

# CHAPTER

## Social Protection and Labour Informality in the Middle Sectors

# TWO

### ABSTRACT

Coverage of social-protection schemes in Latin America remains low, at well below 50% of workers. This can be explained by the dual structure of labour markets in the region: labour informality remains high, and the majority of informal workers contribute irregularly, if at all. The number of informal workers among Latin America's middle sectors is high. Social-protection systems fail to reach even half of middle-sector workers, leaving many of them without adequate employment protection and access to social safety nets. This situation represents a pressing challenge for public policy, since low levels of affiliation and irregular contribution histories put people at a high risk of significant downward social mobility when they get sick, lose their job, or retire. Three key features of Latin America's economic situation must guide a pragmatic social-protection reform: high levels of labour informality, a still relatively young population, and limited fiscal resources. To aid decision makers in the design of appropriate policies, this chapter assesses alternative pension reforms including *ex post* policies (i.e. after retirement, such as social pensions), and *ex ante* policies (i.e. during working life, especially matching defined contributions).

A relatively secure steady job is almost a defining characteristic of middle sectors in the developing world.<sup>1</sup> This has profound implications for well-being, since regular pay has benefits that go beyond the monthly cheque. People with regular pay are likely to have better access to credit, for example, and most social-protection systems, be they for unemployment benefits, health care or pensions, are contributory. They are the middle sectors, in steady employment, who are most likely to pay into these schemes – and most likely to be able to draw on them when needed.

Yet labour informality remains high in Latin America and the Caribbean. This interacts with contributory social-protection systems to create a vicious cycle, in which the mass of informal workers weaken those systems by contributing irregularly if at all and yet fail to secure themselves support when they need it.

Existing contributory social-protection schemes are often aimed at formal workers; the middle sector may be badly served by these.

These two worlds – middle-sector workers and the informal market – are not mutually exclusive. The existence of middle-sector households who are also informal should be of immediate concern for public policy since poor coverage and irregular contribution histories put this group at a high risk of downward social mobility. Even short-term shocks, such as a temporary lay-off or a period of illness, can permanently move them back into poverty in the absence of public support.

In this chapter, therefore, we look at how social protection works in practice for the Latin American middle sectors, and examine some of the policy responses this implies. We approach this from a global perspective, and focus on unemployment benefits, health insurance and old-age pensions as the main elements of social protection. The analysis looks in detail at how the pension system interacts with labour informality, drawing on micro data for Bolivia, Brazil, Chile and Mexico over the decade to the mid-2000s.

An immediate result of this analysis is confirmation that labour formality (defined as those working with a contract) is limited, even among the middle sectors and the affluent. Correspondingly, pension coverage rates are low – from a maximum of just 60% in Chile to as little as 9.5% of the labour force in Bolivia. Coverage by sector is similarly low – falling from around 75% of formal workers to less than 7% among self-employed workers in agriculture. Against this background, we look at how social pensions and schemes with matching defined contributions – already implemented in some countries in the region – might help improve coverage.

## SETTING THE FRAMEWORK

The World Bank's 1994 report *Averting the Old Age Crisis: Policies to Protect the Old and to Promote Growth* set the agenda for structural pension reform in the world. Given rapid demographic transition, the weakening of informal protection networks, and both present and future financial burdens, they recommended a multi-pillar pension system. A key element was the introduction of mandatory individual capital accounts, managed by the private sector. Latin America became – by far – the most ambitious adopter of this reform agenda: Chile had already led the way in 1981 and was followed by Peru in 1993, Colombia in 1994, Argentina in 1994 (though reformed again 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.<sup>2</sup>

As well as improvements to their fiscal position, these “structural pension reformers” sought to secure macroeconomic benefits including higher productivity, higher domestic savings and investment, and a boost to the development of their domestic capital and financial markets.<sup>3</sup> They were also expected to enjoy positive labour-market effects. Individual pension systems – because of the clearer link in members’ minds between the contributions they make and the benefits secured – should provide better incentives than traditional defined-benefit pay-as-you-go schemes (such as operate in OECD countries). In turn this should lead to a higher structural employment rate, higher labour supply, and lower levels of informality.<sup>4</sup>

Latin America was in the vanguard of the last wave of pension reform. Its labour market benefits remain unproven.

In practice evidence on these labour impacts remains controversial. The taxes needed to support the unreformed pension schemes may not have had as great an impact on employment as was supposed.<sup>5</sup> And, even allowing for the relatively short period of time since the reforms were adopted (around 15 years on average, with lengthy transitional rules), the incentives to join the formal sector and pay contributions to the new system have proved weaker than expected. In fact, only Chile among the reformers – and to a lesser extent Brazil, a non-reformer – seem to be bucking the regional trend. Some studies have been able to conclude that in Chile the pension reform has led to a significant increase in formal employment, and reduction in unemployment.<sup>6</sup> In Brazil, informal employment remains above 40% but has decreased steadily since 2003 with accelerating net annual generation of formal employment.<sup>7</sup>

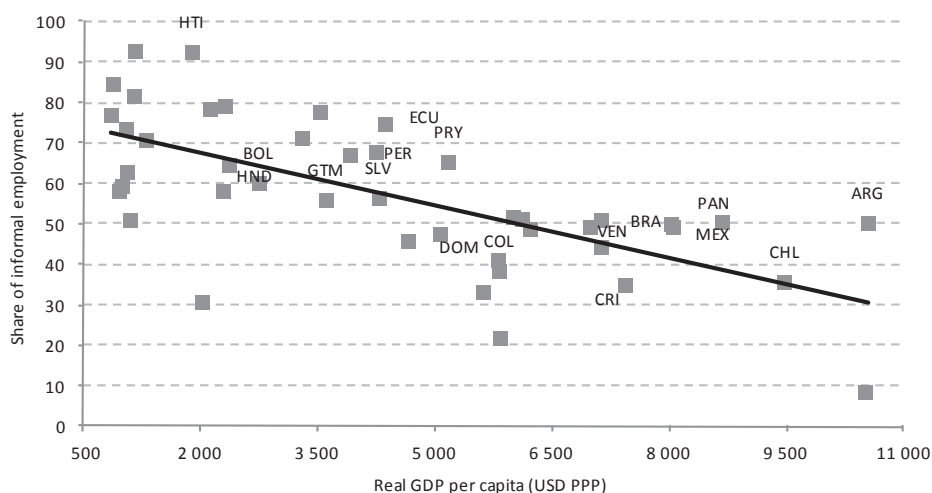
Short-sightedness or lack of information on the part of workers, the interaction with labour and social legislation, rational decisions based on volatile returns or high start-up fees, and social preferences for anti-poverty (rather than savings) programmes all contribute to explain low overall coverage rates in the region.<sup>8</sup> This leads us to conclude that social-protection policies need to be designed in conjunction with a framework of appropriate social, labour and macroeconomic institutions. Pension systems – and social protection in general – should adopt a pragmatic “political economy of the possible” approach.<sup>9</sup> This means responding to three key social and institutional features in Latin American: high labour informality, a relatively young (although rapidly ageing) population, and limited fiscal resources.

Informality, the demographic shift and scarce public resources are all particularly important to social protection policy in the region.

The 2009 edition of the *Latin American Economic Outlook* (OECD, 2008) looked at the difficulties in measuring or defining informality in the region.<sup>10</sup> Informal employment is believed to account for more than 50% of total non-agricultural employment in Latin America, with the proportion ranging from around three-quarters in Ecuador and Peru, to a little over one-third in Colombia and Chile. The extent of informality in a country is in part inversely linked with per capita income, but – as Figure 2.1 shows – this measure does not explain everything. Informality in Argentina and Ecuador, for instance, is nearly 20 percentage points higher than per capita income in those countries would imply.

**Figure 2.1. Informal employment and real GDP per capita**

(percentage of informal employment in total non-agricultural employment in emerging countries, mid-2000s)



Source: Jütting and de Laiglesia (2009).

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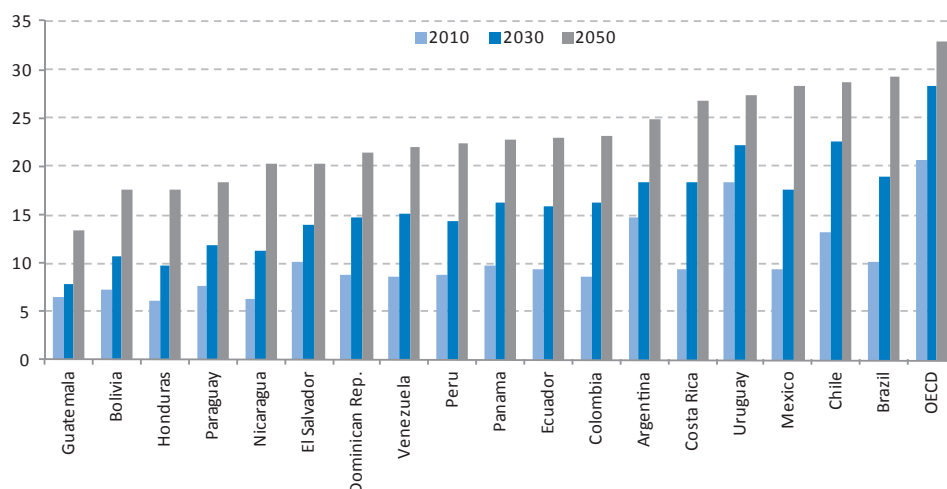
Not all informal workers are poor and unproductive (nor do they all work outside the formal economy). Nor should they all be seen as victims of exclusion from the formal sector since some of the informality observed reflects a voluntary exit rather than exclusion.<sup>11</sup> Even so, many informal workers lack adequate employment protection and access to social safety nets.

The second key influence on pension policy is the “demographic bonus”. According to the latest projections by the United Nations, Latin America is in the second stage of its demographic transition. During this the ratio of dependants (defined as people under 15 or 60 and over) to working-age population is relatively low – particularly compared with the OECD average.<sup>12</sup> As a whole the region will enjoy this demographic bonus for the next two decades; slightly less in Chile, but 50 years and more in Guatemala and Bolivia (see Figure 2.2 for the old-age component of dependency).

The bulge in potential workers implied by this one-off demographic shift presents a unique opportunity to extend social-protection schemes, as long as these new workers can be led to join the schemes as affiliates and – more importantly – as contributors. Moreover, the simultaneous relative ageing of the population should proportionately reduce demand for early-life expenditure, such as primary education, freeing public resources for other areas.

The third – and unsurprising – factor is the availability of funds. Public resources are scarce in Latin America. As will be discussed in Chapter 4 (and extensively analysed in OECD, 2008), this shortage can principally be laid at the door of low tax-collection rates, particularly in the case of personal income taxes – rates are low by international standards even controlling for differences in per capita income. The resulting lack of resources restricts the public sector’s ability to take effective (and in many cases efficient) measures such as extending universal health care, or permitting wider access to minimum pensions.

The demographic “bonus”, and the potential contributors it brings, represents a unique opportunity to extend social-protection schemes.

**Figure 2.2. Old-age dependency ratio in Latin America and the OECD**

Note: Ratio of population over 60 to population aged 15-59 years.

Source: United Nations (2009).

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## INFORMALITY IN THE MIDDLE SECTORS

Attempts to explain the limited coverage of Latin America's social-protection schemes often blame the duality of its labour markets. Indeed, some authors equate formal employment with job-linked pension entitlements.<sup>13</sup> More broadly, informality is often used to refer somewhat loosely to activities that are carried out outside of the legal or regulatory framework.

Such a generic term in fact spans a number of very different realities, from the outright illegal such as drug trafficking or smuggling, to very common exchanges which nonetheless take place outside formal and contractual environments, such as mutual help among neighbours. A job is informal when "the employment relationship ... is not subject to national labour legislation, income taxation, social protection or entitlement to certain employment benefits" (ILO, 2003); in other words, when a labour relationship is neither observed nor protected by the government. It follows that informal employment includes not only many forms of self-employment, but also employment in informal enterprises (themselves usually excluded from labour inspection and social protection requirements), together with unregistered employment in formal enterprises or households.<sup>14</sup> Informal employment is therefore very heterogeneous and cannot be considered merely a form of underemployment.<sup>15</sup>

A substantial and growing body of evidence calls into question the view that informal workers are shut out of the formal sector as the sole result of a segmented labour market (the "exclusion" view).<sup>16</sup> In particular, the finding that mobility between formal and informal employment is relatively large in both directions suggests that at least part of the population in informal work chooses to be outside the regulated economy (the "exit" view).

Informality in Latin America is very varied, and represents much more than merely a form of underemployment.

Informality may be voluntary as well as involuntary. It may be best thought of as two-tiered, and policy should reflect this distinction.

This suggests that it is better to think of informal employment as two-tiered.<sup>17</sup> The lower tier includes occupations traditionally associated with informality: the majority of own-account workers whose firms do not offer growth prospects, and informal employees who are queuing for formal jobs. The upper tier comprises workers that are relatively better off, including informal sector employers and entrepreneurs with accumulated productive capital<sup>18</sup> and certain forms of false self-employment.<sup>19</sup> There are transition costs in moving from one tier to the other.

Acknowledging these tiers – and distinguishing between exit and exclusion – should be part of the design of policies that aim to increase the coverage of social protection. The distribution of earnings between formal and informal workers is similar and therefore there are workers in the upper tier who choose to opt out of the formal economy and its social-protection networks, but who could nonetheless afford the necessary contributions. On the other hand, most workers in the lower tier cannot afford to opt into social protection as independent workers and are not offered the possibility of providing payroll-linked contributions. There is unlikely to be a “one-size-fits-all” policy that will cover both of these situations, and the same conclusion can be expected to apply to pension policies for these two (admittedly stylised) groups.

### Informality and work status

For the purposes of analysis, we define formal employment as that which is subject to a written contract or a document that certifies social protection entitlement through employee status (such as the Brazilian *carteira de trabalho*). Using the existence of a labour contract to determine formality facilitates comparability since it echoes a form of regulation that is common to the countries of Latin America – the obligation to formalise and register an employment relationship.<sup>20</sup>

An alternative would have been to count workers covered by social-protection schemes. This is less comparable between countries, and also suffers from potential indeterminacies as a result of the unbundling of social benefits. Cover against health problems, occupational hazards, old age, maternity or unemployment may be provided separately, and coverage for different workers may differ across these dimensions, making them formal in one but informal in others. This is particularly true of pension coverage – one of the main outcomes we seek to analyse.

Formality defined, the task is then to subdivide informal employment in a way which reveals different labour-market and social-insurance behaviours within it.

To understand the motivations, incentives and behaviour of workers in different circumstances, it is necessary to look at the employment relationship and worker status within the set of informal workers.

In many countries in the region, self-employed workers are not obliged to register or contribute to social-security or pension systems. The first group is therefore self-employed workers all of whom we consider as informal, or at least not formal.<sup>21</sup> This group is subdivided according to the sector in which they work (agricultural or non-agricultural) and their level of education (in order to identify self-employed professionals). Informal employees make up the balance, and this group is similarly split into its agricultural and non-agricultural components. All in all, this leads us to define six categories: formal workers, self-employed with completed tertiary education, non-agricultural informal employees, non-agricultural self-employed, agricultural informal employees, and agricultural self-employed. Motivations, incomes and applicable labour legislation differ across all these categories. Armed with this more nuanced – but still practical – framework, the problems posed by informality for social protection can be better analysed.

Figure 2.3 shows the composition of each of the disadvantaged, middle sectors and affluent groups in terms of these six categories, using data from the latest available national household surveys. The four panels cover Bolivia, Brazil, Chile and Mexico.<sup>22</sup> This sample represents a good mix of country-specific and regional considerations. It covers the range of informality levels in the region (from the relatively low level in Chile, to the high in Bolivia) and the main forms of pension scheme (from the public pay-as-you-go system in Brazil to private ones based on individual capital accounts).

Our definition of middle sectors is the 50-150 one chosen in Chapter 1 – those with income between 50% and 150% of the household-adjusted median income. The disadvantaged and affluent are those below and above this range respectively. The middle sectors account for nearly 50% of the workforce, while the disadvantaged account for about 20% and the affluent 30%. (A notable exception to this pattern is Bolivia where the proportion is closer to one-third for each segment).

In general – and unsurprisingly – the size of the formal workforce rises with income. Nevertheless, two important facets of informality in the middle sectors are revealed. First, the absolute number of middle-sector informal workers is high. In fact, other than in Bolivia, middle sectors are the income groups to which the greatest number of informal workers belong. Second, their proportion is high too: there are more informal than formal workers among the middle sectors in all countries but Chile.

Digging deeper, the composition of the informal workforce across income groups varies, reflecting the heterogeneity of informal work. The starkest example is Bolivia, where the majority of the working disadvantaged are in self-employed agricultural occupations at subsistence levels of returns.

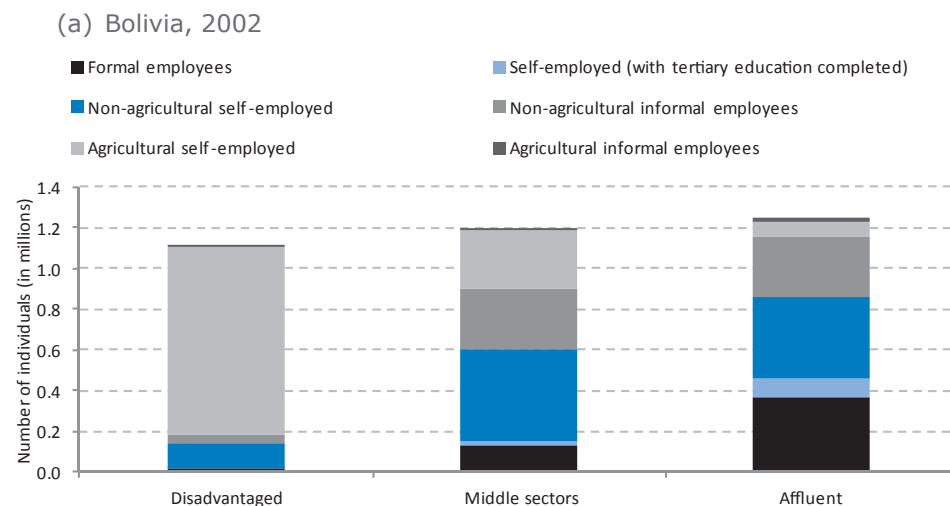
The self-employed show up in all income groups across countries, reflecting a diversity not captured by our six occupational categories. Educated self-employed individuals are mostly found among the affluent, indicating their higher earning potential, except somewhat surprisingly in Brazil.

Those informal workers who are in an employment relationship are usually thought of as a particularly disadvantaged group, seen as excluded from social protection not by their own choice but by their employer (even if in practice it is often a joint decision).<sup>23</sup> The fact that there are informal employees even in the affluent group suggests that social-security provisions in labour law may in practice have only limited enforceability.

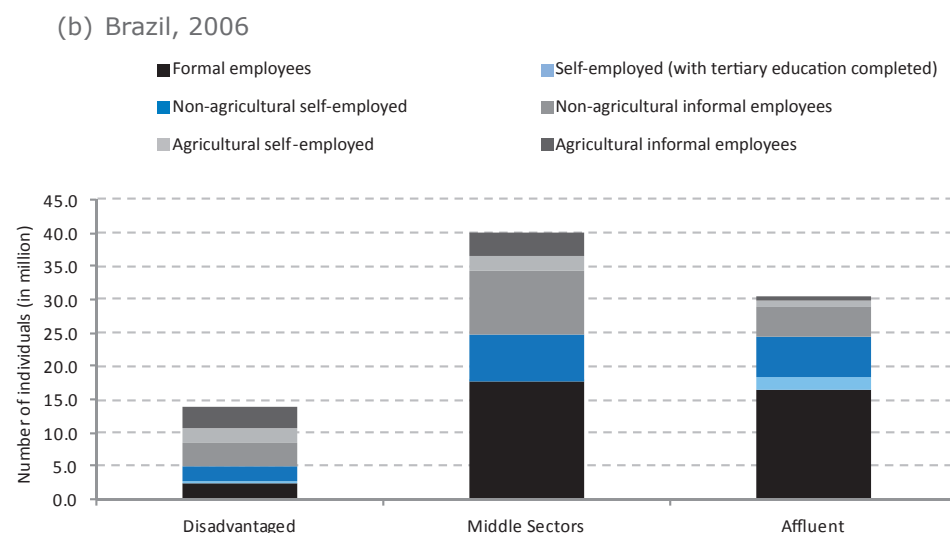
All in all, in the four Latin American countries considered 44 million of the total 72 million middle-sector workers are informal. Labour informality is therefore very much a middle-sector issue. It remains a prime factor behind their relatively low pension coverage – and a leading indicator of potential poverty for many of today's middle-sector households.

Informality falls with income; but absolute numbers are still high. The majority of the middle sector is informal in Bolivia, Brazil and Mexico.

Over 60% of middle-sector workers are informal – a leading indicator of potential poverty for many in the region.

**Figure 2.3. Workers by employment category and income group**

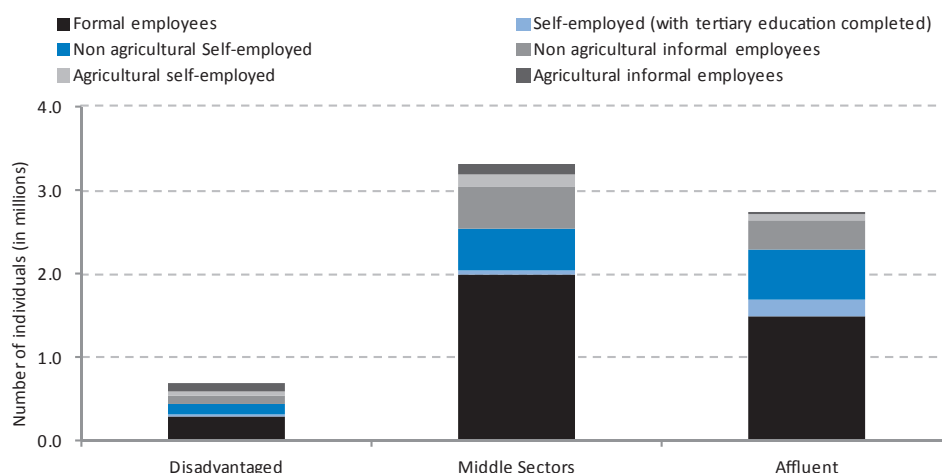
Source: Based on *Encuesta Continua de Hogares- Condiciones de Vida* 2002.



Source: Based on *Pesquisa Nacional por Amostra de Domicílios* 2006.

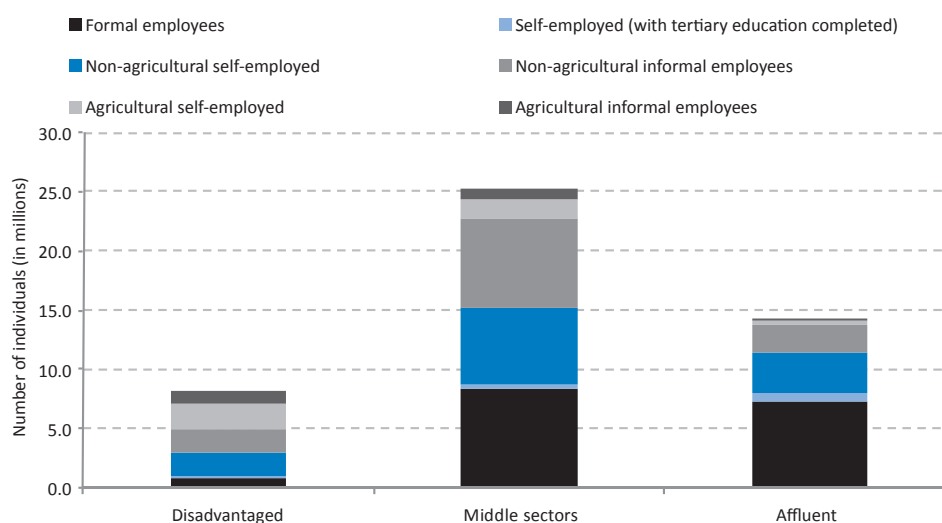


(c) Chile, 2006



Source: Based on *Encuesta de Caracterización Socioeconómica Nacional* 2006.

(d) Mexico, 2006



Source: Based on *Encuesta Nacional de Ingresos y Gastos de los Hogares* 2006.

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## PENSIONS FOR ALL THE MIDDLE SECTORS – FORMAL AND INFORMAL

Defining pension coverage is not as straightforward as it seems. The most direct measure is affiliation<sup>24</sup> rates (the number of members of the pension system divided by a measure of the potential universe of members, be it working-age population, economically active population or employed workers). However, this point measure does nothing to capture the main outcomes of the system, such as the savings a member can expect to have accumulated at retirement or expected total years of contributions. The optimal definition is probably the

ratio of the total months of contributions over the total months affiliated to the pension system. An intermediate one, used in this chapter because of data availability, is the ratio of contributors to workers.

It is important that any measure be dynamic. Workers tend to shuttle frequently in and out of the labour force, between work and unemployment, and between formal and informal jobs (see Box 2.1). A cross-sectional analysis of the data may therefore be misleading. Proper analysis should instead seek to evaluate coverage from a life-cycle perspective, taking into account the effect of demographic change. It should also take into account the different contribution patterns revealed in the microdata, since there is significant variation across income levels, work status and gender.

If coverage rates are below 60% then many, if not most, current workers are failing to secure enough for their old age.

Broadly speaking, an individual needs to be contributing for at least 60% of their working life to get an adequate pension. Over a stylised 40-year labour career this corresponds to 24 years of contributions, although in practice the timing of pension gaps and the worker's wage profile matter as well. As a first approximation then, where a country's overall coverage rates are below 60% it is likely that many if not most current workers are failing to accumulate enough to cover their retirement.

### Box 2.1. There and back again: mobility between formal and informal employment in Mexico

Recent evidence from Latin American countries suggests that there is high mobility between formal and informal work. Using data from the first two waves of the Mexican Family Life Survey, changes in status between 2002 and 2005 can be examined for different categories of workers. Overall mobility for men and women is high and the probability of remaining in any particular employment sector is relatively low – the highest value is 63% for self-employed males (Table 2.1).

**Table 2.1. Mobility between formal and informal work in Mexico**  
(percentage of individuals aged 20 to 60, 2002-05)

Men				
2002	2005			
	Informal salaried	Formal salaried	Self-employed	Not working
Informal salaried	46.7	22.3	20.0	10.9
Formal salaried	18.9	61.8	9.6	9.7
Self-employed	18.6	9.7	62.9	8.9
Not working	15.1	23.6	20.4	41.0
<b>Total</b>	<b>25.5</b>	<b>34.1</b>	<b>26.4</b>	<b>13.9</b>

Women				
2002	2005			
	Informal salaried	Formal salaried	Self-employed	Not working
Informal salaried	36.3	14.3	8.4	41.1
Formal salaried	14.3	55.3	7.1	23.3
Self-employed	10.6	2.3	44.5	42.7
Not working	5.6	4.5	7.4	82.5
<b>Total</b>	<b>10.2</b>	<b>11.6</b>	<b>11.9</b>	<b>66.4</b>

Source: Mexican Family Life Survey, first and second waves (2002, 2005). Reproduced from Jütting and de Laiglesia (2009).

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International comparisons of mobility are complicated by differences in methods and data. Bosch and Maloney (2005 and 2010) used mobility-intensity matrices (the continuous-time equivalent of the transition matrices in the table) to compare Argentina, Brazil and Mexico. They found Mexico to have the highest level of mobility, followed by Brazil and then Argentina. Mobility is certainly higher when large economic shifts are underway, such as in the transition countries during the late 1990s (Pages and Stampini, 2007).

Moreover, the rate of movement from formal to informal work is comparable to movement in the opposite direction. This impression derived from these simple transition matrices is confirmed when controlling for the effects of different rates of job separation and job creation across sectors (Bosch and Maloney, 2010).

This evidence on labour dynamics in Latin America has two key implications for labour-market and social-protection policy. First, at least part of the informal workforce – especially among the self-employed – is not rationed out of formal salaried jobs. Instruments to integrate them into health and pension systems will therefore need to consider their incentives and the ability of the state to harness their saving capacity and demand for social insurance. Second, a number of individuals transit from informality to formality and back. This may be evidence of effective allocation of labour if demands are similar, but creates a challenge in ensuring coverage particularly in pensions which typically have lengthy eligibility periods.

## Who is covered and who is not?

Despite the reforms we discussed earlier, pension coverage rates in Latin America have remained low – below 30% on average. This is low enough to suggest major funding issues in future decades.

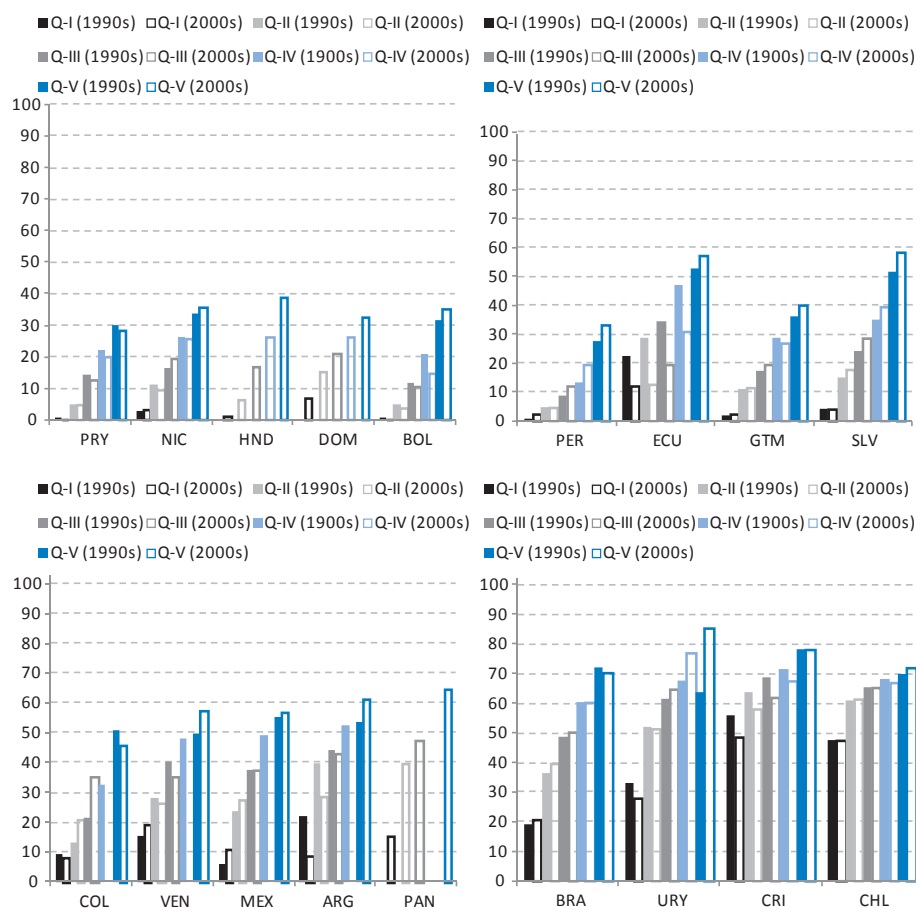
Among a sample of 18 countries from the region, coverage of the labour force is positively correlated with income level (Figure 2.4).<sup>25</sup> Within these four sub-groups can be distinguished:

- Paraguay, Nicaragua, Honduras, Dominican Republic and Bolivia where the coverage ranges from a maximum of 40% for the highest quintiles to values close to zero for the lowest ones. In Bolivia from the 1990s to 2000s the gap actually widened, coverage increasing for the highest quintile, while falling for the fourth quintile.
- Peru, Ecuador, Guatemala and El Salvador, where coverage peaks at around 60% for the highest quintiles while lower quintiles have values ranging from below 5% to 20%. Except in Ecuador, this group sees significant variation in coverage between quintiles. This is particularly notable in Guatemala, where the difference in coverage of the first and the fifth quintiles is around 60%.
- Colombia, Venezuela, Mexico, Argentina and Panama have similar overall coverage rates (from 5% to 60%), but lower dispersion between income levels.
- Brazil, Uruguay, Costa Rica and Chile show the highest coverage rates for all income levels, with the highest quintiles reaching 80% (Uruguay), and even the lowest above 20% (Brazil).

Coverage rates in Latin America remain well below the critical level, with huge variations across income groups and countries.

**Figure 2.4. Pension coverage rate by income quintiles in Latin America**

(percentage covered out of the economically active population over 20 years old)



*Note:* Since available years are not identical across countries, the data presented in figures in this section represent the closest available years to 1995 and 2006.

Years used are : Argentina 1995-2006; Bolivia 1999-2005; Brazil 1995-2006; Chile 1996-2006; Colombia 1996-2006; Costa Rica 1995-2006; Dominican Rep. 2006; Ecuador 1995-2006; Guatemala 1998-2000; Honduras 2006; Mexico 1998-2006; Nicaragua 1998-2005; Panama 2004; Paraguay 1999-2006; Peru 1999-2006; El Salvador 1995-2005; Uruguay 1995-2006; Venezuela 1995-2006.

Source: Rofman et al. (2008).

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The middle sector is particularly poorly covered, and there is no sign of an improving trend.

Perhaps surprisingly, coverage is particularly low in the middle three quintiles. This group can be taken as an approximation to our middle sectors. Rates for these workers in the first group of countries are around 15% in the 2000s (ranging from 10% in Bolivia to 20% in Dominican Republic). Coverage is a little over 20% in all countries in the second group other than Peru where it is only around 10%. In the third group, coverage is around 40% (ranging from 41% in Argentina and Panama to around 35% in Colombia). Coverage is higher in the fourth group at above 50% on average for all countries included – though this still falls short of the 60% minimum coverage identified earlier as necessary. Extending the analysis back in time finds no clear or reassuring pattern: between the 1990s and 2000s, coverage of these middle quintiles increased in about half of the countries of the region, but decreased in the other half.

## Focus on the formal and informal middle sectors

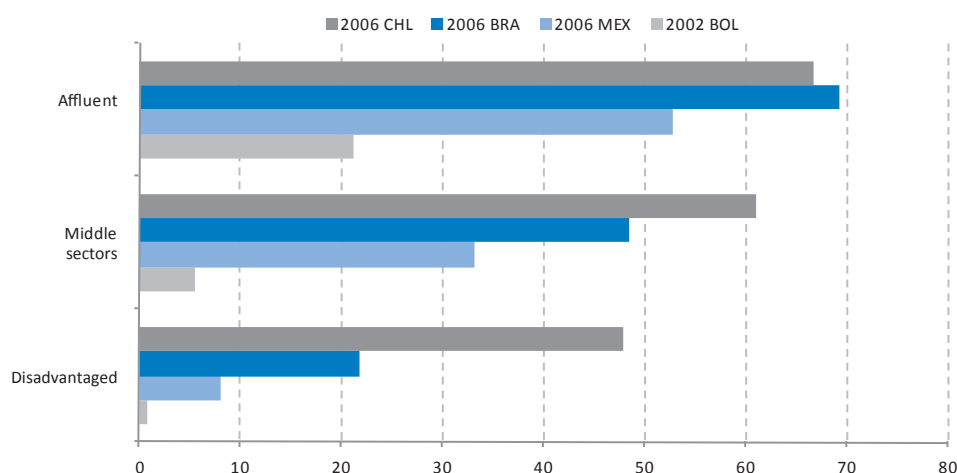
Given the extent and persistence of informality in the region's middle sectors, no analysis of their coverage rates would be complete without an examination of this dimension. The data are drawn from household surveys in Bolivia, Brazil, Chile and Mexico, from the mid-1990s to 2006.<sup>26</sup> As noted above, these four countries cover both different levels of informality and a range of approaches to pension provision.

We define an individual as “covered” according to their answers to questions in the relevant household survey regarding contributions to or enrolment in a public or private pension scheme.<sup>27</sup> The universe is the working population, taken here as those individuals aged 14 to 64 years, a span which adequately captures a typical labour career. We assign respondents to the middle sectors (or the disadvantaged or the affluent) according to our 50-150 definition.

Coverage rates unsurprisingly increase with income, though the extent to which this extends up the income distribution is noticeable (Figure 2.5). Although lack of coverage for the disadvantaged is the usual focus of analysis and comment, it is apparent that this is also a middle-sector problem. The difference in coverage between the middle sectors and the affluent is never lower than around 6 percentage points (in Chile) and rises to around 20 points in Brazil and Mexico. The consequence is that many people currently in the middle sectors are very likely fall into poverty in old age. There were no significant changes in the coverage of these workers of those four countries during the period studied (1996-2006; see Tables 2.A1 to 2.A4 in the annex).

The difference in coverage level between the middle sectors and the affluent is never less than 6 percentage points and can be as high as 20 points.

**Figure 2.5. Pension coverage rate by income level**  
(percentage of workers covered)



Note: For Mexico and Bolivia the data cover enrolment, whereas for Chile and Brazil they capture contributors.

Source: Based on national household surveys.

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Another feature of middle-sector coverage is the extent to which “unexpected” combinations occur: formal workers who are not covered, and informal workers who are (Table 2.2). Bolivia has the highest percentage of informal middle-sector individuals among the covered (27.2%), and Chile the lowest (10.1%).

**Table 2.2. Coverage rate and formality, by level of income**  
(percentage of workers covered)

	Disadvantaged		Middle sectors		Affluent	
	Formal	Informal	Formal	Informal	Formal	Informal
Bolivia	40.7	59.3	72.8	27.2	80.4	19.6
Brazil	83.2	16.8	88.8	11.2	78.0	22.0
Chile	87.9	12.0	89.8	10.1	79.7	20.2
Mexico	68.3	31.7	78.2	21.1	84.2	15.8

Source: Based on national household surveys.

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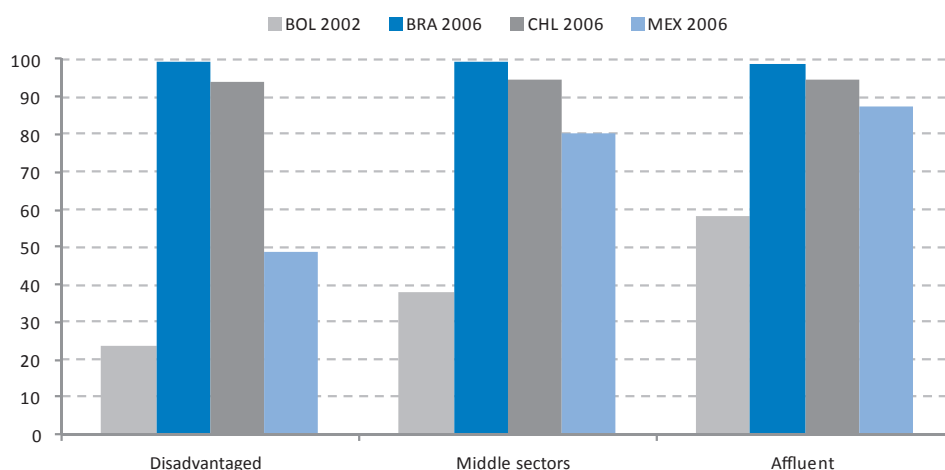
“Unexpected” combinations such as formal workers without coverage or informal workers who contribute are surprisingly common.

The issues arising from informality therefore extend even to individuals who in principle would be considered “protected”. This highlights the importance of considering mobility between formality and informality during an individual’s working life. Workers who make such transitions risk falling into poverty in old age since they will not have contributed sufficiently. How bad is this problem?

Pension coverage among formal employees is high (Figure 2.6) – above 80%, except in Bolivia and among the disadvantaged in Mexico (where coverage drops dramatically at low incomes, although these cases are not numerous). Despite differences across income groups and certain heterogeneity across countries, pension coverage among formal employees, at all income levels, is broadly adequate in three of the four countries analysed when measured against our 60% coverage threshold.

**Figure 2.6. Pension coverage rate of formal workers by income level**

(percentage of workers covered)



Source: Based on national household surveys.

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All three income groups (disadvantaged, middle sectors and affluent) have similar coverage levels in Brazil and Chile; in Mexico, middle-sectors coverage is similar to the coverage of the affluent, although coverage for the disadvantaged

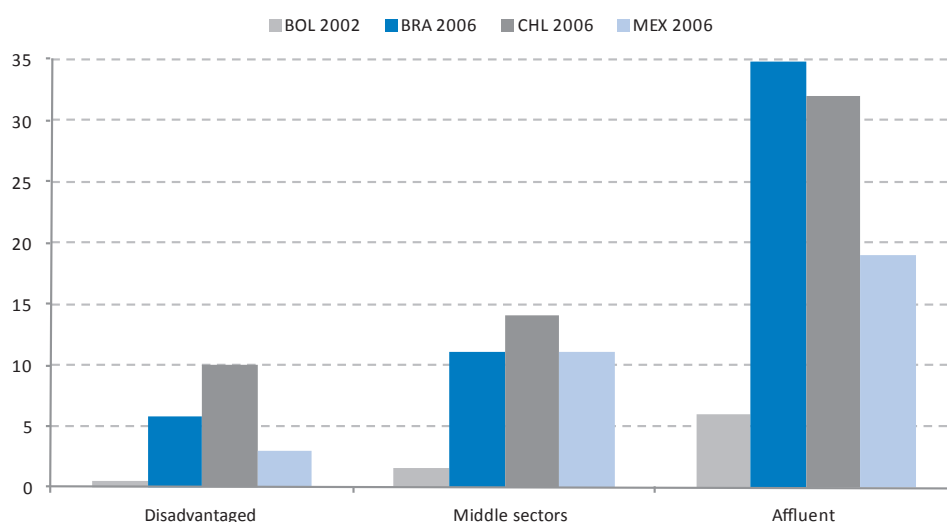
is lower. The picture is more worrying in Bolivia. Coverage there rises with income level – itself evidence of inequality among formal workers – but absolute levels remain low. Even formal employees in the affluent income group barely reach the 60% standard.

This generally adequate coverage of formal workers means that the persistent shortfall in coverage in the region is concentrated among the self-employed and informal employees. Coverage rates of informal workers are very low, and strongly linked to income level in all four countries (Figure 2.7). The informal middle sectors in Chile secure the highest level of coverage (14%), followed by Brazil and Mexico (11%) and Bolivia (2%). These coverage levels put the informal middle sectors closer to the disadvantaged than the affluent.

Coverage among the informal middle sector is very low, never exceeding 14%. In this, the middle sector is closer to the disadvantaged than the affluent.

**Figure 2.7. Pension coverage rate of informal workers by income level**

(percentage of workers covered)



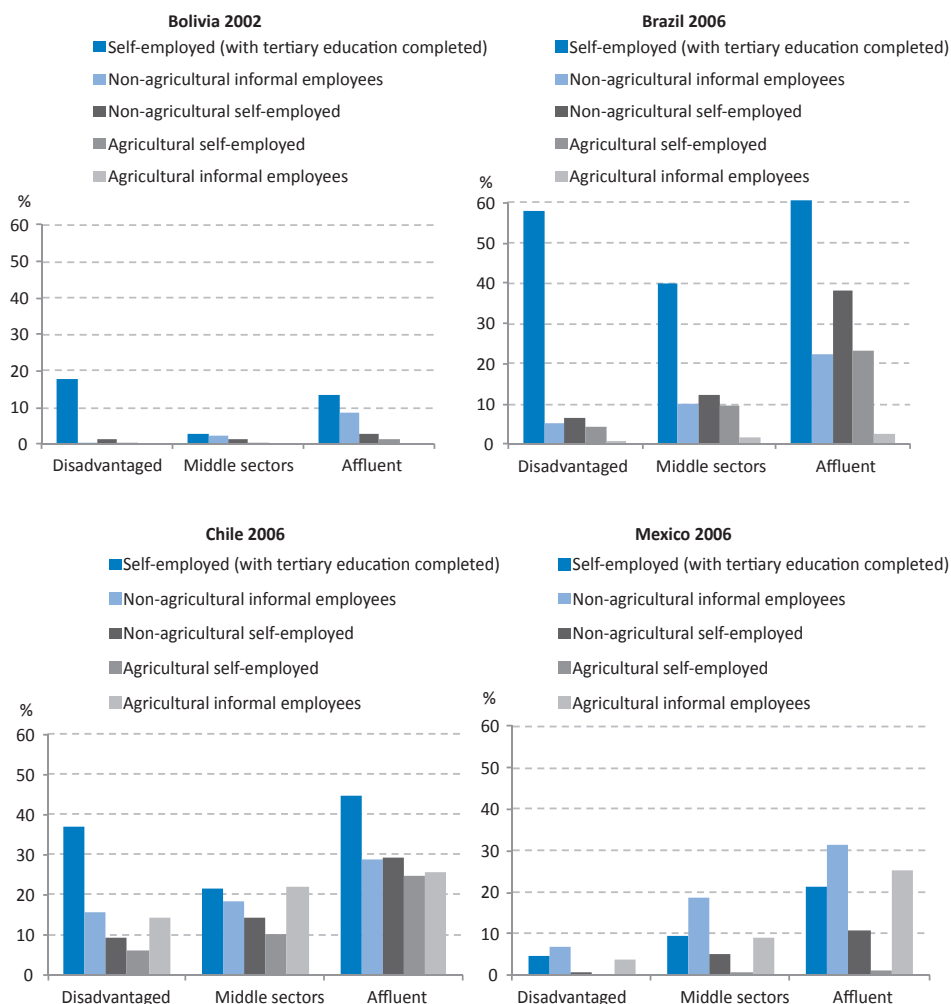
Note: Informal workers are composed of all self-employed (agricultural and non-agricultural) and all informal employees (agricultural and non-agricultural).

Source: Based on national household surveys.

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Among the informal group, pension coverage is highest for professionals (self-employed with tertiary education) in all countries other than Mexico (Figure 2.8). There – surprisingly – coverage of professionals is lower than that of non-agricultural informal employees.<sup>28</sup> Coverage rates for professionals are U-shaped (with the exception again of Mexico), being lower for the middle sectors than the income groups either side. This contrasts with the rest of the self-employed where coverage in all countries rises with income level.

**Figure 2.8. Pension coverage rate of informal workers by occupational group and income level**  
(percentage covered)



Source: Based on national household surveys.

StatLink <http://dx.doi.org/10.1787/888932338364>

Compulsion for the self-employed in Brazil raises average contribution rates but has not succeeded in breaking the link with income.

Brazil is noteworthy because compulsory affiliation there extends to self-employed workers – it is voluntary in Bolivia and Mexico, and will be in Chile until 2012. Coverage as a result is indeed relatively high. However compulsion has not succeeded in breaking the link with income: the level of coverage of the less-educated self-employed is low, and coverage rises markedly from one income group to the next (from 12% for the middle sectors to 38% for the affluent). This points both to the limited effect of compulsion on the one hand and, probably, to low and irregular savings among middle-sector independent workers on the other. It certainly suggests that legal compulsion by itself is not enough to secure extended coverage.

Finally, coverage among informal employees is higher than coverage among the self-employed (except for the self-employed with tertiary education completed).



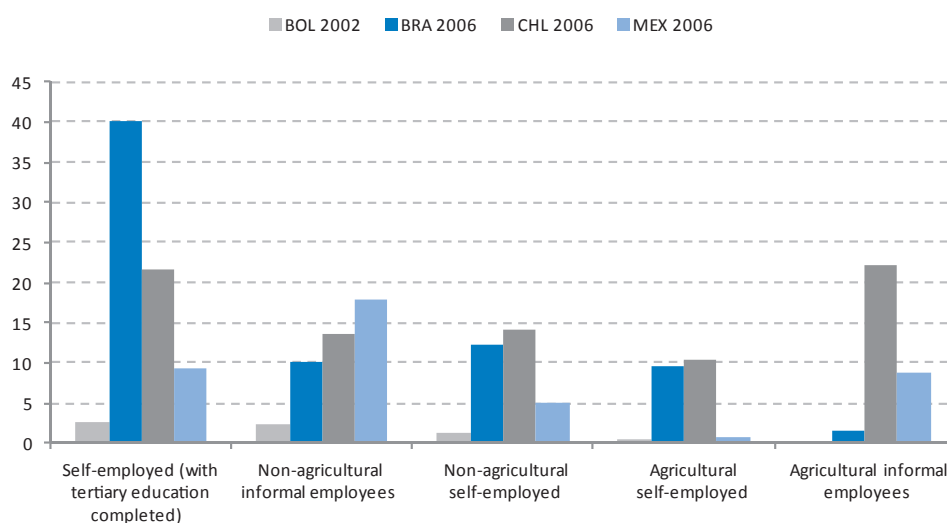
at all income levels in Chile, and more so in Mexico – the highest for any informal group. Any explanation based solely on this descriptive analysis must remain somewhat speculative; however it is possible that capitalisation provides incentives to remain in the system even after a transition to an informal job.

Figure 2.9 recasts these data by occupational class. Brazil has the highest coverage rate for professionals (around 40%), followed by Chile (around 20%). Non-agricultural informal employees are best covered in Mexico (around 17%), as noted above. Chile has the highest coverage rates for the non-professional self-employed, in both agricultural (around 14%) and non-agricultural (around 10%) occupations.

Summing up, the data presented confirm that informality reduces pension coverage for all income groups. Moreover, the link between coverage and income levels is much clearer among informal workers than formal, meaning that poverty in old age is likely to reproduce, or even exacerbate inequality.

The strongest link between income and coverage is among informal workers; inequality in old age can be expected to follow.

**Figure 2.9. Pension coverage rate for the informal middle sectors** (percentage covered)



Source: Based on national household surveys.

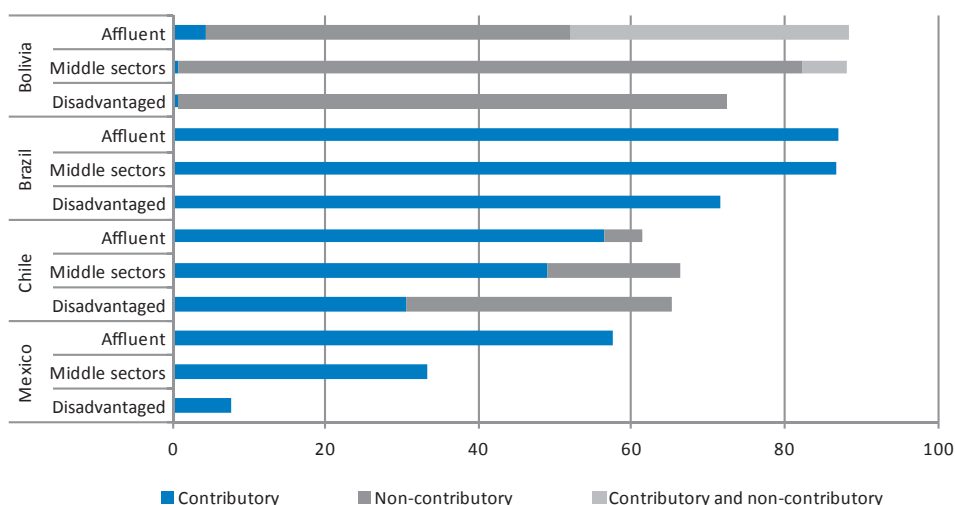
StatLink  <http://dx.doi.org/10.1787/888932338383>.

## A look at those already retired

Calculating coverage rates for the elderly (over 65) is straightforward, since this is the group currently receiving benefits. The coverage of the elderly in Latin America is extremely low, and only in a few countries – Argentina, Bolivia, Brazil, Chile, Costa Rica and Uruguay – are rates above 60%.<sup>29</sup> The range is huge: from 85% in Uruguay to only 5% in Honduras.

As in the case of workers, coverage rates for contributory pensions are low – the exception is Brazil, where they are above 85% on average, and 87% among the middle sectors. Coverage rates are also positively correlated with income (Figure 2.10). Non-contributory pension schemes help to offset this regressive pattern (reaching up to 90% in Bolivia, and around two-thirds in Chile). These pensions are small however and significant regressivity remains.

Today's pensions remain regressive despite their corrective non-contributory elements.

**Figure 2.10. Pension coverage rate of the elderly by income level**  
(percentage covered)

Note: Data for 2006 except Bolivia 2004. No data are available for non-contributory pensions in Brazil and Mexico.

Source: Based on national household surveys.

StatLink  <http://dx.doi.org/10.1787/888932338402>

## Covering the uncovered

The main goal of pension reform is to achieve “adequate, affordable, sustainable and robust pensions, while at the same time contributing to economic development”.<sup>30</sup> Many of the countries in Latin America that were at the forefront of structural pension reform seem to have achieved some of these goals (affordability and sustainability), but run the risk of failing in others (adequacy and robustness). These challenges are shared by countries, such as Brazil, that did not participate in the reforms. In addition, informality severely limits the coverage of pension systems – even those based on individual capitalisation accounts, where the incentives to contribute are in principle the greatest.

Pension reform in Latin America will therefore need to be underpinned by appropriate social, labour and macroeconomic mechanisms. It cannot be seen as the “silver bullet” to reduce informality, as was hoped by the pension reformers of the 1990s. Instead, reform needs to take into account this reality. While reducing informality can be retained as a goal – and incentives aligned with this end – changes should focus on assuring adequate and sustainable pensions across the population.<sup>31</sup>

Mechanisms to guarantee pension coverage can be categorised as being of two types: those that act at the moment of retirement, called *ex post* interventions; or those that act *ex ante* during the working career.<sup>32</sup> *Ex post* interventions are themselves of two main types: transfers that are not linked to contribution histories, often referred to as “social pensions”; and transfers which guarantee a minimum pension within mandatory-contributory pension schemes (conditional on a given contribution history). Social pensions can be universal, paid to all individuals who reach eligibility age, sometimes with residency restrictions; this is the case in Bolivia and Chile. Or they can be means-tested as is the case in Argentina, Brazil, Chile, Costa Rica and Uruguay.

Pension reform should not be seen as a “silver bullet” to reduce informality, instead its design should reflect this feature of the workplace.

Given that informality is pervasive in Latin America, reliance on this solidarity pillar seems almost inevitable. Indeed calls to strengthen it have been made by the Inter-American Development Bank (to be financed by consumption taxes)<sup>33</sup> and by the Economic Commission for Latin America and the Caribbean.<sup>34</sup> One way of doing so would be to reduce the years of contributions required for a minimum contributory pension. This currently stands at over 20 years in many countries, compared with 15 in Spain for instance. Another option would be to introduce social pensions. This would be more expensive, but could have a significant impact on poverty reduction.<sup>35</sup>

Unfortunately, a large fiscal commitment to a non-contributory basic pension can act as a strong disincentive to formalisation. The design of such a scheme must therefore be careful. A minimum pension which rises with contributions up to a certain level may address this risk at least in part – as has been done in Chile.<sup>36</sup> However, such reform will never be cheap, and estimates put the cost at the order of 1% of GDP.<sup>37</sup> These costs will not be immediate however, since all pension reforms include a transition period during which those who enter the new system accumulate resources or entitlement well before they begin to retire. Only after this, given that there are generally generous transition rules, is a social-pillar protection mechanism necessary.

In contrast to the *ex post* situation, there is little doubt that governments need to act now for workers in the active phase. Also with these *ex ante* policies there seems to be the greater scope for pension reforms benefitting the middle sectors.

The most direct policy option is to make affiliation compulsory for the self-employed. This is not currently the case in many countries (among our sample Bolivia, Mexico, and Chile at least until 2012). However the patchy coverage figures for Brazil, which does have compulsion, demonstrate that the effective implementation of such policy is not simply a matter of passing the necessary legislation. By definition, it is not evident how to enforce compulsory contributions for those in the informal sector. Furthermore, some informal workers can afford only to save to cover basic needs, so compulsory saving may not be optimal for low- or even middle-income households – unfortunately, household survey data are not adequate to answer this question, and estimates from alternative databases are not accurate either.

Several countries have been considering alternative hybrid approaches, such as “semi-compulsion”. Under these programmes, workers are automatically enrolled, but are able to opt out. Modifications that would particularly respond to the needs of informal workers could accompany this. Greater flexibility on both the amount and timing of contributions is one example; permitting payment withdrawals in limited circumstances, such as long-term unemployment or health problems, is another.<sup>38</sup>

Finally, in recent years the debate has started to focus on “matching contributions” – transfers made by the state into an individual’s defined-contribution pension plan conditional on their own voluntary contributions. In contrast to minimum and social pensions, matching contributions provide incentives for long-term saving by workers themselves. This may be particularly relevant for informal individuals with some savings capacity – a group that covers much of our middle sectors.

Matching contributions are still in the experimental design stage, and few countries have implemented them. In Latin America, the Colombian Solidarity Pension Fund subsidises the contribution of low-income self-employed workers, and the Mexican government partially matches the contributions of workers affiliated to the private defined-contribution system. Brazil does some matching within its rural pension scheme. Finally, Peru has recently introduced a matching-contribution scheme for informal workers of small firms, by which the government

Informality means an inevitable reliance on non-contributory benefits. Given the implied fiscal costs, careful design and timing are needed.

Matching-contribution schemes are relatively new. They mitigate the fiscal cost and have features that may attract the middle sector.

matches 100% of the worker's contribution. Though they have the support of the World Bank,<sup>39</sup> it is still early days for these schemes and research assessing them is awaited.

## HEALTH CARE FOR ALL?

Access to adequate and affordable health care is one of the main social protection challenges in Latin America. In this it needs to be recognised from the outset that in health care coverage is not the same as access. Basic treatments are usually offered universally, and financed out of general revenues. But “no coverage status” (that is without a contribution record for the public system or private/ employer-sponsored insurance) tends to be associated with less and lower-quality treatment.

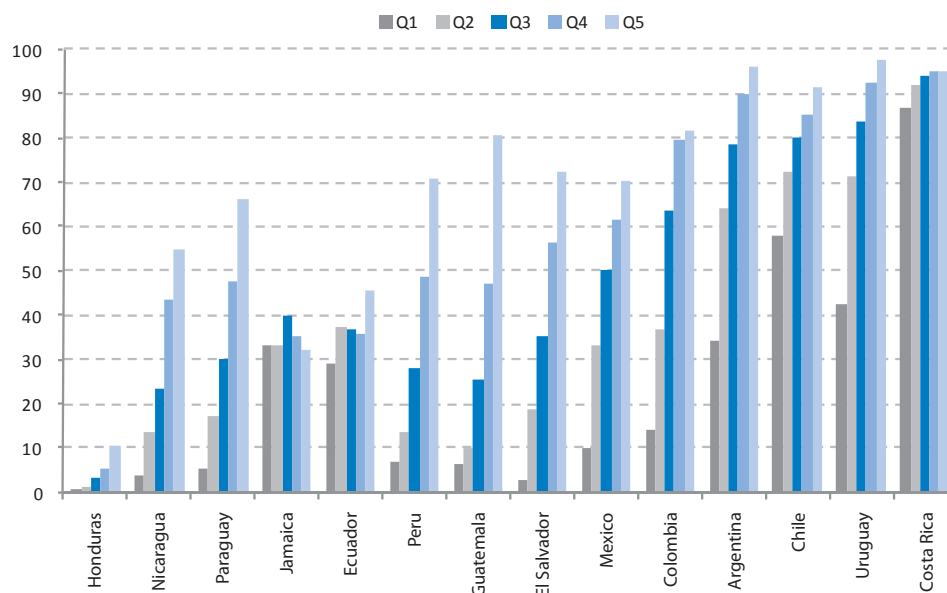
Health-care coverage remains highly income-correlated and universal schemes have been introduced.

Initial health-care reforms in Latin America were intended to increase contributory coverage. With the help of the market and private enterprise, it was expected that individuals would be enabled to satisfy their health needs from their own resources. However, available data suggest that even the opposite may have happened (Mesa-Lago, 2008a). For this reason, subsequent reforms have tended to universalise access, breaking the link to regular contributions – which are often lacking given the pervasiveness of informality. Nearly all countries in the region have introduced basic health packages covering the whole population, for an increasing number of medical conditions. Two of the more notable are the Mexican *Seguro Popular de Salud* established in 2003, and the Chilean *Plan AUGE* established in 2005, which covers 56 conditions.

This universality contrasts with recent estimates by the World Bank of contributory health insurance coverage rates for Latin America by income level (Figure 2.11). With the sole exception of Costa Rica, contributory coverage rates increase sharply with income.

Non-contributory health systems effectively equalise coverage rates by income groups in Chile and Mexico, the only countries in our sample with available information (Figure 2.12) – albeit at very different levels: 92% and 34% on average, respectively.

**Figure 2.11. Contributory health insurance coverage, by income quintile**  
(percentage of quintile covered)

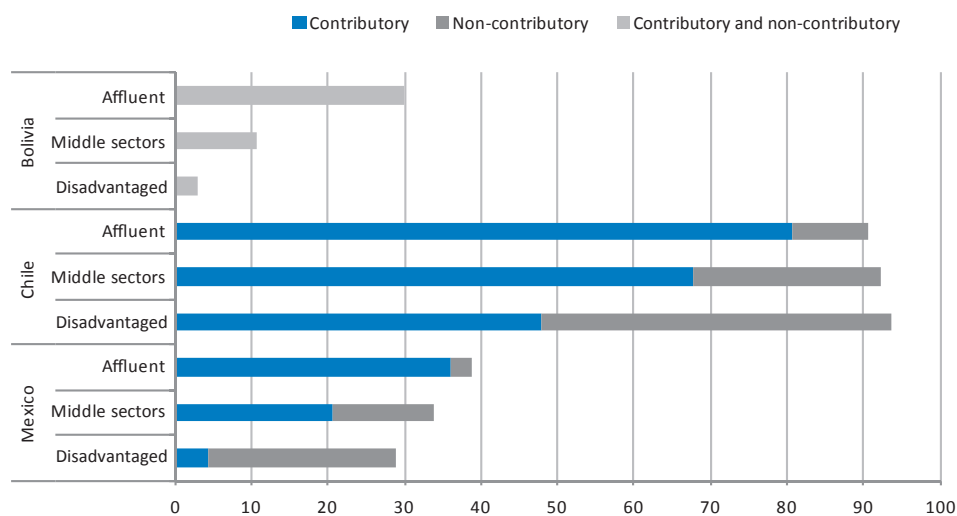


Note: Quintiles of per capita income, Q1 lowest. Data are for mid-2000s.

Source: Ribe et al. (2010).

StatLink <http://dx.doi.org/10.1787/888932338421>

**Figure 2.12. Health coverage rate of workers, by income level**  
(percentage of group covered)



Note: In Chile, "contributory" includes workers in the public system (groups B to D), in the private system, in the army, and in other groups, while "non-contributory" includes workers in the public system (group A, that is those with no income). In Mexico "contributory" includes workers in the public and private system and "non-contributory" includes the coverage of the *Seguro Popular*.

Source: Based on national household surveys.

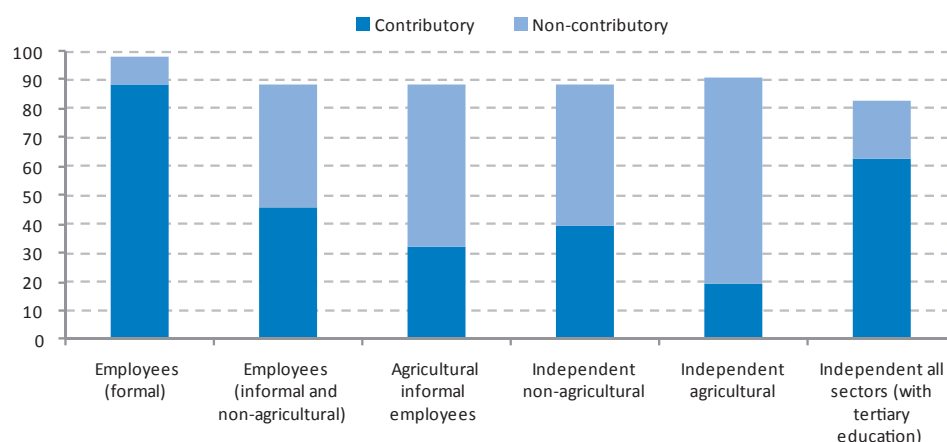
StatLink <http://dx.doi.org/10.1787/888932338440>

The result can be a two-tier system, which is regressive because of the costs it imposes on the lower income groups despite the lower quality services they receive.

Despite successful steps towards universal provision of health care in the region, the problem of segmentation remains and in some cases has even worsened. A two-tier contributory and non-contributory system, where lack of resources means the lower tier is characterised by low quality, compounds the problem of low contributory coverage. The result is that out-of-pocket health-care expenditure is regressive, with the lowest quintiles – extending in some cases into the middle sectors – spending a higher percentage of their income on health care than do more affluent quintiles.<sup>40</sup>

Figures 2.13 and 2.14 take a closer look at coverage rates for the middle sectors using the same occupational groups we defined earlier for pensions. The data cover Chile and Mexico. In both countries, formal workers are mainly covered by contributory health insurance whereas the informal (employees and self-employed in all sectors) are covered primarily by non-contributory schemes. This is particularly notable among the agricultural self-employed in both countries. The exceptions are the self-employed with tertiary education – the professionals – who are principally covered by contributory health insurance.

**Figure 2.13. Health coverage rate of the middle sectors by occupational group in Chile**  
(percentage covered, 2006)



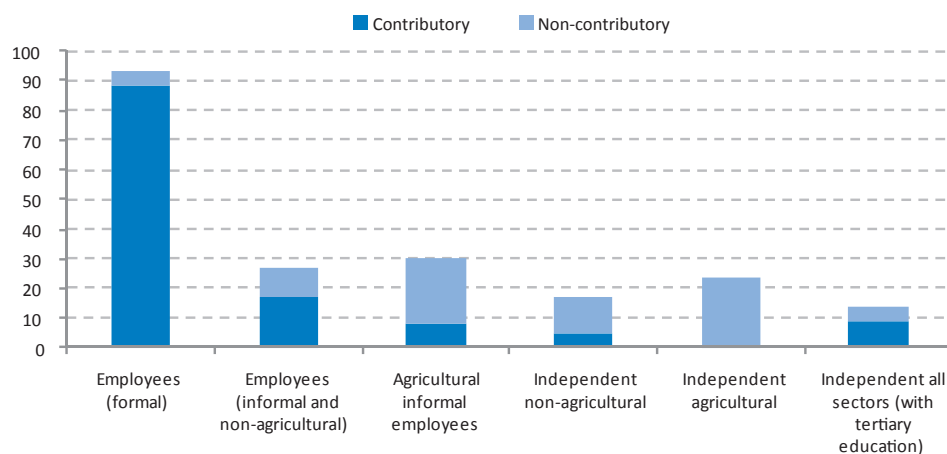
Source: Based on the *Encuesta de Caracterización Socioeconómica Nacional*.

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In addition to closing the coverage gap and achieving effective universal health care (from “rights to reality”, as Ribe *et al.*, 2010, put it), there are additional challenges to face. Basic health programmes which focus on specific medical conditions, for example, may send the message that health-care systems are only for acute care, rather than health promotion or the management of chronic illness. At the same time, even where the right to health is a constitutional one, a significant part of the population is not aware of this, nor how they could access the services available in practice.<sup>41</sup>

**Figure 2.14. Health coverage rate of the middle sectors by type of worker in Mexico**

(percentage of population covered, 2006)



Source: Based on the *Encuesta Nacional de Ingresos y Gastos de los Hogares*.

StatLink <http://dx.doi.org/10.1787/888932338478>

Reaching the middle sectors, who combine broad use of the systems with the political engagement and education to effect change, may be key. Better health care within the social-insurance system could entice the middle and affluent sectors to join and contribute. Better co-ordination – and eventually integration – between existing contributory and non-contributory schemes would also help break the cycle of segmentation. Such reforms may be particularly important to the middle sectors in a context of a regressive health system, given the persistent (and flexible) informality in this group.

Co-ordination, even integration, of contributory and non-contributory systems may help to break the cycle of segmentation.

## EFFECTIVE UNEMPLOYMENT INSURANCE

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The objective of unemployment insurance is consumption smoothing rather than poverty reduction,<sup>42</sup> but it nonetheless has an important role to play in limiting downward mobility among the middle sectors. Evidence from Central and Eastern Europe suggests that unemployment insurance reduced poverty among the unemployed by more than 50% in Hungary and 45% in Poland – noting its extensive coverage in this region (78% and 65% of households with unemployed members received the benefit, respectively).<sup>43</sup>

This income-smoothing role, the looser relationship between unemployment and poverty in Latin America (compared with OECD countries), and the scarcity of public resources all make it harder to implement non-contributory unemployment assistance schemes. Prevalent and flexible informality makes it hard to provide unemployment benefit even to formal workers. The typical conditions imposed by OECD countries in their unemployment insurance systems – being unemployed and available to work – become very difficult to enforce in these circumstances. The “moral hazard” problem, whereby incentives to seek work are diminished by the receipt of a benefit, is compounded with the possibility of “double dipping”, that is claiming benefits while in fact working informally. Nevertheless, there remains substantial scope for policy to secure efficiency gains through risk-pooling or mechanisms for self-insurance.

OECD-member models of unemployment insurance may not translate well to the specifics of Latin American labour markets.

Severance pay alone cannot be relied on to provide for the unemployed. Many countries have therefore introduced additional schemes, though only some of these offer an element of risk pooling.

In most Latin American countries it is severance pay, rather than unemployment benefit, that is expected to provide for the unemployed during spells out of work. This brings the risk that workers who lose their job as a consequence of their employer's bankruptcy may not receive their due, at least where accrued severance pay is unfunded. To counter this many countries in the region have introduced self-insurance in the form of individual unemployment savings accounts. Argentina, Brazil, Chile, Colombia, Ecuador, Panama, Peru and Venezuela have all introduced such schemes, especially for salaried workers.<sup>44</sup> Such accounts do not constitute unemployment insurance, however, since they do not pool risk across individuals.

Six Latin American countries do offer unemployment insurance, in the sense that the schemes offer net payments contingent on unemployment. In Brazil, Ecuador and Uruguay these are integrated into the social security system. In Argentina and Venezuela unemployment insurance is compulsory but separate from the social security system. Chile relied on an unemployment assistance programme until 2001 when it put in place an innovative system that combines individual accounts with a solidarity fund. Brazil has both unemployment insurance linked to social security and severance pay based on individual accounts.<sup>45</sup> There are also some sub-national systems, such as the Mexico DF unemployment benefit, which acts rather like unemployment assistance – it is non-contributory and there is limited monitoring.

Coverage rates for traditional unemployment insurance systems have historically been low. Prior to the latest reform, only 6.7% of unemployed Chileans received the benefit. The highest coverage rate in the region in the early 2000s was in Uruguay, where 14.7% of the unemployed received benefits.<sup>46</sup> Coverage rates for Unemployment Insurance Savings Account (UISA) systems are better, but still low. Only Brazil has as many accounts as employed workers,<sup>47</sup> while in Chile, Panama and Colombia coverage rates are as low as 20%.<sup>48</sup>

The Chilean system combines the attractions of individual accounts with top-ups from a risk-pooling solidarity fund.

Among the existing schemes, the Chilean system (established in 2002) is often proposed as a possible model for other middle-income countries.<sup>49</sup> Instead of channelling workers' contributions into a single risk pool, employers and employees contribute a monthly percentage of salary into an individual savings account. Part of the employer's contribution goes to a solidarity fund, which also receives public money from the state. This solidarity fund provides top-up benefits in cases where individual savings are low. Employees who have formal written contracts and who have contributed to the scheme for at least 12 months are entitled to access their savings accounts and withdraw funds. Individuals who have accumulated less than two months' salary in their accounts are covered by the solidarity fund, unless their dismissal was for fair cause (employee misconduct, for example). Since the individual account balance is owned by the worker, the scheme incentivises work search. Double dipping remains a possible issue, but the fiscal cost is limited to the solidarity-fund element.

However, despite its potential, unemployment insurance based on individual accounts currently covers only formal employees. Given the mobility of workers between formal and informal work, this means that the proportion of the unemployed with access to insurance remains low. Even in Chile, where informality is the lowest in Latin America, unemployed workers are much less likely than average to have been in formal jobs with written contracts – around one-third report having had an atypical contract in their last job, and around 30% no contract at all. What is more, about 60% of the unemployed had been in their last job for less than 12 months.<sup>50</sup>

Moreover, dependent on contribution history the replacement rates provided by such schemes can be low. Workers who just fulfil the minimum eligibility



criteria and who are not eligible for solidarity-fund top-ups would receive a single withdrawal worth about a third of their monthly salary. Unemployed workers who are eligible for solidarity-fund financing – which is the case only 22% of the time<sup>51</sup> – are guaranteed an initial replacement rate of 50%, decreasing by 5 percentage points every month until the fifth and final payment. This is at the lower end of replacement rates in OECD countries. Since unemployment is far more likely among the lower-income categories than the higher, a vast majority of the unemployed population will receive little or no benefit. The insurance element in the programme is therefore relatively modest, as is the potential coverage. On the positive side, programmes like the Chilean one that link unemployment insurance to individual savings accounts can easily be implemented in those countries that already have UISAs, with more or less generous insurance payments.

Integrating UISA and unemployment-benefit schemes with labour and social policy remains a challenge for most countries in Latin America. Informality and lack of administrative capacity seriously limit the scope for continuous eligibility monitoring, though a requirement to take up placement services or training could easily be made a condition of benefit receipt. On the social protection side, a possible avenue to more generous benefits without large increases in labour costs would be to link UISA accounts and pension accounts in a funded defined-contribution system.<sup>52</sup>

There may be fiscal and labour market benefits to linking UISA and pension accounts in a defined contribution system.

## CONCLUSION

Policy for social protection in Latin America constantly runs up against the prevalence, flexibility and persistence of informal work throughout the region. These constrain the funding of social security systems financed through payroll taxes, and make it hard to create eligibility criteria that are inclusive yet limit abuse. Both militate against coverage, and have led to shortfalls that extend well beyond the poor. In most countries contributory systems fail to reach even half of middle-sector workers.

Difficulties do not mean, however, that it is impossible to design systems which provide adequate protection. Recent decades have witnessed substantial efforts in Latin America to reform social-protection systems with the twin objectives of financial sustainability and increased coverage. Reforms typically recognise that pensions, health care and unemployment cover have different characteristics and different priorities. They have therefore tended to separate previously bundled items. Health-care systems have been reformed in the direction of universal insurance against a set of predetermined eligibility criteria. Pensions systems have been reformed with financial sustainability and incentives in mind, in some cases complemented by social pensions to alleviate poverty in old age.

This chapter's detailed analysis of four diverse countries has shown that the middle sectors are largely informal in Latin America. Social insurance for a significant proportion of the middle sectors will therefore have to be achieved in ways other than through links to formal employment. Some reforms have already allowed for social protection among informal workers. Nevertheless, informal workers' participation in social-insurance systems remains strongly dependent on their income.

Social-assistance policy is typically seen in terms of the poor, with income support and health-care provision designed to alleviate poverty and preserve human capital. Though overlooked, insufficient coverage of the middle sectors

poses a serious challenge to traditional social protection systems. Left to – often incomplete – markets individuals are likely to under-insure or insure inefficiently, if they insure at all. Yet middle-sector workers combine a capacity to save with a potential demand for social protection – as we have mentioned, many of them would need only a relatively small shock to return to the ranks of the poor. Given Latin America’s particularly constrained fiscal space, encouraging the informal middle sectors to join contributory social protection schemes will be a vital part of mobilising their savings for social insurance, and building fairer and more efficient social risk-management systems.

## NOTES

1. See for example Banerjee and Duflo (2008).
2. Among these reformers (and note that Brazil and Venezuela did not join the trend), three models emerged: substitutive, parallel and mixed (Mesa-Lago, 2004). In substitutive systems (adopted in Chile, Bolivia, Mexico, El Salvador and Dominican Republic), the previous defined-benefit pay-as-you-go system is closed and replaced by individual capital accounts. Parallel systems (adopted in Peru and Colombia) are characterised by a deep reform of the public scheme, which then competes with new private ones. In the mixed systems (Argentina until the 2008 reform, Costa Rica, and Uruguay) provision is an aggregate of public (generally minimum) and private benefits.
3. See Lindbeck and Persson (2003), or Barr and Diamond (2006) for a more sceptical view. The evidence for these benefits has been mixed (Gill *et al.*, 2005). The general consensus is that the long-term fiscal position of reformer economies is significantly more robust. However, reformers face significant up-front fiscal costs, since active pensioners remain subject to the old rules, while some or even all contributors move to the new system. In addition, all the privately managed systems maintain some kind of redistributive pensions, financed out of general revenues. But on a long-term basis, reforms have reduced the financial burden of pensions on the state (at least with respect to future pensioners), and most of the implicit costs have been made explicit, increasing the transparency of the system.
4. See OECD (2007).
5. In the case of Chile, there is evidence that social security taxes were already borne by employees, and therefore did not affect labour costs (Gruber, 1997a; Cox-Edwards, 2002). On the other hand, studies covering Mexico and Colombia have found a smaller share being borne by workers, discouraging firms from hiring more workers (for Mexico see Cazorla and Madero, 2007; for Colombia Kugler and Kugler, 2003). Finally, Cruces *et al.* (2010) find partial shifting to wages, but no labour-market effects in Argentina.
6. Corbo and Schmidt-Hebbel (2003).
7. For informal employment see Menezes Filho and Scorzaface (2009), and for formal Côrtes Neri (2010).
8. See the estimates by Rofman *et al.* (2008) and the discussion in Gill *et al.* (2005).
9. Developed by Santiso (2006).
10. OECD (2008). See also Jütting and de Laiglesia (2009).
11. This heterogeneity responds to two dominant schools of thought, reviewed in Perry *et al.* (2007). On the one hand, the “exit” or voluntary view argues that entrepreneurs and workers opt for informality, based on a cost-benefit analysis. By contrast, the “exclusion” view supports the theory that workers are excluded from formal activities. Jütting and de Laiglesia (2009) argue for a third way, based on the lack of clear boundaries between formality and informality. In this framework, workers are neither 100% formal nor 100% informal; they may pay direct taxes, but not social contributions, for instance.
12. ECLAC (2008).
13. See Gasparini and Tornarolli (2007) for an example.
14. Domestic workers account for a sizeable share of informal employment in Latin America (15% according to ILO, 2009) and such employment explains much of the difference in informality rates between men and women in the region.

15. Informal employment has often been viewed as a residual sector. In classic development models of surplus labour (such as those of Lewis, 1954; Ranis and Fei, 1961; and Harris and Todaro, 1970) workers move from traditional agriculture to modern manufacturing, but may fail to find a formal job in the urban labour market. In that case, informal work is a form of underemployment that substitutes for outright unemployment.
16. The evidence is summarised for all emerging countries in Jütting and de Laiglesia, (2009), and for Latin America by Perry *et al.* (2007).
17. Fields (1990 and 2005).
18. Self-employed workers in a professional capacity (craftsmen and members of the liberal professions, among others) can also be thought of as pertaining to the upper tier of informal employment when their activities are undeclared and carried out personally, rather than as part of an incorporated enterprise.
19. False self-employment is the practice of registering as a self-employed worker with the labour or tax authorities while working in a formal firm in a role whose characteristics would normally be associated with a labour contract. An example would be a "sub-contractor" who is exclusively hired by a single firm while technically remaining self-employed.
20. See Kanbur (2009).
21. Following the definition of the 17<sup>th</sup> International Conference of Labour Statisticians, the self-employed should be classified as formal when their enterprise is formal. Given heterogeneity in the relevant survey questions across countries, a definition based on (homogeneous) questions on employment status has been preferred.
22. See Da Costa *et al.* (2010) for the technical details.
23. See Auerbach *et al.* (2007).
24. Workers are considered as affiliates from the point they are registered in the social security administration records. Affiliates are contributors in a particular period if they have paid the required social contributions to the public or private scheme.
25. Based on Rofman *et al.* (2008).
26. The information available is not identical across countries: Chilean data cover 1994 to 2006, with household surveys every two years; the data for Mexico cover 1998 to 2006, with data every two years; for Bolivia data cover the two years 2001 and 2002; and Brazilian data are drawn from annual household surveys from 1996 to 2006 (omitting 1997 and 2000). See Da Costa *et al.* (2010) for the details and a deeper analysis.
27. In Chile data cover contributors to both the private pension funds (*Administradoras de Fondos de Pensiones*, AFP), and to the previous public pay-as-you-go system (*Instituto de Normalización Previsional*, INP). In Mexico, they refer to enrolment in the private pension system (*Sistema de Ahorro para el Retiro*, SAR) managed by private pension funds (*Administradoras de Fondos para el Retiro*, AFORE), to the public institutions (*Instituto Mexicano de Seguridad Social*, IMSS; *Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado*, ISSTE), to the state company PEMEX scheme, and to university insurance programmes. In Bolivia, coverage is proxied by enrolment in the private pension system (AFP). In Brazil, data cover contributors to the *Instituto de Previdência* at all its levels: national (*Instituto Nacional Seguro Social*, INSS), federal and local.
28. Table 2.A4 in the statistical annex shows the evolution of coverage for this group from 1994 to 2006. It has increased only for the affluent.
29. This is stressed in Rofman *et al.* (2008).
30. Holzmann and Hinz (2005).

31. In a similar vein, see BBVA's study for Chile, Colombia, Mexico and Peru, Escriva *et al.* (2010), and Ribe *et al.* (2010) for the region as a whole.
32. See Holzman *et al.* (2009), and Hu and Steward (2009).
33. Levy (2008) and Pages (2010).
34. ECLAC (2006).
35. Dethier *et al.* (2010) tested this for 18 countries in the region. They simulated both universal and means-tested pensions, set at either 50% of the median income or USD 2.50 a day. On the universal basis fiscal costs were in the range 1% to 2% of GDP.
36. Described more fully in OECD (2009).
37. This cost estimate is from Arenas *et al.* (2008) and Melguizo *et al.* (2009).
38. See Hu and Steward (2009).
39. Ribe *et al.* (2010).
40. See ECLAC (2006) and Mesa-Lago (2008b).
41. See Mesa-Lago (2008b).
42. Studies in the United States have found that average consumption there would be about 20% lower without unemployment insurance (Gruber, 1997b).
43. Vodopivec *et al.* (2005).
44. See the overview by Ferrer and Riddell (2009). Argentina's system covers only construction workers.
45. Reyes Posada (2007).
46. Velásquez Pinto (2003).
47. Note that accounts correspond to jobs rather than people so that having as many accounts as workers does not automatically indicate full coverage.
48. Ferrer and Riddell (2009).
49. See Vodopivec (2009) and Sehnbruch (2006).
50. See Sehnbruch (2006).
51. Sehnbruch (2006).
52. Vodopivec (2009) proposes a system where individuals can receive benefits beyond the balance of their UISA by borrowing against their pension fund.

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**Table 2.A1. Pension coverage rate by occupation and sector in Bolivia**  
(percentage of workers)

	Formal workers			Non-agricultural informal employees			Agricultural informal employees			Non-agricultural self-employed			Agricultural self-employed			Self-employed (with tertiary education completed)		
	Disadvantaged	Middle sectors	Affluent	Disadvantaged	Middle sectors	Affluent	Disadvantaged	Middle sectors	Affluent	Disadvantaged	Middle sectors	Affluent	Disadvantaged	Middle sectors	Affluent	Disadvantaged	Middle sectors	Affluent
2001	66.2	61.9	74.2	7.4	4.3	12.7	0.0	0.0	0.0	0.2	1.1	2.9	0.1	0.6	1.0	13.2	6.7	17.1
2002	23.8	37.7	58.4	3.9	3.5	9.5	0.0	0.0	0.0	1.4	1.2	2.6	0.1	0.4	1.2	34.5	2.7	13.3

Note: The data on coverage are based on enrolment.

Source: Based on Encuesta Continua de Hogares- Condiciones de Vida.  
StatLink  <http://dx.doi.org/10.1787/888932339219>.**Table 2.A2. Pension coverage rate by occupation and sector in Brazil**  
(percentage of workers)

	Formal workers			Non-agricultural informal employees			Agricultural informal employees			Non-agricultural self-employed			Agricultural self-employed			Self-employed (with tertiary education completed)		
	Disadvantaged	Middle sectors	Affluent	Disadvantaged	Middle sectors	Affluent	Disadvantaged	Middle sectors	Affluent	Disadvantaged	Middle sectors	Affluent	Disadvantaged	Middle sectors	Affluent	Disadvantaged	Middle sectors	Affluent
1996	91.7	94.6	94.0	4.8	6.4	16.1	0.7	1.6	3.1	9.4	17.5	41.3	2.0	5.4	18.9	61.7	33.7	69.2
1998	99.7	99.4	98.2	4.2	6.5	16.0	0.4	0.8	2.2	9.0	14.3	37.8	1.5	4.6	16.3	61.3	39.9	64.8
1999	99.6	99.4	98.4	3.9	6.4	16.0	0.5	0.9	2.8	6.4	13.0	38.2	1.8	5.1	16.9	63.6	43.8	65.7
2001	99.8	99.5	98.6	4.9	8.1	19.2	0.5	1.0	1.6	6.6	11.9	36.1	1.7	4.7	14.5	56.2	43.2	64.6
2002	99.9	99.6	98.9	4.4	7.5	19.1	0.3	1.0	1.5	4.8	12.0	34.4	1.4	4.1	15.5	51.2	34.2	59.7
2003	99.6	99.5	98.8	4.7	8.2	19.6	0.4	1.0	2.3	5.2	12.0	36.9	1.4	5.5	17.5	56.1	35.0	62.4
2004	99.5	99.4	99.8	5.1	8.4	20.6	0.4	0.9	1.8	5.3	11.6	36.4	1.9	5.1	18.2	61.5	39.6	62.3
2005	99.4	99.5	98.9	5.8	9.8	22.2	0.5	1.1	2.3	4.7	11.7	37.8	2.6	7.2	18.4	51.0	31.2	63.2
2006	99.4	99.4	98.9	5.1	10.0	22.3	0.9	1.6	2.6	6.4	12.2	38.1	4.3	9.7	23.1	57.8	40.1	60.7

Source: Based on Pesquisa Nacional por Amostra de Domicílios.  
StatLink  <http://dx.doi.org/10.1787/888932339238>

**Table 2.A3. Pension coverage rate by occupation and sector in Chile**  
(percentage of workers)

	Formal workers			Non-agricultural informal employees			Agricultural informal employees			Non-agricultural self-employed			Agricultural self-employed			Self-employed (with tertiary education completed)		
	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent
1994	90.9	92.4	93.5	21.1	26.8	32.7	22.8	19.5	22.7	14.6	20.0	29.4	15.4	23.2	28.8	67.0	48.2	57.3
1996	90.3	93.0	93.3	15.6	22.6	31.5	14.1	18.7	19.4	8.0	16.9	31.6	3.8	9.3	22.9	6.1	16.1	47.8
1998	93.6	94.0	93.7	13.5	21.6	28.7	8.3	15.9	15.5	8.3	13.8	29.3	2.9	8.9	18.5	2.0	25.5	51.1
2000	89.7	94.1	95.1	13.5	20.8	30.8	9.5	14.1	26.8	5.0	14.4	30.0	3.9	8.6	25.1	45.5	27.5	53.6
2003	94.0	94.0	93.9	12.4	17.0	23.2	12.1	16.6	23.6	6.2	13.4	28.9	3.8	9.4	24.6	27.9	34.1	53.9
2006	92.4	91.8	92.9	10.3	13.5	29.7	14.1	22.2	25.6	9.2	14.1	29.4	6.1	10.3	24.8	37.2	21.6	44.6

Source: Based on Encuesta de Caracterización Socioeconómica Nacional.  
StatLink  <http://dx.doi.org/10.1787/888932339257>.

**Table 2.A4. Pension coverage rate by occupation and sector in Mexico**  
(percentage of workers)

	Formal workers			Non-agricultural informal employees			Agricultural informal employees			Non-agricultural self-employed			Agricultural self-employed			Self-employed (with tertiary education completed)		
	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent
1998	74.7	87.2	90.1	5.1	16.9	25.5	3.3	14.2	20.6	2.0	3.4	7.3	0.3	0.8	2.2	0.0	5.9	9.1
2000	81.7	89.0	91.4	3.6	15.2	25.6	2.8	7.3	20.2	0.8	4.2	6.0	0.0	0.4	0.2	0.0	12.0	10.9
2002	79.2	91.1	92.5	7.6	18.1	24.8	4.8	20.0	20.2	1.9	3.6	7.1	0.2	1.2	0.1	0.0	8.6	12.1
2004	40.7	74.9	85.2	8.0	16.0	33.7	4.0	8.2	23.0	0.5	3.3	8.5	0.0	1.2	4.2	0.0	7.3	13.4
2005	38.7	75.0	84.5	5.3	16.8	30.9	1.7	6.3	16.5	0.9	3.5	9.3	0.1	0.8	2.9	0.0	3.6	19.7
2006	48.5	80.0	87.2	5.7	17.8	31.1	3.6	8.8	25.5	0.9	5.0	10.9	0.4	0.8	1.3	4.5	9.4	21.2

Note: The data on coverage are based on enrolment.

Source: Based on Encuesta Nacional de Ingresos y Gastos de los Hogares.  
StatLink  <http://dx.doi.org/10.1787/888932339276>

**Table 2.A5. Population by occupation and sector in Bolivia**  
(thousands)

Total	Formal workers			Non-agricultural informal employees			Agricultural informal employees			Non-agricultural self-employed			Agricultural self-employed			Self-employed (with tertiary education completed)		
	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent
2001	5 013	4	1 02	333	41	334	295	10	56	28	1 013	810	493	386	122	5	25	88
2002	3 579	15	128	370	37	291	304	3	15	12	126	456	399	290	71	3	26	95

Note: The data on coverage are based on enrolment.

Source: Based on *Encuesta Continua de Hogares- Condiciones de Vida*.

StatLink  <http://dx.doi.org/10.1787/888932339295>

**Table 2.A6. Population by occupation and sector in Brazil**  
(thousands)

Total	Formal workers			Non-agricultural informal employees			Agricultural informal employees			Non-agricultural self-employed			Agricultural self-employed			Self-employed (with tertiary education completed)		
	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent
1996	68 664	2 349	10 757	13 771	2 648	6 191	4 093	3 227	2 447	4 082	1 494	4 489	6 081	2 800	865	37	30	1 173
1998	70 746	2 161	11 134	14 090	2 957	6 700	4 027	3 041	2 594	3 828	1 728	5 228	6 064	2 825	823	52	59	1 322
1999	68 703	2 070	11 316	14 131	2 884	6 953	4 091	3 081	2 831	440	1 814	5 421	6 225	2 791	854	54	61	1 322
2001	72 039	2 240	12 612	14 924	3 148	7 859	4 555	2 919	2 593	380	2 003	5 545	6 163	2 518	868	79	65	1 408
2002	74 802	2 276	13 268	15 204	3 286	8 315	4 697	2 928	2 842	451	2 052	6 029	6 193	2 494	877	57	77	1 515
2003	76 165	2 390	13 850	15 680	3 249	8 262	4 385	2 990	3 003	512	2 231	6 080	6 064	2 404	1 040	62	80	1 589
2004	78 921	2 363	15 015	15 884	3 351	8 917	4 557	2 939	3 115	478	2 259	6 218	5 916	2 577	1 054	87	97	1 546
2005	81 366	2 369	15 728	16 503	3 334	8 955	4 686	3 226	3 236	500	2 388	6 680	5 983	2 542	951	46	92	1 661
2006	84 384	2 525	17 626	16 579	3 398	9 486	4 600	3 120	3 335	463	2 343	7 037	5 988	2 406	947	85	115	1 811

Note: The data on coverage are based on enrolment.

Source: Based on *Pesquisa Nacional por Amostra de Domicílios*.

StatLink  <http://dx.doi.org/10.1787/888932339314>



**Table 2.A7. Population by occupation and sector in Chile**  
(thousands)

	Total	Formal workers			Non-agricultural informal employees			Agricultural informal employees			Non-agricultural self-employed			Agricultural self-employed			Self-employed (with tertiary education completed)		
		Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent
1994	5 283	252	1 425	1 293	113	355	160	49	78	10	105	476	518	92	189	46	1	10	111
1996	5 359	324	1 473	1 247	135	354	180	89	102	14	66	412	561	70	132	66	5	14	115
1998	5 415	283	1 486	1 266	152	384	189	82	116	10	66	433	539	66	113	52	1	16	161
2000	5 540	294	1 522	1 305	176	387	176	85	94	9	101	505	547	64	106	51	2	6	112
2003	5 844	270	1 651	1 350	159	440	189	69	103	9	91	542	600	51	119	63	0	6	131
2006	6 631	318	1 987	1 515	160	511	251	67	106	12	104	556	598	43	107	65	6	29	196

Source: Based on Encuesta de Caracterización Socioeconómica Nacional.

StatLink  <http://dx.doi.org/10.1787/888932339333>**Table 2.A8. Population by occupation and sector in Mexico**  
(thousands)

	Total	Formal workers			Non-agricultural informal employees			Agricultural informal employees			Non-agricultural self-employed			Agricultural self-employed			Self-employed (with tertiary education completed)		
		Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent	Disad-vantaged	Middle sectors	Affluent
1998	38 003	422	5 437	6 029	1 520	5 153	1 686	1 284	870	100	1 756	4 719	3 213	2 996	1 647	496	4	53	620
2000	39 919	394	5 702	6 995	1 478	6 237	1 980	1 740	797	63	1 780	4 603	2 729	2 713	1 492	317	10	101	791
2002	42 209	452	6 490	7 269	1 846	6 473	1 702	1 371	1 005	29	1 700	5 290	3 082	2 777	1 595	292	3	122	711
2004	44 017	983	8 149	7 607	2 758	7 869	2 231	19	67	42	3 463	6 528	3 256	13	16	1	12	289	716
2005	45 061	956	7 993	7 821	1 741	6 761	2 453	1 049	950	75	1 759	5 562	3 275	1 978	1 297	303	22	272	794
2006	47 739	921	8 399	7 322	1 953	7 500	2 341	1 150	914	112	2 030	6 567	3 345	2 168	1 642	278	20	320	756

Note: The data on coverage are based on enrolment.

Source: Based on Encuesta Nacional de Ingresos y Gastos de los Hogares.

StatLink  <http://dx.doi.org/10.1787/888932339352>

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