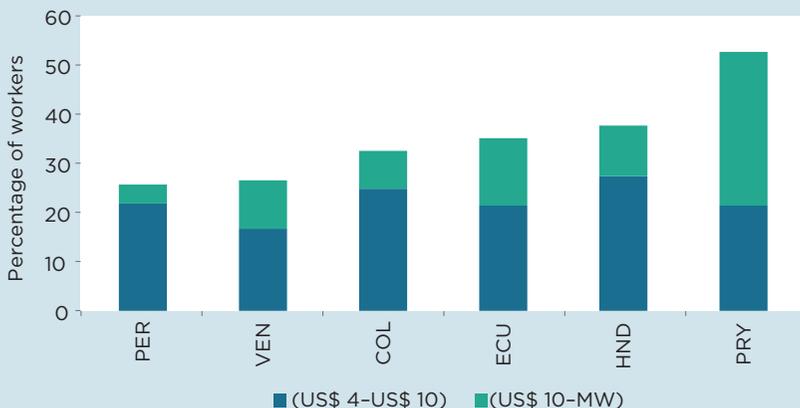
Matching contribution programs in Latin America: more than good intentions?

In some countries, the minimum wage, which typically sets the floor beyond which an individual can contribute to social security, can restrict the capacity to generate pension savings in the lower-middle income distribution bracket, where savings capacity tends to emerge. In countries like Paraguay, more than 50% of workers fall between the moderate poverty line and the minimum wage, around half of which have income higher than US\$10 per day. Recent research argues that this line marks the beginning of the region's middle class (Ferreira et al., 2013). Similar situations are observed in Colombia, Ecuador, Honduras, Peru, and Venezuela.

The percentage of workers earning between the moderate poverty line and the minimum wage contribute is low in other countries (7% in Peru, 14% in Venezuela, 5% in Colombia, 4% in Ecuador, and 12% in both Honduras and Paraguay).

Figure 5.4.1

Percentage of workers between the moderate poverty line and the minimum wage



Source: Authors' calculations based on household surveys (circa 2010).

Note: MW = minimum wage.

Since minimum wages cannot be adjusted to a country's income distribution, the response of some countries has been to create systems that subsidize the contributions of middle- and low-income informal workers through matching contribution systems. Other countries have focused on incentivizing informal workers to save. In the LAC region, Colombia and Peru have recently designed *matching contribution* systems, which are expected to be operational soon.^a

After several years of analysis, Colombia will implement the Complementary Social Service for Periodic Economic Benefits (BEPS, *Beneficios Económicos*

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Box 5.4 Matching contribution programs in Latin America: more than good intentions? *(continued)*

Periódicos). This system, which is voluntary as long as the individual is not paying into the traditional system, provides a 20% subsidy on the contributions accumulated in the BEPS accounts. This subsidy is available to low-income workers (tiers I, II, and III in the SISBEN, the System for Selecting Beneficiaries of Social Programs). The system also includes shorter-term loyalty benefits, like micro-insurance and reduced administrative costs. In addition to these incentives, the primary change is that the BEPS allows individuals earning less than the minimum wage to contribute. In effect, this relaxes the barriers many workers had faced and the system, thus, becomes a savings mechanism for workers when they are in informal jobs.

Peru is set to launch the Social Pension System, which is a voluntary system for workers in micro-enterprises (those earning up to 1.5 times the minimum wage) and their owners (up to 10 workers) who are not yet members. This system provides for a progressive reduction of social contributions to access the same pension as that available in the general system (the maximum contribution are 4% of the minimum wage, compared to 13% in the national or private systems). This reduction will be offset, in part, by government contributions (which match worker contributions). As in Colombia, this mechanism would motivate a large number of informal salaried and non-salaried workers to generate pension savings.

These incentive systems in Colombia and Peru for pension savings are similar in nature to those systems proposed by this book to reduce the cost of contributing for informal or marginally formal workers of the urban middle class. Their designs, however, drastically differ on one essential feature: these systems generate a change in the contribution/benefit ratio that is advantageous for a specific group outside of the general system, instead of subsidizing a cost reduction for all middle- and low-income workers. Although this type of system seems to lower the cost of the policy, its fundamental problem is rooted in the incentives and possible distortions of economic activity. Therefore, the policy with the lowest fiscal costs is not always the best. More importantly, the primary concern is that these instruments become parallel systems for informal workers that compete with a country's contributory systems, thereby discouraging transition into the formal sector. While the Colombian design seems to avoid this problem (integrating savings generated through BEPS with savings generated through the traditional system), the Peruvian solution, although not yet implemented, would establish a new *de facto* pension system that could motivate firms to stay—or appear to be—small to obtain the small-firm contributions.

The new mechanisms geared toward attracting informal workers through matching contributions are instruments born of “good intentions,” but their design must avoid creating negative outcomes. These systems must, therefore, be developed in such a way that preserves the incentives to pay into the contributory system and prevents creating alternative systems. This

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Box 5.4**Matching contribution programs in Latin America: more than good intentions?** *(continued)*

important goal could be achieved, perhaps, by limiting these mechanisms to cases in which the minimum wage has been set at levels that exclude much of the workforce from contributing.

^a In both cases, the regulations are still being developed; as such, some variables could differ from the information provided herein. These countries have joined Chile and Mexico in implementing this type of program. Since the beginning of the crisis, Chile has been implementing support programs for youth employment by reducing firm and worker contributions (Social Security Subsidy for Young Workers and Youth Employment Subsidy). Mexico has a social contribution that matches the equivalent of 5.5% of the minimum wage in Mexico City for contributors earning up to 15 times the minimum wage. For more information on these cases and those of emerging and developed regions, see Hinz et al. (2012).

workers. The contribution subsidy is one of the tools available that has proven effective in several LAC countries. This expanded coverage cannot, however, be a stand-alone policy. Other incentives to promote formal work—like lowering costs associated with formality and improving oversight—could create significant complementarities.

Reviewing the costs associated with labor laws and other labor regulations

As with social security, the cost of complying with labor law provisions could increase labor costs and decrease formal employment if firms cannot pass these costs on to workers. For instance economic theory states that it is most effective to impose a positive firing cost on firms so that the social cost of the dismissal is internalized (Blanchard and Tirole, 2008). However, when statutory protections are very strong and firing workers is very costly, the end result of these regulations is less formal employment and lower economic productivity.² These

² A series of studies on India (Besley and Burgess, 2004; Ahsan and Pagés, 2009) observed that, inside the country, states that have or had had higher firing costs have experienced lower growth in formal employment. These studies also found that more labor-intensive industries were more affected by firing costs. These adverse effects have also been noted in the United States, as well as a broad sampling of countries and industries (Micco and Pagés, 2006).

adverse effects could arise due to the uncertainty of legal proceedings over termination of employment and the fact that these trials can last many years before a resolution is reached and/or incur debilitating costs for firms (Kaplan and Sadka, 2011). Redesigning protection instruments for the jobless could be a good way to reform pension systems.

Monitoring and oversight, combined with financial literacy

Attracting workers and firms to the formal sector will require not only economic measures, but also administrative and even cultural measures. Countries must move toward deploying incentive patterns that promote formal job creation; but they must also enforce regulations, by enhancing both monitoring and oversight of labor markets. Stricter oversight without real changes to the way workers and firms perceive the costs of formality could actually be counterproductive and build obstacles to firms growing beyond a certain production level.

Similar to the advances made in tax administration, institutions charged with overseeing labor and pension legislation could require additional investments in human resources and information technology. Increased monitoring and oversight could work on several levels, but this policy option will depend on each country's institutional capacity. There are two primary areas for improvement: developing and coordinating both registers and data, as well as investing resources into oversight.

Consolidating the beneficiary registers for all social programs under a single authority, together with tax registers on personal-income taxpayers and firms paying corporate income tax, would ease oversight of the informal economy. Countries like Argentina, Brazil, Ecuador, Peru, and Uruguay are making great strides in this area. Where necessary, workers could be given a unique identification number (social security, tax, or citizen-related) and countries could build the capacities needed to operate a single tax and social benefits system.

These oversight measures must be accompanied by financial literacy programs. The region's experiences in sending pension information (for example, the pioneer program in Chile that sends account statements) appear to have had a positive effect: similar outreach provides information on how to comply with legislation and enhances

the pension culture by improving financial literacy. Initiatives like that in Uruguay of including social pension educational materials in compulsory basic education are a huge step forward in creating awareness and a culture of pension savings among younger generations.

A quantitative snapshot of the pension reform

This section provides a quantitative illustration of the main effects of a reform based on the described principles—including some of the proposed tools—focusing on pension savings, coverage, pension levels, and the fiscal cost.

The purpose of this exercise is to compare a scenario in which there is no reform (what we call the *status quo*) to scenarios in which some of the measures described in previous sections are implemented. The main components that the exercise simulates are:

- *A universal non-contributory pension with a universal benefit equal to 10% of GDP per capita.* The benefit is set at 10% of GDP per capita for illustrative purposes, making it easier to compare across countries and calculate alternative scenarios. Alternatively, the cost of providing a benefit accounting for 20% of GDP per capita is easily obtained by doubling the cost estimated here. Pensions are adjusted by inflation, ergo, their value remains unchanged in real terms, while their value in terms of GDP per capita depreciates over time (if GDP per capita grows at 2.5% per year, the 2050 universal pension would be equal to 4.2% of per capita income).
- *Making contributions mandatory for all earning workers.* In line with the aforementioned arguments, pension contributions are made mandatory for all earning individuals (salaried or otherwise).
- *A subsidy on social security contributions for all workers (salaried or otherwise) equal to 50% of the contribution due from a minimum-wage earner.* Given that minimum wages vary, the amount of the subsidy will also vary country to country. Again, the parameters are chosen to make calculations for a diverse group of countries easier. For a stylized exercise, the minimum wage is assumed to be equal to the income of the second decile

for all countries. The reduction for the next two deciles is progressive and accounts for 50% of the income of minimum wage earners, falling to less than 10% for workers in the highest decile (see Figure 5.2a).

According to this combination, government contributions (which include the non-contributory pension and contribution subsidies) fund a portion of the pension. For a minimum wage earner, the government funds approximately 75% of the pension. For a worker earning 10 minimum wages, the government funds less than 20% (Figure 5.2b). The replacement rate, which measures the pension/salary ratio, is also a decreasing function of income (Figure 5.2c).

Given the uncertainty surrounding how effective some of the policies are at growing formal employment, three scenarios are simulated to get a snapshot of how the proposed measures could impact formal job creation (see Box 5.5). Below is a description of the calculations.

Box 5.5 Fully understanding what is being quantified

All these simulations should be seen as projections in different scenarios, and not as forecasts. This box describes the main parameters for the reform, as well as how pension savings, coverage, replacement rates, and the fiscal cost of the reform will evolve.

The non-contributory part of the system is relatively easy to quantify, since good demographic projections are available. For the purposes of this exercise, we use projections from the Latin American Demographic Center (CELADE) for the Economic Commission for Latin America and the Caribbean (ECLAC).

The two main assumptions are the non-contributory pension level, set at 10% of GDP per capita in each country, and the inflation indexation. Since this pension reform scenario grants coverage to all citizens, and not just those who do not accumulate adequate pension savings, the non-contributory pension is independent of the effectiveness of lowering contributions.

The contributory part assumes that social contributions of all workers are subject to a fixed reduction, equal to 50% of the contributions due from a minimum wage earner. Simulating its effects proves more complex, given that, in addition to previous assumptions, here we must identify the groups that would benefit from this contribution reduction and how this cut

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Box 5.5**Fully understanding what is being quantified** *(continued)*

changes their participation in the formal sector. As previously mentioned, there is insufficient evidence to reliably predict the impact of the reforms. Therefore, three scenarios are used, in addition to the status quo scenario with no reform.

Status quo: The elasticity of the percentage of contributors in relation to economic growth is set to 0.1 for all income deciles. This means that when a country doubles its GDP per capita, the ratio of contributors out of total workers increases 10 percentage points.

The key parameter for simulating the reform is how much additional savings will be generated through monetary incentives. Literature on matching contributions summarized in Hinz et al. (2012) suggests that a 25% subsidy increases savings by around five percentage points, i.e. an elasticity of 0.2. Kugler and Kugler (2009) and Heckman and Pagés (2008) found higher elasticities of approximately 0.5. The three scenarios are simulated based on the elasticity used in the following settings.

Scenario for a conservative reform: Elasticity of formal employment to GDP per capita growth rate set to 0.2.

Scenario for baseline reform: Elasticity between the percentage of formal employment and GDP per capita growth rate set to 0.4.

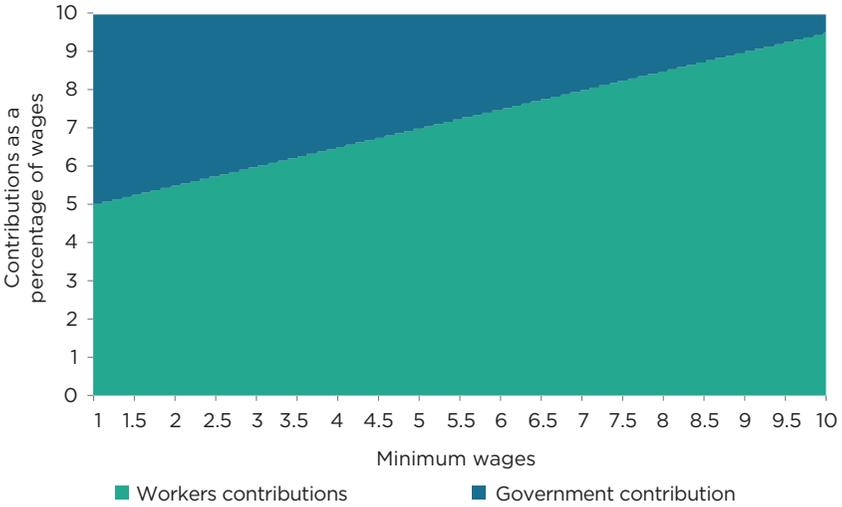
Scenario for optimistic reform: Elasticity between the percentage of formal employment and GDP per capita growth rate set to 0.8.

Finally, all scenarios assume a real GDP per capita growth of 2.5% is maintained, a 10% rate of contribution, a real interest rate of 3%, the number of years of contribution equal to 40 years of uninterrupted contributions, and a discount rate on the annuity equal to 15 (this is the usual factor used to transform accumulated savings into a pension received every year until the death of the beneficiary).

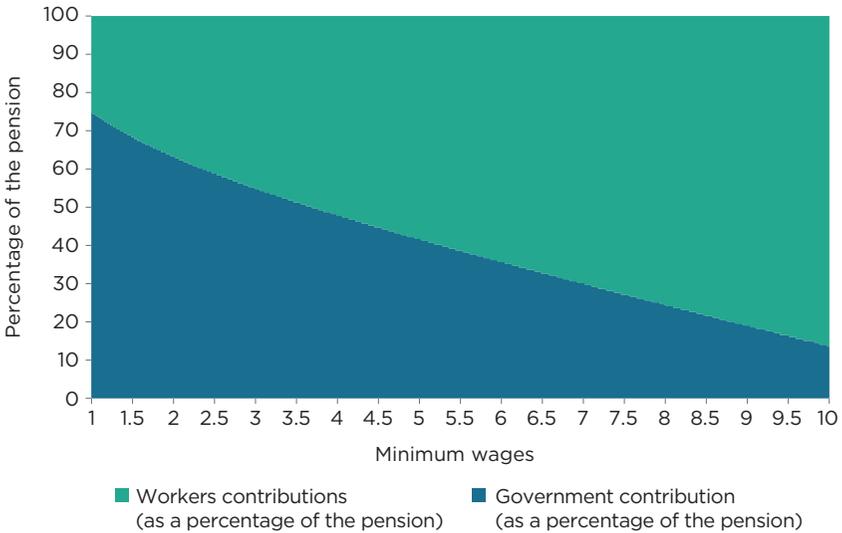
i) *Pension savings are stimulated.* One of the essential goals of this type of pension reform is to increase the share of formal workers. According to this study's projections, the percentage of contributors in the status quo scenario will grow from 45% in 2010 to 54% in 2050. In a baseline reform scenario, monetary incentives boost pension savings to an estimated 63% (nine additional percentage points). The conservative scenario would estimate growth of four percentage points and an optimistic scenario would add 15 percentage points (obviously with differences among countries) (see Table 5.3).

Figure 5.2
Theoretical design of the reformed pension system

(a) Contributions/wages

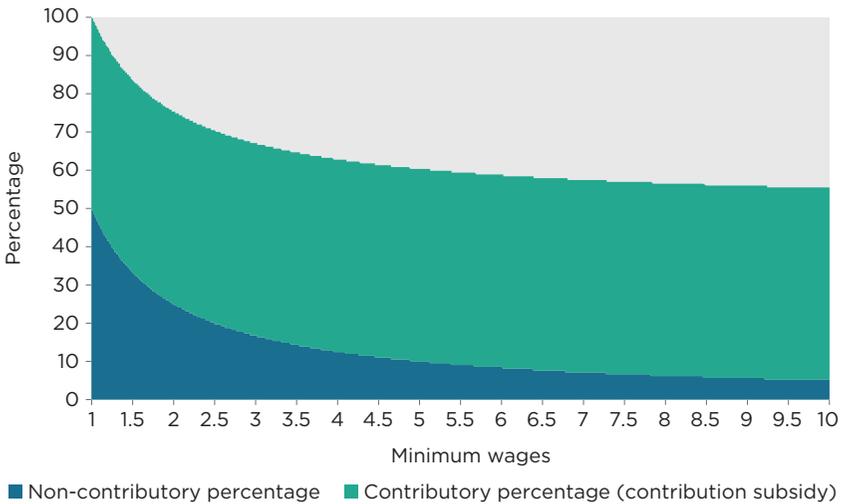


(b) Pension origin: financing sources



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ii) *The reform grants universal non-contributory pension coverage and increases contributory coverage. All elderly adults are entitled to a benefit equivalent to 10% of GDP per capita in 2010 and 4.2% of GDP*

Figure 5.2**Theoretical design of the reformed pension system (continued)****(c) Replacement rate (pension based on last salary)**

Source: Prepared by the authors.

Note: All workers are assumed to be formal at all income levels.

per capita in 2050, which would eradicate poverty in old age. Given the challenges for simulating scenarios, dependent on the political will to provide non-contributory pensions to all elderly adults who are not covered by contributory systems, we assume that these contributory pillars will cover all uninsured citizens, with two criteria for making adjustments.

In the status quo for contributory coverage (Table 5.4), between 40% and 53% of elderly adults will have a contributory pension in 2050. If weighted using the elderly adult population by country, that means between 66 million and 83 million elderly adults will not have a contributory pension. In the baseline scenario, contributory coverage will increase around three percentage points (1.5 in the conservative scenario, and around seven percentage points in the optimistic one).

In some countries with low coverage, the growth could be substantial. In the baseline scenario Bolivia, Honduras, Mexico, Paraguay, Peru, Dominican Republic, and Venezuela boost their contributory

Table 5.3**Percentage of workers contributing to a pension scheme in 2010 and 2050: Status quo and reform scenarios**

Country/ Region	2010 Figures		2050 Projections		
	Percentage of contributors	Status quo	Conservative	Baseline	Optimistic
ARG	51.1%	61.1%	66.2%	71.2%	79.3%
BOL	15.5%	25.5%	30.6%	35.6%	45.8%
BRA	60.9%	70.9%	76.0%	81.1%	85.1%
CHL	69.7%	79.7%	84.7%	87.8%	90.0%
COL	31.5%	41.5%	46.6%	51.6%	61.4%
CRI	70.9%	80.8%	85.5%	88.2%	88.8%
ECU	26.5%	36.5%	41.6%	46.7%	56.8%
SLV	29.5%	39.5%	44.5%	49.6%	59.7%
GTM	18.4%	28.4%	33.5%	38.6%	48.7%
JAM	41.3%	28.6%	55.1%	59.4%	67.3%
HND	18.6%	50.5%	33.7%	38.8%	48.9%
MEX	34.7%	44.7%	49.8%	54.8%	65.0%
NIC	18.8%	28.8%	33.9%	38.9%	49.1%
PAN	52.9%	62.9%	68.0%	72.9%	78.8%
PRY	17.8%	27.8%	32.9%	38.0%	48.1%
PER	17.2%	27.2%	32.3%	37.4%	47.5%
DOM	34.6%	44.6%	49.7%	54.8%	64.9%
URY	70.8%	80.8%	85.8%	88.7%	89.5%
VEN	41.2%	51.2%	56.2%	61.2%	70.3%
LAC-19	44.7%	53.8%	58.4%	63.4%	70.8%

Source: Authors' calculations.

Note: See Box 5.5 for more details.

coverage by between three and 11 percentage points. In countries with broader contributory coverage, like Brazil, Uruguay, and Chile, the improvements will be more modest.

One of the core messages resulting from this simulation is that, to improve contributory coverage substantially, there must be considerable formal job creation. This is the case because expanding contributory coverage demands substantially improving worker contribution densities.

Table 5.4**Percentage of elderly adults 65+ with a contributory pension in 2050: status quo and reform scenarios**

Country/Region	Status quo		Reform					
			Conservative		Baseline		Optimistic	
	Máx	Mín	Máx	Mín	Máx	Mín	Máx	Mín
ARG	59.3%	46.7%	62.1%	48.5%	65.4%	50.2%	66.4%	53.3%
BOL	17.2%	2.9%	19.0%	2.9%	20.8%	2.9%	24.4%	11.9%
BRA	70.1%	56.0%	70.1%	57.8%	70.1%	59.6%	70.1%	61.8%
CHL	74.4%	59.3%	74.4%	60.9%	74.4%	62.2%	74.4%	63.8%
COL	43.5%	22.7%	43.5%	22.7%	43.5%	27.2%	43.5%	32.7%
CRI	74.2%	60.1%	74.2%	61.6%	74.2%	62.8%	74.2%	64.2%
ECU	37.3%	25.2%	40.7%	26.9%	40.7%	28.5%	43.2%	31.9%
SLV	49.9%	27.9%	51.0%	29.6%	51.0%	31.3%	51.0%	34.7%
GUA	25.5%	14.9%	25.5%	14.9%	26.9%	14.9%	30.7%	23.9%
JAM	38.6%	31.3%	41.2%	35.2%	41.2%	35.2%	45.0%	37.8%
HON	31.1%	17.6%	32.1%	19.2%	32.1%	20.8%	37.7%	24.0%
MEX	36.1%	30.7%	39.4%	32.4%	41.8%	34.0%	47.5%	37.3%
NIC	23.8%	18.8%	23.8%	20.5%	31.2%	22.2%	37.1%	25.6%
PAN	59.7%	47.5%	59.7%	49.2%	59.7%	50.9%	65.6%	53.4%
PRY	25.6%	11.5%	28.9%	14.8%	34.8%	21.3%	38.4%	24.7%
PER	19.3%	18.5%	23.8%	20.2%	23.8%	22.0%	31.2%	25.6%
DOM	43.0%	32.6%	55.0%	34.3%	57.7%	36.1%	63.9%	39.5%
URY	79.5%	61.2%	79.5%	64.1%	79.5%	68.9%	79.5%	70.2%
VEN	56.1%	36.0%	57.5%	37.7%	57.5%	39.3%	63.2%	42.4%
LAC-19	52.5%	40.4%	54.1%	41.9%	55.0%	43.8%	57.5%	47.0%

Source: Authors' calculations.

Note: See Box 5.5 for more details.

iii) *The contributory pension level increases.* The proposed citizen pension level is set to 10% GDP per capita, and 4.3% in 2050. This level is lower than the average non-contributory pensions now offered in the region, at 18% of GDP per capita. Venezuela (42%) and Brazil (36%) provide the most generous non-contributory pensions. Mexico (5%), Colombia (6%), and Jamaica (3%) are the least generous. If we assume that in the status quo scenario, the non-contributory

pensions are adjusted for inflation, the pension level would drop to 8% of GDP per capita by 2050. If, as some experiences in the region suggest, the value of the pension is adjusted according to GDP per capita, then the relative value will remain unchanged at an average of 18%.

In comparison to the status quo scenario, the replacement rate for non-contributory pensions are expected to grow an average of three points in the baseline scenario (two points in the conservative scenario, and five points in the optimistic scenario). These differences are the result of two different impacts that go in opposite directions. First, the gains in worker contribution densities stemming from reform subsidies boost the replacement rates. Second, as workers with low densities meet the eligibility criteria to collect a pension, the addition of these individuals with low replacement rates tends to lower the average replacement rate in the economy. Simulations suggest that the first impact is stronger.

It bears noting that the replacement rates in Table 5.5 do not take into account that all workers will receive the non-contributory pillar. This condition entails 20 additional replacement points for workers earning approximately 50% of GDP per capita, and five additional points for workers earning the equivalent of two times GDP per capita.

iv) The fiscal cost of this proposal is limited and seems affordable. Granting a universal anti-poverty pension and promoting pension savings among the low-middle classes are goals that can be considered affordable today and in the future. As shown in Figure 5.2, a universal pillar equal to 10% of GDP per capita costs between 0.5 and 1 point of GDP (except in Argentina and Uruguay, where the cost exceeds 1% of GDP, see Table 5.6). If this pillar is adjusted for inflation, the associated costs remain between 0.5 and 1 point of GDP. The cost of the universal pension stays stable because the effect of the growing adult population is offset by a depreciation of the value of the pension vis-à-vis GDP per capita.

Table 5.6 also shows the fiscal cost of non-contributory pensions in the status quo scenario for 2010 and 2050, adjusted for inflation, as well as adjusted for GDP per capita. Unlike the universal pillar,

Table 5.5
Contributory and non-contributory pension levels

Country/ Region	Non-contributory (as a percentage of GDP per capita)				Contributory (Replacement rate, as a percentage of last salary)			
	<i>statu quo</i>		With citizen pension		<i>Statu quo</i>	Conservative	Baseline	Optimistic
	2010	2050 Inflation	2010	2050 Inflation	2050	2050	2050	2050
ARG	14.4%	6.1%	10%	4.2%	64.4%	69.3%	73.1%	76.6%
BOL	15.0%	6.4%	10%	4.2%	30.2%	30.2%	30.3%	30.7%
BRA	32.6%	13.8%	10%	4.2%	66.6%	71.8%	72.9%	72.9%
CHL	13.6%	5.8%	10%	4.2%	40.6%	42.3%	43.0%	43.1%
COL	5.1%	2.2%	10%	4.2%	53.3%	56.9%	58.7%	65.8%
CRI	20.2%	8.5%	10%	4.2%	64.7%	66.3%	67.1%	67.1%
ECU	11.8%	5.0%	10%	4.2%	55.3%	65.9%	68.3%	71.4%
SLV	16.9%	7.2%	10%	4.2%	46.6%	46.6%	46.6%	46.6%
GTM	19.5%	8.3%	10%	4.2%	53.7%	54.6%	55.6%	56.2%
JAM	3.0%	1.3%	10%	4.2%	62.7%	63.0%	63.3%	65.4%
HND	1.5%	0.6%	10%	4.2%	51.2%	54.4%	54.9%	56.9%
MEX	4.8%	2.0%	10%	4.2%	31.5%	32.2%	33.7%	37.8%
NIC	—	—	10%	4.2%	61.7%	63.4%	65.3%	68.0%
PAN	14.1%	6.0%	10%	4.2%	71.0%	74.4%	76.1%	76.7%
PRY	30.7%	13.0%	10%	4.2%	96.7%	97.6%	100.9%	103.0%
PER	9.3%	3.9%	10%	4.2%	36.1%	37.5%	38.8%	45.9%
DOM	17.2%	7.3%	10%	4.2%	40.0%	40.0%	40.0%	40.0%
URY	27.8%	11.8%	10%	4.2%	51.9%	52.2%	52.5%	52.5%
VEN	40.8%	17.3%	10%	4.2%	83.0%	84.5%	85.8%	89.6%
LAC-19	16.6%	7.0%	10%	4.2%	55.9%	58.1%	59.3%	61.4%

Source: Authors' calculations.

Note: See Box 5.5 for more details.

these pensions would only cover elderly adults without access to a contributory pension. The annual fiscal cost of these contributions was 0.4% of GDP in 2010. The estimated future cost depends on how many formal jobs are created under each of the scenarios. The regional average cost in 2050 would be 0.7% of GDP in the baseline scenario, 0.6% in the conservative scenario, and 0.8% in the optimistic scenario.

Table 5.6
Fiscal cost of the status quo and the reform scenario, 2010 and 2050 (percentage of GDP)

Country/ Region	Status quo cost		Universal pillar		Cost subsidies contributions (baseline)		Total cost (baseline)				
	2010	2050 adjusted for GDP per inflation capita	2010	2050 adjusted for inflation capita	2010	2050	2010	2050 adjusted for inflation capita			
ARG	1.0%	0.6%	1.7%	1.1%	0.7%	1.9%	0.5%	0.8%	1.6%	1.6%	2.8%
BOL	0.6%	0.6%	1.7%	0.5%	0.5%	1.3%	0.3%	1.0%	0.8%	1.5%	2.3%
BRA	1.4%	1.3%	3.6%	0.7%	0.9%	2.3%	0.5%	0.8%	1.2%	1.6%	3.1%
CHL	0.8%	0.5%	1.4%	0.9%	0.9%	2.4%	0.5%	0.7%	1.4%	1.6%	3.1%
COL	0.3%	0.3%	0.7%	0.6%	0.7%	1.7%	0.3%	0.5%	0.9%	1.2%	2.2%
CRI	0.8%	0.7%	1.9%	0.6%	0.8%	2.2%	0.8%	1.1%	1.4%	1.9%	3.3%
ECU	0.6%	0.6%	1.6%	0.6%	0.7%	1.9%	0.5%	0.9%	1.1%	1.6%	2.8%
SLV	1.0%	0.9%	2.3%	0.7%	0.6%	1.6%	0.4%	0.6%	1.1%	1.2%	2.2%
GTM	0.8%	0.6%	1.7%	0.4%	0.4%	1.0%	0.2%	0.6%	0.7%	1.0%	1.6%
JAM	0.4%	0.5%	1.2%	0.4%	0.5%	1.3%	0.4%	1.2%	0.8%	1.7%	2.5%
HND	0.1%	0.1%	0.2%	0.8%	0.8%	2.0%	0.1%	0.2%	0.9%	1.0%	2.3%
MEX	0.3%	0.3%	0.8%	0.6%	0.8%	2.2%	0.2%	0.4%	0.9%	1.2%	2.5%
NIC	—	—	—	0.5%	0.6%	1.5%	0.4%	1.0%	0.9%	1.6%	2.5%
PAN	0.7%	0.5%	1.5%	0.7%	0.7%	1.8%	0.5%	0.7%	1.2%	1.4%	2.5%
PRY	1.5%	1.4%	3.9%	0.5%	0.5%	1.4%	0.4%	0.9%	0.9%	1.4%	2.3%
PER	0.5%	0.5%	1.4%	0.6%	0.6%	1.7%	0.1%	0.3%	0.7%	0.9%	2.0%
DOM	0.8%	0.8%	2.1%	0.6%	0.6%	1.6%	0.3%	0.6%	0.9%	1.2%	2.2%
URY	0.9%	0.4%	1.1%	1.4%	0.8%	2.2%	0.6%	0.8%	2.0%	1.6%	2.9%
VEN	1.9%	1.8%	4.7%	0.6%	0.6%	1.7%	0.3%	0.6%	0.9%	1.2%	2.2%
LAC-19	0.8%	0.7%	1.9%	0.7%	0.7%	1.8%	0.4%	0.7%	1.1%	1.4%	2.5%

Source: Authors' calculations.
 Note: See Box 5.5 for more details.

The individual values comprising these regional averages vary notably across countries, based on current coverage, income distribution, demographic projections, and projections of the economically active population. In countries like Nicaragua, the cost in the optimistic scenario could reach 1.2% of GDP in 2050.

Overall, the fiscal cost of both measures is estimated at 1.1% of GDP in 2010 and 1.4% in 2050, adjusted for the inflation of the non-contributory pension and a baseline scenario of formal employment growth. This cost is in contrast to the 2.5% average if the pension is adjusted by GDP per capita growth.

These simulations suggest that the proposed pension design would indeed provide a basic universal income that eliminates poverty in old age for all of the region's elderly adults. By design, this pension type aims to minimize labor market distortions, and is fiscally sustainable as long as institutional safeguards are established for pensions to be adjusted for inflation. The design also addresses the creation of formal employment necessary to ensure that both coverage and pension levels rise in the future. The budget for this pension design is lower than one percentage point of GDP, compared to what the region is spending on non-contributory pensions at present.

These results could be improved upon if there are measures implemented concurrently to promote stricter oversight and develop enhanced knowledge of the system (which have not been quantified, given the uncertainty surrounding their effect on formal employment). Significant complementarities would also be created, since the subsidy diminishes the potential adverse effects that stricter oversight could cause in terms of destroying formal jobs.

Types of situations and families of instruments

As noted throughout the book, the heterogeneous nature of LAC countries—specifically regarding the characteristics of their pension systems and the state of those systems—is extremely important. And yet, the proposed pension principles described herein can be seen as valid for all of the region's countries. It is the implementation of each

of these families of instruments that must be designed according to the specific challenges of each country, institutional capacity, and social preferences. Any single country may have to deal with one or more of these issues and, therefore, use one or more of the families of instruments.

Although any classification system of policy instrument is, by definition, debatable, LAC countries face a series of situations that stand out in the area of pension reform-related challenges and which call for focusing on different parts of the described proposal.

1. Countries without non-contributory pillars

This book makes three basic recommendations for developing non-contributory pillars:

- Create universal access for all citizens, integrating this pillar into existing formal contributory pillars in order to avoid disincentives to contributing.
- Establish a pension level that eliminates poverty in old age.
- Create an effective institutional framework, within existing institutional arrangements, to ensure that future adjustments to this pillar are sustainable in the long term.

These recommendations are important, to a greater or lesser extent, when considering how developed the non-contributory pillars are in the various countries. In some countries with no non-contributory pillar, based on this chapter's guidelines, it would be advisable to begin by implementing one, especially if contributory coverage is low or very low, and if old-age poverty rates are high.

2. Countries that already have non-contributory pillars

For countries that already have some sort of anti-poverty tool in place, but the tool is not universal or not integrated with contributory systems, their challenge is to expand this tool by gradually integrating it with contributory pillars. The ultimate goal is to create a single social insurance and protection system.

When a country has no clear institutional framework that governs the levels and future adjustments to these pillars, the challenge

is to develop the necessary mechanisms or institutions to guarantee adequate pension levels and clear adjustment rules to ensure future sustainability and independence from the political cycle. The creation of independent (or almost independent) pension and fiscal institutions will be an essential step towards this objective.

3. The challenge to include non-salaried workers

The challenge of covering non-salaried workers merges many of the pension-related challenges seen throughout almost the entire LAC region. When non-salaried workers are not required to contribute to social security, the first step for many countries will be to fully integrate these workers into the social pension system by mandating contributions. Such mandates make complete sense given that said workers constitute a significant portion of the region's workforce and this is where the main pension coverage gaps exist. Making contributions mandatory should be done gradually and be tailored to the contributing capacity of the groups targeted for inclusion. Even though we know this is a necessary step, the region's experience indicates that mandating contributions will not radically change the inclusion of non-salaried workers into pension systems. Therefore, additional measures are needed.

For countries in which non-salaried workers are already required to contribute, but through separate systems, as much as possible should be done to bring said systems into line with existing systems for salaried workers. Aligning these systems will prevent large disparities in the benefits provided to salaried and non-salaried workers through relevant subsidies.

Given that no country in LAC has obtained a non-salaried worker contribution level similar to that of salaried workers, countries must innovate specific mechanisms: ideal reforms should provide greater payment flexibility and will use the various mechanisms deemed effective by behavioral economics to increase savings, such as reminders.

4. Countries with a low percentage of workers contributing and high non-salary related costs

For countries whose contributory systems have not been successful at attracting a high percentage of workers into their pension

systems, and for which non-wage labor costs are high, they should implement subsidies on pension contributions paid by the government, particularly for middle- and low-wage earners. This implementation should be carried out in conjunction with a series of additional measures to tighten oversight of the labor market, as well as initiatives to improve the population's financial literacy. All these economic policy initiatives should fit into an overarching medium-term strategy, that includes evaluations of both the tax and labor systems, with the goal of transferring part of the non-wage labor costs to other types of taxes that create fewer distortions—such as indirect taxes or taxes on natural resources. Special attention should be paid to restrictions that minimum wages and firing costs both place on generating pension savings at the lower end of income distribution.

5. Countries with a low percentage of workers contributing and low non-salary related costs

This situation points to systemic flaws in a country's labor markets that are incapable of creating formal jobs, even when the cost of being formal is relatively low. This condition demands an evaluation of the large bottlenecks that impede the generation of formal employment. Although the nominal costs of formal employment are not excessive, one possibility could be that the *de facto* costs are very high. Other possibilities indicate a lack of confidence that the government can provide its population with adequate social protection systems, as well as a lack of institutional capacity to implement effective social pension policies. Typically, non-salaried workers carry out the lion's share of work in these countries. As such, these challenges and the measures previously described would also be applicable in these cases.

Conclusions

The guidelines presented in this chapter—the principles, design, and families of tools—should be read as a guide to reforms. Two primary ideas form the foundation of this proposal: eliminating poverty

in old age today, and increasing pension savings, especially for the middle class, to secure a certain level of pensions in the future. The two objectives break down into four families of specific economic policy tools:

- First, achieve universal pension coverage through a universal pillar adjusted to eradicate poverty in old age, backed by a strong institutional framework to control current and future fiscal costs.
- Second, gradually integrate non-salaried workers who have been historically excluded from social protection systems, with the same costs and benefits as salaried workers. This integration should provide more flexibility in making payments and foster innovative ways to force savings for groups that are disconnected from social security. However, parallel systems should not be created and any initiatives should avoid giving incentives to reassigning workers to small production units or those with limited productivity.
- Third, promote formal employment growth—i.e. the percentage of workers contributing to social security—through pension contribution subsidies. The purpose is to lower the costs of participating in the formal sector, and boost present and future worker contribution densities, regardless of their occupational category.
- Fourth, consider among other possible actions, all of which are probably necessary to some degree to increase formal employment, namely: review other formality-related costs; enhance oversight systems and the institutional framework; provide contributors with pertinent information about the social security system and benefits; and improve financial and pension literacy for younger generations.

The simulations presented in this chapter make it clear that eliminating poverty in old age in LAC is both possible and affordable. However, the simulations also suggest that significantly expanding contributory pension coverage will require substantial improvements to the way labor markets function. Even if the percentage of contributors increased significantly, it would still take several decades for this desired percentage increase to translate into increased contributory

coverage. Only a resolved, multidimensional effort carried out by the region's governments to increase formal employment will change the state of contributory systems. The next chapter describes the main restrictions and opportunities viewed from a fiscal perspective and, even more importantly, from the political economy.

An aerial photograph of a coastline, showing a mix of green and blue water. A red pushpin is stuck into the water on the right side of the image. The text is centered in the upper half of the image.

**THE POLITICAL ECONOMY
OF THE REFORM:
STRENGTHENING THE
FISCAL AND INSTITUTIONAL
FRAMEWORKS**

6

Summary:

The decision to not reform pension systems does not come free. Even on the contrary, the decision to properly reform the systems could save resources in the medium-term, although this reform will probably require advancing funds for this purpose. This chapter discusses the scope of the resources needed (sufficiency principle); the various funding alternatives (through taxes or other instruments) that meet the needs for efficiency, equity, and stabilization; and the institutions that could facilitate the pension reform process. Taxes on consumption and commodities, in conjunction with a sound institutional framework, emerge as the primary recommendations. Now it is a good time to carry out an ambitious reform, given the economic situation and the region's current young demographic profile. Nonetheless, the political economy is complex, since pension reform is not a high priority for citizens or political parties. Against this backdrop, this chapter addresses the two challenges that strike at the core of societal concerns and the government agenda—and which justify broader support for pension reform—fighting poverty and creating jobs.

Pension reforms targeting coverage expansion, especially those brought into play during the working life of citizens, could improve the fiscal outlook in the medium and long term. This economic benefit may seem counterintuitive, but the reality is that, in the absence of reforms to the region's pension systems, the size of the population left unprotected in old age will grow significantly in Latin America and the Caribbean (LAC). This growth in vulnerable population will lead to mounting social pressures on governments to develop or to expand non-contributory pension programs. As such, failing to reform is not as advantageous as the decision might seem in terms of fiscal savings. A properly designed pension system could promote potential growth, since cutting the rate of informality could drive productivity.

Changing the pension system will not have immediate positive benefits for economic growth. The opposite is probably true in the short term, since it is often necessary to increase public spending (to create new pensions, extend existing pensions, or transfer public funds to pension accounts), or decrease tax revenue (due to deductions for social contributions or other fiscal incentives). Any policy to boost savings and coverage must have a stable and sufficient funding source that minimizes distortions to economic agent decision making (about employment, savings, or investments), and be tailored to the social preferences surrounding poverty and inequality.

This chapter analyzes the financing alternatives for proposals to expand pension coverage in LAC and the institutional frameworks that could promote them. To do so, we must look at the state of the region's public finances from a structural standpoint to define the context in which the necessary fiscal measures will be undertaken to reform pension systems. Additionally, we must identify the available options, based on the estimated necessary resources, and the criteria regarding efficiency (essentially to prevent increasing labor costs for formal employment, which would further impede funding), equity, and stabilization.

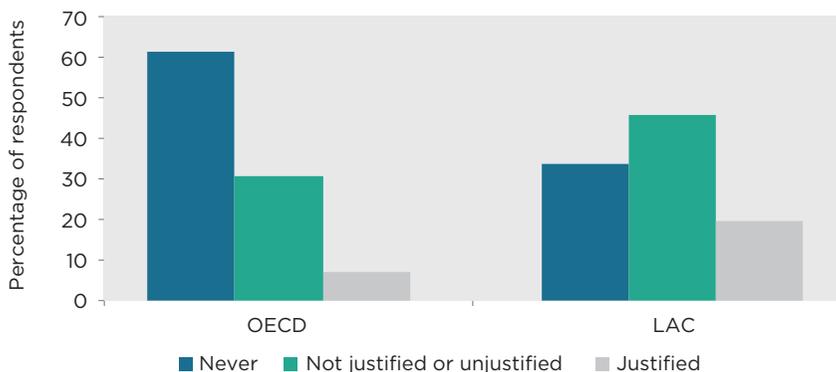
One of the key elements this chapter brings to bear is the importance of the reform's institutional framework and political economy; funding is possible only if backed by sound fiscal institutions (from good data and budgetary frameworks, to good-functioning

rules and fiscal councils). The first step is placing the pension reform issue at the forefront of the social and political agenda, given its potential impact on reducing poverty in old age and creating formal employment for both low-income workers and the emerging middle class. The political economy issue presents an enormous challenge and, therefore, merits discussion here in the opening section of this chapter.

Promoting the political economy of the reform: more than pensions

A key challenge for the region's governments, and particularly within the framework of pension reform options similar to those presented in this book, is building (in some cases restoring) the confidence of citizens. Weak institutions reflect a low tax morale (defined as low willingness to pay taxes) and lackluster social support for ambitious reforms. As shown in Figure 6.1, which is based on the 2009 regional *Latinobarometro* survey and the international *World Value Survey* from the mid-2000s, LAC citizens are nearly three times more likely to justify tax evasion (the figure for LAC is 20%, while OECD countries

Figure 6.1
Tax morale in Latin America and the Caribbean vs. OECD: do you believe tax evasion is justified?



Source: Daude and Melguizo (2010).

come in at 7%). Only 34% of respondents believe that this evasive action is always harmful (compared to 62% in OECD countries).

There is, however, room for optimism. According to Marcel (2008), Latin Americans increasingly value effort as the leading cause of professional success (over contacts and luck). They recognize the benefits of investing in education, and underscore that the government and citizens have a shared responsibility in all these aspects (which could signal a certain willingness to strengthen the social contract). This trend also manifests itself in financial terms, since part of the region's population seems willing to pay more taxes to fund quality public services in health, education, and security (OECD, 2010b, and CAF, 2012).

Against this backdrop, increased pension savings and coverage, and even the aspiration to have broad-reaching universal pension protection to reduce inequalities and eradicate poverty in old age, could help change the current negative perception of the government. This possibility seems to be backed by several recent experiences in the region, in which a compelling idea, like combating poverty or hunger, has generated notable support. The notion of formally linking part of the value added tax (VAT) or natural resources taxes to funding the universal pillar follows this line of thinking: strengthening the perception of the link between paying taxes to receiving benefits, and, eventually, winning the favor of the people.

From a political standpoint, initiating the transformation of the pension system poses a real challenge. The pension issue is not even among the top 30 social or economic priorities of Latin American people, perhaps due to the region's young demographic profile and the political risk any government (or opposition party) must face to undertake a transformative reform. However, two of the aspirations of the citizens in the region, which are intrinsically interconnected with pension reform as presented in the previous chapter, are top priorities: fighting poverty and unemployment. Other important priorities for the region are reversing the economic crisis, and fighting corruption and violence; see Figure 6.2. Given that the two overarching objectives of a pension reform are eradicating poverty in old age and improving incentives to participate and create employment in the formal sector, these citizen priorities

Figure 6.2

Unemployment as a problem in Latin America and the Caribbean, according to citizens (as a percentage of respondents that listed it among their top five priorities)



Source: Author's calculations based on Machado and Vesga (2013).

could be capitalized on to promote reform. It is, therefore, essential to maximize social communication to convince citizens that the target of these changes is not restricted to the elderly population with coverage, but also those without coverage and currently active workers.

Specialized literature on political economics highlights another challenge that characterizes pension reforms: beneficiaries tend to be disperse (young and middle-aged workers, middle and low income, for example) and generally unlikely to participate in the political process, not just in elections but also through other channels (protests; contacting their congresses, local representatives or ministers). Their interest is less than other groups, especially that of the elderly.

As proposed by this book, universal coverage for elderly adults assumes that the political economy could be improved, as coverage schemes clearly define a series of beneficiaries in the short term. In contrast, funding subsidies for worker and firm contributions could garner less support due to the diffuse and indirect nature of some of the benefits (like more formal employment).

Another facet of the challenge posed by the reform's political economy is the actual approval process of the various legislative

institutions. Studies show that in high-income economies, reforms are easier if they have the support of both the acting administration and the main opposition political party (OECD, 2010a). This has not been the case in the LAC region, where the reforms of the 80s and 90s were, in most cases, driven exclusively by the party in power, with no profound social debate and even within non-democratic frameworks. In the second round of changes to the pension system, which began in the middle of the last decade, the processes also varied greatly.¹

The stunted debate and limited social engagement contrast with the fact that the region's citizens strongly support the government being the primary pension provider, including in Chile, where the private sector has managed the system for more than three decades. According to data from the 2010 regional *Latin American Public Opinion Project* (LAPOP) survey, 82% of Chileans believe the government should carry the bulk of the responsibility for providing pensions. Only Paraguay and Uruguay surpass this percentage, where 90% of the population shares this belief. At the other extreme, only 54% of Bolivians, 52% of Hondurans, and 39% of Haitians maintain this position. Based on these findings, we can assert that reforms combining better regulation (of a public or private scheme) with a solidarity pillar could foster both interest and support.

In fact, occasionally, citizens endorse initiatives that do not directly benefit them monetarily. Brazil is a prime example: rural pensions receive the backing of the majority of the population, even among the middle and upper classes, which do not benefit from this measure (Machado and Vesga, 2013). This example indicates that it is possible to garner sufficient financial support for pension reform schemes such as those proposed by this book.

In this political economy, the emerging middle classes could trigger a series of ambitious pension changes, in the same time as the proposed reform (with reduced contributions for middle and low incomes) and recent socio-economic changes in LAC.² This

¹ See a review of the political processes in Argentina and Chile in Rofman, Fajnzylber, and Herrera (2009).

² See analyses from the OECD (2010b) and World Bank (Ferreira et al., 2013; and Moreno, 2011).

middle-class group is rapidly growing throughout the region, along with a certain degree of savings capacity. However, most of the members of this segment tend to be largely informal, even in middle-income countries like Colombia, Mexico, and Peru (Carranza, Melguizo, and Tuesta, 2012).

The demographic and economic windows of opportunity to reform

If technical aspects of the challenges posed by the political economy, as described above, are solved, this can be considered a good time to implement reforms that would boost savings and expand pension coverage in LAC. First, the region is still young, and this demographic reality makes it easier to attain political approval for the reforms and can lower the cost of the reform. Only Argentina, Brazil, Chile, Costa Rica, Cuba, and Uruguay are further along in the demographic transition (the birth rate has fallen to a level similar to the death rate, ergo the population has stabilized; Celade, 2011). This window of opportunity, though, will progressively close as the population ages. As time moves on, reforms will be more pressing and costly. According to predictions made by the Economic Commission for Latin America and the Caribbean (ECLAC), the number of elderly adults in the region will increase from the current 38 million to more than 140 million in 2050, i.e. the elderly population will almost quadruple to account for a fifth of the total population.

Second, the reform of pension systems, particularly due to how reform can improve the functioning of labor markets, is a foundational component of a strategy to drive productivity and potential growth. This is a shared motivation for all economies in the region. According to Inter-American Development Bank (IDB) estimates, if all LAC countries were to undertake adequate reforms, including labor and pension reforms, the region's potential growth could increase two percentage points per year, up to 6% (Powell, 2013). In contrast, if LAC does not make structural reforms, the region will see modest growth rates, as indicated by the limited growth in productivity. Even in the non-pessimistic scenarios for international growth and

increases in commodities prices, LAC will not escape the so-called “middle-income trap.”

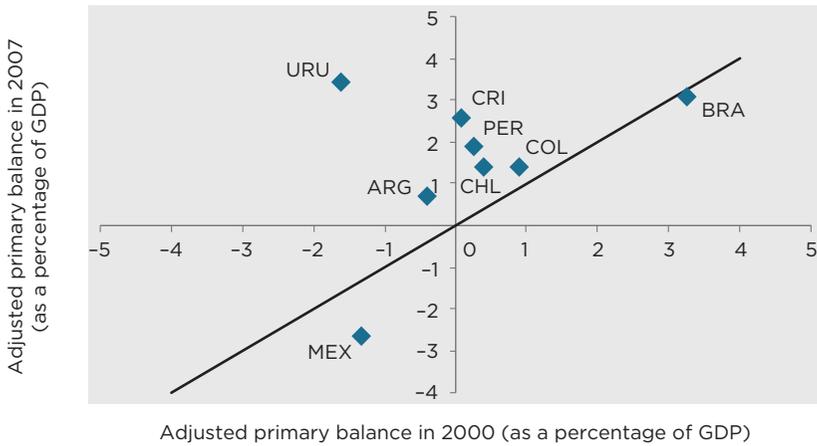
Third, the progress made in terms of macroeconomic management over the last two decades and the resulting good structural fiscal situation in several Latin American countries pave the way for proposing ambitious reforms. For example, increased tax revenue cut the debt and boosted spending on productive investments and anti-poverty programs (see OECD-ECLAC, 2011). As shown in Figure 6.3, between 2000 and 2007, the year prior to the global crisis, improvements were, in part, structural. In other words, improvements made to tax balances were notable, even after taking into consideration the advantages added by the favorable economic environment and windfall revenue generated from high commodities prices.³ This “fiscal space” accumulated during the financial bonanza years has made possible the funding of fiscal stimulus programs similar to those implemented in OECD countries.

Moreover, the spending estimates (between 1.1% and 2.5% of GDP) can be interpreted as a spending ceiling, given that, as can be expected, a better designed pension system will foster formal employment and productivity, which will in turn boost the GDP level. Additional savings needs will be lower given that proposals such as those described in this book would replace existing programs, particularly targeted non-contributory programs and some temporary contribution reductions for youth, women, and workers in small firms. In the latter case, these workers would continue to receive benefits since they are over-represented among middle- and low-income workers. The current average spending on non-contributory pensions in LAC is around 0.4% of GDP per year. Although in some countries, like Bolivia, Brazil, and Chile, this figure is closer to 1%. On average, the additional necessary resources would not exceed 1% of GDP per year in the baseline reform scenario (Figure 6.4).

³ See Vladkova-Hollar and Zettelmeyer (2008), Daude, Melguizo, and Neut (2011), and Corbacho, González, and Ardanaz (2013), and a more nuanced view in Powell (2012).

Figure 6.3

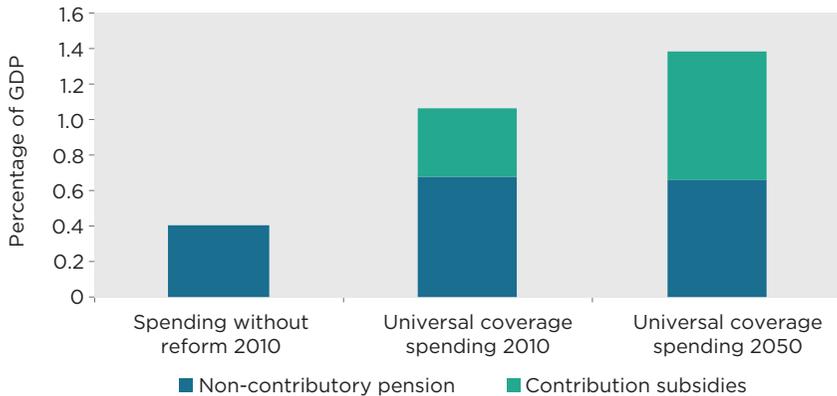
Primary structural fiscal balances in select Latin American economies, 2000 vs. 2007 (as a percentage of GDP)



Source: Daude, Melguizo and Neut (2011), updated.

Figure 6.4

Cost of the pension reform vs. current spending on non-contributory pensions (LAC average)



Source: Authors' calculations.

Therefore, the comparison of the short- and medium-term fiscal effort should incorporate the cost associated with not carrying out the reforms, in light of the expected increase of poverty in old age. As

shown in Chapter 2, without pension reform, the number of citizens over the age of 65 that will be unable to fund an adequate pension will be high: between 66 million and 83 million. This situation will bring enormous social and political pressure to bear on the scope of non-contributory programs.

The described non-contributory programs will most likely significantly increase their burden on the public budget (the current burden is still limited). Depending on the level of benefits granted (whether they are adjusted for inflation, for both inflation and productivity, or even with indexes higher than these), expanding programs to all citizens over the age of 65 who do not save for their pensions could demand up to five times the current budget (see Figure 6.5).

Searching for better financing sources

The fiscal challenge is not simply identifying adequate funding sources to tackle additional spending, but also requires defining a more favorable structure for formal employment, economic growth, and both poverty and inequality reduction.

As noted in Chapter 3, funding social protection systems through labor income only does not seem to be working well in LAC: less than half of the region's workers are contributing to pension systems. This situation creates a serious lack of protection for broad segments of society, particularly workers in the middle- and low-income sectors.

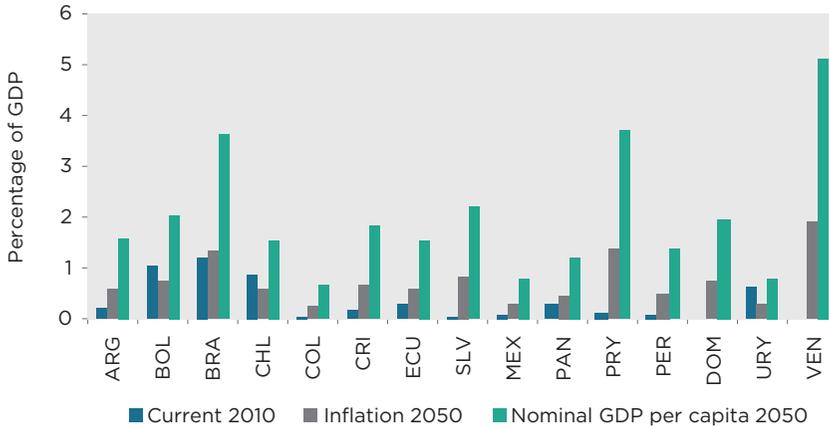
This type of financing has created striking distortions in how the region's labor markets operate and is one explanation for the high levels of informality.⁴ This labor distortion requires evaluating other options, both tax-related and non-tax related, that take into account the starting position of each tax system, the economic effects of each alternative, and the political economy of the reform.

Tax collection in LAC remains below that of OECD countries, despite recent progress (see change since 1990 to date in Figure 6.6). Although the region's economies are highly dissimilar (tax collection

⁴ See Levy (2008), Pagés (2010), and the references cited therein.

Figure 6.5

Spending projections for non-contributory pensions in Latin America and the Caribbean, 2010 and 2050 (alternative adjustments, as a percentage of GDP)

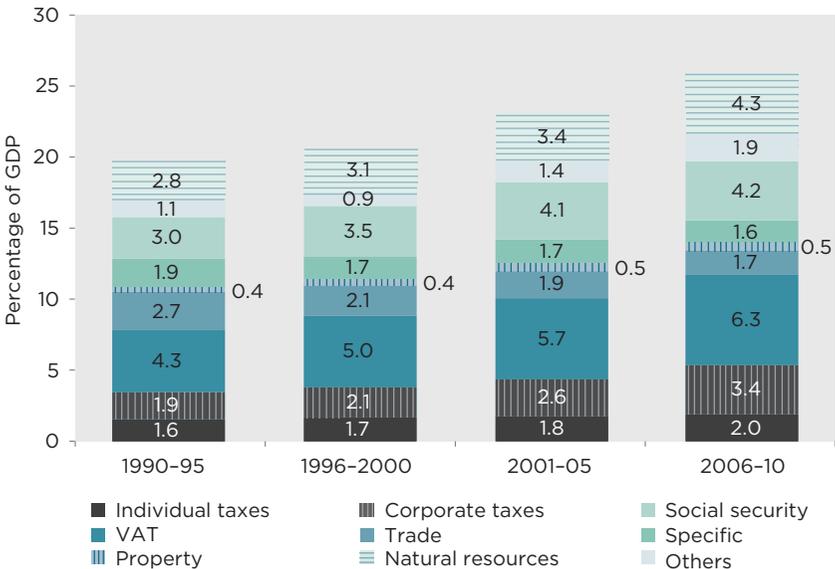


Source: Authors' calculations based on data from HelpAge (2012).

Note: Estimated cost to cover citizens over the age of 65 without a pension in 2050, with a current pension level adjusted for inflation or nominal GDP per capita growth. In Bolivia, it is assumed that the entire population 65+ is covered. In Brazil, rural pensions and the Benefício de prestação continuada are included.

Figure 6.6

Tax burden in Latin America and the Caribbean per type of tax, as a percentage of GDP (based on a simple average)



Source: Corbacho, Fretes, and Lora (2013), based on IDB and CIAT (2012).

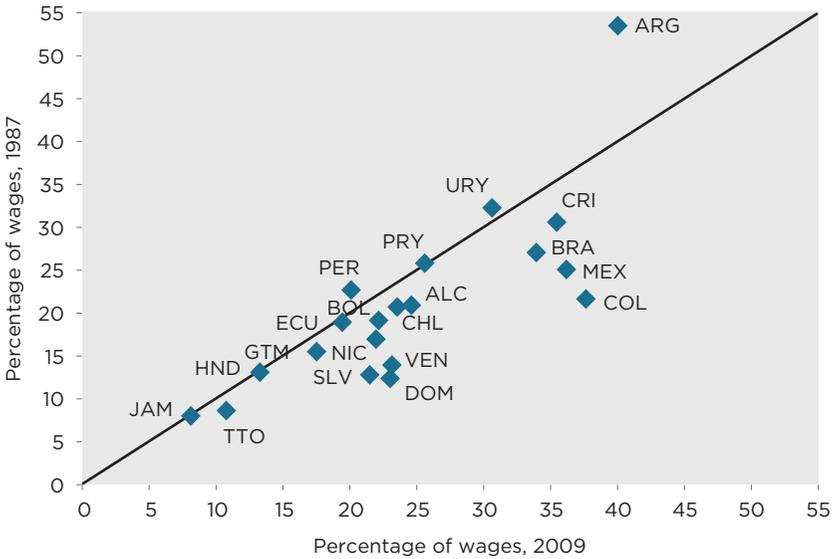
in Argentina, Brazil, and Uruguay in terms of GDP is similar to the OECD average, while in Central America and the Caribbean, tax rates are much lower), the average tax burden is eight points lower than that seen in advanced economies (17.5% vs. 25.4% of GDP, on average, 2006–10; Corbacho, Fretes, and Lora, 2013). This difference is not fully explained by the lower per capita income.

The primary disparity between tax collection in LAC and OECD stems from direct personal taxes. This is due to, among other things, lower revenue from the personal income tax (2% vs. 9% in OECD countries). The income tax base in LAC is much lower for a number of reasons, including the above-noted informality, numerous tax exemptions, and weak tax collection bodies. The difference is even more drastic if social contributions are included, which are lower in LAC, not only for the factors already described, but also because some of the 90s pension system reforms diminished the role of the government in these policies. In contrast, corporate income tax collection in the region was nearly 3.4% of GDP over the last five years. This figure is very close to the developed-country average of 3.9% (OECD-ECLAC, 2011).

Although this direct tax burden (personal income tax, and contributions to pension and healthcare systems) is low, due to design, tax evasion and avoidance, and selective oversight, formal payroll workers bear nearly the entire burden. As seen in Figure 6.7, the tax burden each formal worker must shoulder alone through contributions to health and pension totals an average of 22% of their wages (this figure exceeds 30% in Argentina, Brazil, Colombia, Costa Rica, Mexico, and Uruguay), following widespread increases since the 80s (Corbacho, Fretes, and Lora, 2013). This is in addition to other non-wage labor costs stemming from employment protection, vacations, and firing costs, which add on another 13 percentage points to the burden placed on formal employment. Brazil and Peru stand out in this area, with additional costs tacking on 25 and 32 points, respectively (Pagés, 2010). These data are a call for caution as to how these taxes could potentially undermine incentives. The main margin for generating revenue through personal income taxes, therefore, seems to be by lowering the minimum exemption level (i.e. lowering the income level above which taxes must be paid. The current level is set high compared to international standards). This strategy would also

Figure 6.7

Social contributions and payroll taxes in Latin America and the Caribbean, 1987–2009 (as a percentage of wages)



Source: Lora and Fajardo (2012).

ensure that upper middle-income brackets also contribute (OECD-ECLAC, 2011; Corbacho, Fretes, and Lora, 2013).

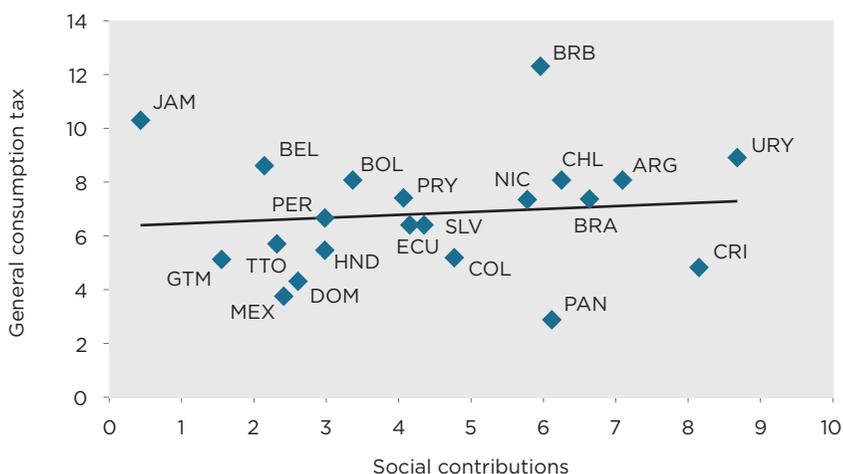
Some alternative funding sources include consumption taxes (on the value added system and on specific products), commodity taxes, and property taxes. The option with the most support as a funding source for social protection systems is probably the consumption tax.⁵ In fact, these taxes in LAC already make up a large portion of tax revenue, with levels barely lower than those in OECD countries (6.3% vs. 6.6% of GDP). Nonetheless, there are significant differences among countries: Panama with 2.9%, Mexico with 3.8%, Colombia with 5.3%, as well as in most Central American economies (see Figure 6.8).

The so-called “personalized value added tax (VAT)” is an option to increase revenue collected from this tax. This VAT adjustment would

⁵ See Levy (2008), and Antón Sarabia, Hernández, and Levy (2012), for the case on Mexico.

Figure 6.8

Consumption taxes and mandatory contributions to health and pensions in Latin America and the Caribbean, 2010 (as a percentage of GDP)



Source: IDB and CIAT (2012).

Note: The data on social contributions includes all mandatory contributions to public and private pension and health systems.

eliminate the numerous deductions and other tax expenditures included in this tax throughout the region and would compensate the poorest deciles through direct cash transfers (Barreix, Bes, and Roca, 2010 and 2012). According to analyses on Chile, Colombia, Costa Rica, Ecuador, El Salvador, the Dominican Republic, and Uruguay, this measure, combined with slight modifications to rates in some cases, would raise between one and two points of GDP to fund the pension reform. Furthermore, this approach would do away with a regressive element and increase transparency within the public budget.

The specialized literature asserts that the decision to replace social contributions with consumption taxes could positively impact the level of formal employment and competitiveness of the economy. According to Bird and Smart (2011), the tax base for the VAT is broader than that of social contributions, because this instrument taxes corporate profits. The VAT raises the same revenue as social contributions, but at a lower legal tax rate. Further, the VAT also reduces inefficiencies created by the tax system. According to the authors, this higher revenue generating potential could offset some of the incentives for

informality created by the VAT (see Emran and Stiglitz, 2005). Bird and Smart's model, which takes into account the existence of an informal sector of the economy, shows that a neutral tax reform in terms of tax collection—which entails raising the VAT and lowering both worker and firm contributions—would open up the possibility of expanding the size of the formal economy (and employment). Such an approach could also potentially raise real wages.

These results, still lacking empirical evaluation, emerge from two channels: reducing the hiring costs for firms (which could, in turn, push the VAT higher), and the fact that contributions are not adjustable of the border, while the VAT on exported products is reimbursed.⁶ Australia, Denmark, and New Zealand chose this option decades ago. More recently, several European economies (Germany, Spain, and France) followed suit in response to the economic crisis, by temporarily lowering social contributions—in some cases—for groups with limited employability.

Depending on the legal framework, this measure could be expanded by linking part of the revenue raised through VAT to the funding of the pension system (specifically, the universal pension and contribution subsidies, in keeping with the proposal in Chapter 5). This action would offset the regressive nature of this tax, strengthen the relationship between paying taxes and the use of these revenues, and promote a more responsible management of these resources (by limiting the scope of the benefits to available tax revenues).

A second source of funding comes from the fact that several of the countries in the region (most notably, Argentina, Bolivia, Brazil, Chile, Ecuador, Mexico, Peru, and Venezuela) are net commodity exporters. A portion of these revenues (taxable and non-taxable) could be set as an additional resource to fund pension reforms. LAC currently draws almost 2% of GDP from taxes on natural resources, double the figure in the 90s (see Figure 6.6).

In addition to the standards of economic efficiency and adequate collection is the issue of inter-generational equity. This case of equity is relevant, given how sustained high prices since 2000 have generated

⁶ See the seminal study by McLure (1981), as well as the OECD (2007) and González-Páramo and Melguizo (2013) for a quantitative review of literature.

windfall revenues that should be distributed among present and future generations. However, both in the case of the VAT (Hemming, 2013) and, particularly, commodity-related revenues, cyclical considerations must be built in, since consumption and prices are very volatile. For taxes on non-renewable natural resources, the resource depletion timeline must be taken into account. This depletion factor will require specific rules and institutions to oversee this task.

Lastly, another potential source of tax revenue for the region is property taxes (real estate, vehicles, land), which generate limited revenue (barely 0.5% of GDP). However, this option does not come without challenges: while a property-based tax should stem from a scheme of general tax reform, its nature and how it is managed by local entities make property taxes difficult to use to fund a national policy like expanding pension coverage.

Promoting the political economy and ensuring sustainability: rules and institutions

Pension reform requires an effective and efficient government, which itself requires strengthened institutional frameworks to design, implement, and finance pension policies. This general recommendation can materialize in different ways, depending on each country: from better statistics (taxes and pensions), evaluation mechanisms, and methods for calculating multi-annual budgets, to fiscal rules that formally and regularly incorporate contingent pension liabilities. In the future, the region could aspire to establish independent fiscal councils, which would evaluate the medium-term public finances outlook, based on both explicit and implicit commitments. The remainder of this chapter will focus on developing these proposals.

First and foremost, the subject of pensions requires more and better information. Actuarial data and studies on the state and outlook of the region's pension systems are essential to evaluate whether these systems can actually prevent poverty in old age and can maintain the standard of living post-retirement. These analyses must be all-encompassing (i.e. based on private sector schemes for workers, and schemes for central and regional government civil servants). The

resulting data must be communicated to the general public simply, transparently, credibly, publicly, and on a regular basis. Barbados is a good example of this data availability in the region—its National Insurance Scheme is legally bound to perform an actuarial review and present the report to the Parliament. In the 90s, this regulation allowed the government to prepare for the bulk of the challenges that characterize public pay-as-you-go systems. Barbados created a sub-committee of government, union, private firm, and academic representatives who publically proposed reform options. Some of the proposals called for increasing contributions, raising both contributions and the retirement age, or cutting benefits. After submitting the options to public consultation, the government chose the one with most social backing.

Projections must also explicitly integrate uncertainty surrounding economic, demographic, and even political developments. This integrated approach is the only way to overcome the skepticism with which many public policymakers and the population in general view long-term government pension spending estimates. In the United States, the Congressional Budget Office performs these analyses, which include the various scenarios and probabilities stemming from each option, based on prior experience in terms of mortality rate, immigration, wage growth, return on investment, among other variables (Congressional Budget Office, 2001). Given the scarce availability of historical data available in the region, an alternative would be to create various scenarios: demographic (particularly due to migratory flows), macroeconomic (productivity and employment), and institutional (coverage rate and pension level), as proposed by Doménech and Melguizo (2008) for Spain.

Second, pension-spending policy decisions should take into account a multi-annual budget framework, in light of their medium- and long-term impacts. Budgets could, therefore, quantitatively (within a tax framework or rule) or qualitatively integrate public spending projections for pensions and their funding alternatives. A practice that positively reflects the marriage between tax frameworks and pension commitments is the European Commission's Ageing Working Group. This team, comprised of European Commission officials and European Union member state representatives, builds every three

year long-term projection of public spending on pensions, health-care, welfare, unemployment, and education. This projection is used to evaluate public deficit targets as part of the Stability and Growth Pact (European Commission, 2012).

The LAC region has a sound starting point, since many economies already have fiscal frameworks and rules in place (Argentina, Brazil, Colombia, Costa Rica, Ecuador, Jamaica, Mexico, Panama, Peru, and Venezuela).⁷ For commodity-exporting countries, implementation could include pension-spending projections as part of the tax regulation, in conjunction with a fund established to accumulate revenue from VAT and non-renewable resources. In fact, Chile, Ecuador, Mexico, and Venezuela already have both institutions (regulations and a reserve fund), while Colombia and Peru only have a tax regulation (Villafuerte, López-Murphy, and Ossowski, 2010).

To ensure enforcement of funding principles, any change to pension system regulations could require a large majority of Congressional approval (i.e. if the government wants to amend the adjustment criteria for non-contributory pensions). The measure could have a broader application, given the need to create a new source of tax revenue, even increasing the applicable VAT rate or eliminating some or all of existing spending. This rule could be implemented through a stabilization fund (based on the applicable VAT or commodity taxes), which would also address cyclical economic variations.⁸ Any wind-fall revenue generated during the good times would be saved to offset periods of GDP and consumption slowdown, when tax revenues fall.

Third, the experiences of some OECD countries reveal the advantages of having independent tax institutions that create projections and calculate the impact (on the fiscal balance and the economy) of pension reform alternatives.⁹ These institutions can use the European Commission approach using evaluations of public spending associated with aging (pensions, healthcare, welfare, unemployment, and education) as a benchmark. If LAC institutions are more ambitious, they can look to the fiscal councils of the Netherlands or Sweden or

⁷ See IMF (2009) and Berganza (2012) for a review of the region's tax rules.

⁸ See Hemming (2013) for the case on Mexico.

⁹ See Debrun, Hauner, and Kumar (2009) and Hagemann (2010) for further review.

the abovementioned U.S. Congressional Budget Office. The latter was established three decades ago; the office is independent of the current administration and has nearly 250 employees managing an annual budget close to \$50 million. This office does not make recommendations, but analyzes policies to inform budget and economy decisions. It also develops revenue and spending projections, particularly for healthcare and pensions in the medium term (10 years) and the long term (75 years). For all these reasons, it is considered the most successful international example and model to follow (Curristine, Harris, and Seiwal, 2013).

Inside LAC, the Chilean Pension Advisory Council, established in 2009 to assess the Solidarity Pension System, is deemed a step in the right direction. This council is made up of five members with demonstrated leadership in the pension arena. It advises the Ministry of Labor and Social Security and the Ministry of Finance on issues pertaining to the Solidarity Pension System (including methods, standards, and general parameters that affect the benefits that are granted and the review of the same) and analyzes its impact on the labor market, savings incentives, and fiscal effects. These evaluations and reports are all in the public domain. The initiative does not entail overturning policies, which remains under the purview of the relevant ministries. The council does, however, provide a more technical institutional framework that is not as anchored to the political cycle.

Fourth, and lastly, an existing institution, or one created for this purpose, should be charged with evaluating and analyzing the entire pension system and how this system interacts with other policies (like healthcare and unemployment). Far too often, non-contributory pensions are designed in isolation from related areas or without cross-checking the databases for contributory pension beneficiaries. This body should also study alternative funding sources and the scope of revenue and public spending.

Conclusion

A basic requisite for any pension reform to expand coverage is fiscal sustainability. The projected advances in pension savings and coverage

stemming from the proposed reforms in this book will pave the way for reducing poverty and inequality. These reforms could surpass the estimated savings in the no-reform scenario (especially if countries fall into the “slippery slope” of non-contributory pensions). The reform, however, will demand additional public spending in the short term and, probably, in the medium term as well. As such, it is imperative that any reform go hand in hand with an analysis of concrete, feasible options for funding and its institutional framework.

Based on the revenue levels collected from primary tax sources in the region, this chapter argues that funding design for pension reform must include the various economic impacts—as regards efficiency (particularly that of the labor market), equity, and stability—of the different types of taxes. A key recommendation would be to reduce the large quantity of taxes levied on formal employment or, at least, not create new ones, given their negative effect on formality. To this end, we propose studying alternative funding sources, such as consumption and commodity taxes.

The complex political economy that characterizes fiscal and pension policies is particularly challenging in LAC: reforms must incorporate measures that bolster fiscal frameworks, which should preserve fiscal sustainability and the possibility for macroeconomic stabilization. However, changes to pension systems should also address social demands (poverty, education, and infrastructure) and lay the groundwork for heading off aging-related social spending pressures. Doing so could help restore citizen confidence in the government, which is presently rather low in most LAC countries.

This chapter recognizes that starting this reform process is not easy. The region’s population is relatively young, which explains why pensions are not a primary concern among citizens. The opinion of political parties also comes into play. Both the party in power and the opposition often view pension reform as a particularly risky political initiative. An option would be to clearly convey how pension reform could reduce poverty and expand formality among low-income workers and the middle classes. A positive move would be to create reform commissions, composed of nationally and internationally recognized members, thereby bringing together public contributions from government institutions, the private sector, and

academia. Probably the best practice in the region is the aforementioned Presidential Advisory Council for the Pension Reform in Chile. The 15 independent experts on the council held working sessions with academics, corporate sector representatives, workers' organizations, and international organizations. The fruit of these meetings was a report (Presidential Advisory Council for Pension Reform, 2006), which served as the foundation for the reform approved in 2008. The experience in Barbados also demonstrates how this method could be extended to other countries in the region.

If the region's countries are able to overcome these political challenges, they will see that this is the time to undertake pension reforms, precisely because the demographic profile is young, the emerging middle class is a driver of change, advances have been made over the last decade in macroeconomic management, and the economic environment is favorable in most of the region. Furthermore, these types of reforms could trigger potential economic growth throughout the region. This positive outlook must be leveraged, as the window of opportunity is closing and reforms will be evermore pressing and costly.

An aerial photograph of a coastline, showing the transition from dark blue ocean to lighter turquoise water and then to a sandy beach. A red pushpin is stuck into the sand in the bottom right corner. The text 'METHODOLOGICAL ANNEX' is centered in white, uppercase letters.

METHODOLOGICAL ANNEX

This section includes a brief methodological review of the assumptions used to calculate the estimates based on household surveys that appear in this book.

The surveys used for the estimates are shown in Table A1. These surveys cover the whole national territory of the countries studied, except in Argentina, where it includes 31 urban areas and does not cover rural areas.

Two types of coverage of social security indicators are presented: first, coverage among workers and, second, coverage of the elderly. Regarding the pension coverage of the working population (contributors out of total employed), the indicator was based on the population between 15 and 64 years old, considering the following limitations:

- i. Formality status: for most countries in our sample the formality condition is determined attending to whether the worker is contributing or not to a pension system, except in Bolivia and Dominican Republic, where surveys only inquire about affiliation and not current contributions.
- ii. Scope: some surveys inquire about all workers and others only about salaried workers (Argentina, Ecuador, Peru, Dominican Republic, and Venezuela).
- iii. In most surveys, the question about contributions covers both the main and the secondary activities, although in some countries only the main activity is taken into account (Ecuador, El Salvador, Nicaragua, and Peru).

These features make the indicators not fully comparable across countries, although this is the best approximation available so far.

Regarding pension coverage, the indicator was based on population aged 65 years and older, and the construction of this variable considered the following:

- i. The person is covered if he or she receives pension or retirement income.
- ii. Most countries only refer to national contributory system coverage, but some also inquire about non-contributory scheme coverage (Argentina, Bolivia, Chile, Costa Rica, Ecuador, and Mexico). In most countries both types of coverage can be identified, but in the case of Argentina the survey data does not provide information to distinguish the type of scheme that funds the benefit.

For comparison variables (gender, labor income deciles, firm size, type of occupation), we used the same methodology as in Rofman and Oliveri (2011).

For the names of the countries, we used the standard ISO 3166-1 alpha-3 code presented in Table A2.

Finally, throughout this book, when averages of Latin America and the Caribbean (LAC) are presented, these correspond to country population-weighted averages.

Table A1
Data sources used in the book

Country	Year	Round	Name of Survey	Implementing Agency
ARG	2010	II Sem.	Encuesta Permanente de Hogares - Continua (EPHC)	INDEC
BOL	2009	Nov-Dec	Encuesta de Hogares (EH)	INE
BRA	2011	Sept	Pesquisa Nacional por Amostra de Domicilio (PNAD)	IBGE
CHL	2011	Nov-Dec	Encuesta CASEN (CASEN)	MIDEPLAN
COL	2010	III Trim.	Gran Encuesta Integrada de Hogares (GEIH)DANE	
CRI	2010	Jul	Encuesta de Hogares de Propósitos Múltiples (ENAHO)	DGEC
DOM	2010	Oct	Encuesta Nacional de Fuerza de Trabajo (ENFT)	BCRD
ECU	2010	Dec	Encuesta Periódica de Empleo, Desempleo y Subempleo (ENEMDU)	INEC
GTM	2010	Annual	Encuesta Nacional de Empleo e Ingresos (ENEI)	INE
HND	2010	May	Encuesta Permanente de Hogares de Propósitos Múltiples (EPHPM)	DGEC
JAM	2012	Oct	Labour Force Survey (LFS)	STATIN – PIOJ
MEX	2010	Aug-Nov	Encuesta Nacional sobre Ingresos y Gastos de los Hogares (ENIGH)	INEGI
NIC	2010	III Trim.	Encuesta Continua de Hogares (ECH)	INEC
PAN	2010	Aug	Encuesta Hogares (EH)	DEC
PER	2010	Annual	Encuesta Nacional de Hogares (ENAHO)	INEI
PRY	2010	Oct-Dec	Encuesta Permanente de Hogares (EPH)	DGEEC
SLV	2010	Annual	Encuesta de Hogares de Propósitos Múltiples (EHPM)	DGEC
URY	2010	Annual	Encuesta Continua de Hogares (ECH)	INE
VEN	2010	II Sem.	Encuesta de Hogares por Muestreo (EHM)	INE

Source: Prepared by the authors based on household surveys in the region's countries.

Table A2
Standard codes for country names

Country	Code ISO 3166-1 alpha-3
Argentina	ARG
Bahamas	BHS
Barbados	BRB
Belize	BLZ
Bolivia	BOL
Brazil	BRA
Chile	CHL
Colombia	COL
Costa Rica	CRI
Dominican Republic	DOM
Ecuador	ECU
El Salvador	SLV
Guatemala	GTM
Guyana	GUY
Honduras	HND
Jamaica	JAM
Mexico	MEX
Nicaragua	NIC
Panama	PAN
Paraguay	PRY
Peru	PER
Trinidad and Tobago	TTO
Uruguay	URY
Venezuela	VEN

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Expanding the coverage of pension systems is the most important challenge we face in building social protection systems in Latin America today. This book addresses this challenge by exploring the relationships between social security, the labor market and the production system. The volume contains not only a detailed analysis of the current situation in the region in this regard, but concrete proposals on how to better respond to current challenges according to the realities of each country. This is a fundamental publication for academics, public policy makers, and all those who aspire to make social protection a reality in the region.

Mario Marcel
Assistant Director of Governance
and Territorial Development
of the Organisation for Economic
Co-operation and Development
(OECD).

After decades of frustration with low coverage rates, the shift away from payroll tax based health and pension provision is under way around the

world. "Better Pensions Better Jobs" lays out a bold proposal for Latin America that raises the key policy questions to be considered in the global paradigm shift to a post-Bismarckian world.

Robert Palacios
Pensions Team Leader
in the Social Protection Department
of the World Bank

The detailed analysis presented in this book constitutes the foundation for its proposals and policy recommendations. These are based on policies that have been conducted in the region, are specific and realistic, and prioritize instruments and achievable goals above ideal systems or "theoretical" models to implement from ground zero. With its eminently practical perspective, this book is an important contribution to policies aiming to achieve universal coverage of care for the elderly in Latin America and the Caribbean.

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