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A review of the pension systems in Latin America

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A review of the pension systems in Latin America[1,2]

David Tuesta, BBVA Research.

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Abstract
Latin America is one of the pioneers in introducing individual capitalization schemes as part of their compulsory component of their pension systems. Thirty years have passed since Chile took the first step. Now what reforms have been achieved today? What challenges lie ahead? This paper reviews the motivations of the reforms and their progress, using the experience of Colombia, Chile, Mexico and Peru. The main results are presented in terms of coverage, replacement rates, and fiscal sustainability, with projections to 2050. The results show that while the reforms of both the public and private pension systems have been key to providing fiscal sustainability and have strengthened retirement savings for groups with greater permanence in the labour market, there are still many pending challenges in order to address the significant percentage of people who are self-employed, within the informal sector or frequently unemployed. In that sense, for each of the countries studied, recommendations have been explored that could help reduce the level of vulnerability at the retirement stage, incentivize savings, focus resources on the truly poor, and maintain fiscal balance.

Keywords: pensions, retirement, Latin America.

JEL Codes: H55, J26.

1: Document prepared for the Conference "Diálogo Regional de Políticas- Red de Política Laboral y Seguridad Social-Opciones para aumentar la cobertura de la seguridad social en América Latina y el Caribe", Market Labor Unit, Interamerican Development Bank, in Washington DC, from Abril 6 to 8, 2011.
2: This document summarizes the findings of "Pension Reforms in Latin America: Balance and Challenges Ahead" BBVA. Madrid, 2010, especially chapters 1 and 8. Author contact email: david.tuesta@grupobbva.com

Introduction

Various factors have led the world to take a new perspective on how to address the issues regarding the life cycle of its populations. Thus, the topic of inactive employment at older ages and the risk of insufficient wealth have caused governments to design more suitable forms that balance the financial and equity aspects. Given that the old pay-as-you-go systems began to have problems towards the second half of the 20th century, as a result of the high welfare benefits and accelerated demographic change, countries were obliged to incorporate reforms in their pensions systems that involved more realistic adjustments to the parameters for its pay-as-you-go systems, greater incentives for individual saving and a greater concern for the financial sustainability of its plans.

The Latin American countries took these changes into account some time afterwards, as their systems initially had a young population with different pending changes. Moreover, countries became aware of the need to implement reforms only after they experienced recession, hyperinflation and fiscal crises. Thus, thirty years ago, decisive actions were made in the reform process, such that there are currently twelve countries[3] in the region that have established changes to their pension schemes. This resulted in both the introduction of parametric changes (e.g. raising the rates of contribution, years of contribution and retirement age) and structural changes that introduced individual pension funds (obligatory and voluntary)[4], keeping in mind the new challenges imposed by the vulnerability of public finance, changes in birth rates, longer life expectancy, efficiency problems in public administration and greater potential development of financial markets.

An improved balance between efficiency and equity has enabled gradual progress towards the objective to provide dignified pensions. One measurement of progress is through the improved performance of savings for the elderly, which is one of the determinants for better pensions. This, however, is just one facet of the multidimensional issue, as the systems, for example, still cannot incorporate significant population segments to contribute, who thus run the risk of not having income during retirement. As will be discussed further on, this situation goes beyond the characteristics of the systems themselves and responds to structural problems in the countries, such as: limitations in job markets to absorb certain segments of the population; low human capital that restricts the possibility to work, difficulties with obtaining a salary and save; abject poverty; persistent underground or informal employment, etc.

Pensions have been under reform for thirty years, which marks a good time to pause and reflect on the achievements, and, above all, to review the challenges still pending resolution. These solutions must address: demographic changes; fiscal restrictions that impede serving all disadvantaged groups; difficulties presented by inflexible job markets; high unemployment rates; informal economy; incentives for saving; and all that affects sustainable stability and growth, which are essential to the foundation of a healthy, long-lasting pension system.

This document addresses the trajectory of Latin America, but has a specific focus on Chile, Colombia, Mexico and Peru, countries that progressed more profoundly with extensive reforms introducing individual savings schemes for retirement. We will first take a look at the starting point of these reforms and their circumstances prior to the decision to reform their systems. Then we will review the main elements of the reforms implemented and the milestones hit. The study will conclude with an inventory of the pending challenges and some recommendations that may help provide a solution for the current problems in the pension systems.

3: Chile (1981), Peru (1992), Colombia (1993), Argentina (1994), Uruguay (1996), Mexico and El Salvador (1997), Bolivia (1998), Costa Rica and Nicaragua (2000), Ecuador (2001) and the Dominican Republic (2003).
4: The case of Brazil is worth noting, as it used a combined strategy (notional systems) in the obligatory pillar. According to Bertranou (2004), Brazil introduced its reform for workers in the private sector in 1999 and in the public sector in 2003-2004.

1. Problems with the pay-as-you-go systems

Following in the footsteps of pioneering countries in the development of social protection programs, Latin American began to introduce supportive schemes for old age as of the first half of the 20th century. Little by little they moved towards state-managed schemes by granting a broad range of insurance and benefits. Initially, the income from contributions made by workers was much higher than the retirement obligations. Governments began to take advantage of the situation and required contributions that were low with respect to generous pensions with retirement at an early age.

This situation could not be sustained. Latin America began to mature, and as an increasing number of people began to retire, a parallel demographic transition began to take place towards a society with a longer life expectancy and increased birth rates. This evidently made it technically impossible to grant the same levels of pensions under the regulations at the time, as there was an increasing amount of people beginning to retire, fewer people who contributed, and the benefit schemes for old age were excessive. This situation became even more complicated as the economic models in Latin America were generating an economic recession and unemployment, which expelled workers from the formal world, and further reduced contributions to the pension systems and accelerated their crisis.

Despite the above, the decision to provide real solutions for the systems was delayed. Few governments had the incentive to make corrections, falling into a spiral of postponement, and policy continued to prevail over technical decisions. Situations even emerged in which governments tended to continue to increase benefits, which dramatically affected the public budget. These circumstances came in a context of disastrous economic policies that reduced the growth potential of the countries involved. First, the lack of strict fiscal and monetary discipline generated high inflation and, thus, enormous distortions in the market[5]. Likewise, though there were many cases with good intentions, measures were taken to excessively protect the worker by limiting the adjustments needed to be made by companies and increasing minimum salaries over work productivity[6]. As a result incentives for hiring were reduced, unemployment rates grew and a significant part of the population was forced into the informal economy.

5: This particularly affected workers who faced significant real losses in their pensions. For an analysis of the risks of inflation that may be faced by pension funds, see Whitehouse (2009).
6: (2010) reviews the policies that may be key in continuing to boost productivity in the region.

2. The reforms

In the four countries under study: Chile, Colombia, Mexico and Peru, individual defined-contribution accounts schemes were introduced. Each did so in its own way taking into account its own financial, economic, social, political and social security situations. The introduction of a capitalization scheme implied a jump with respect to the state-managed pay-as-you-go schemes[7].

2.1. The new pillars

The introduction of the individual-account defined-contribution scheme was implemented in different forms. The substitutive model closed the pay-as-you-go distribution scheme to new affiliates and replaced it with one based on privately-managed individual savings account plans. The parallel model preserved the pay-as-you-go system which then competed with individual savings accounts; in other words, the worker could choose between the two plans. In the case of the mixed model (also called integrated model), the components of the pay-as-you-go system and the individual accounts complement each other and their management can be shared between the state and the private sector[8].

Chile took the first steps by reforming its system in 1981 with the implementation of a substitutive model. Within this framework, the public pay-as-you-go system was closed for new pension-savers and replaced by a private individual-capitalization system. Workers who were contributing to the public system were transferred to the private system, where they would begin to pay their contributions for the rest of their active working life. To compensate for the contributions made in the previous stage under the pay-as-you-go system, a pension bond was created that would be added individually to the pension at the time of retirement. Mexico also opted for the substitutive model 16 years later. However, although it closed its pay-as-you-go system to new affiliates and transferred those workers to the new system, it gave workers who had already been contributing to the public system before the reform the option to choose whether they would want to contribute and receive retirement benefits under the pay-as-you-go system or the individual capitalization system. Meanwhile, Peru (1992) and Colombia (1993) opted for a parallel model in which workers choose between belonging to a pay-as-you-go or individual-capitalization system.

In general, the private individual-capitalization system has two components: one obligatory and the other voluntary. The obligatory part obliges workers to become members and make contributions according to a contribution rate established by law. The voluntary component gives workers the option to increase their retirement savings by defining the amount that they want to add to the assets under management with the private pension company. In both cases, the contributions benefit from deferred taxation. In most cases, the amount accumulated in the individual account cannot be withdrawn until retirement, though there are exceptions in certain circumstances (Mesa-Lago 2004). These gradually took on profiles specific to the reality of each country. In Chile, the new system introduced was radically different from the previous one. It was conceived as a system for saving in which the contributions made by workers throughout their working lives financed the pension, so that the contributions formed part of an individual account managed by the Pension Fund Administrators (AFPs).

Colombia chose a parallel system in which average premiums with defined benefits (RPM) coexisted with a system of individual savings with a welfare element (RAIS). Individuals can only belong to one of the two. The reform had sought fiscal balance, increased coverage along with equity. The characteristics of the Colombian pension system were outlined in Law 100 of 1993. Greater coverage, equity, efficiency and financial sustainability of the pension system have been the main aims of the various reforms undertaken since the first half of the 1990s. Mexico, in turn, implemented a system that radically transformed the institutional design of pension plans in Mexico. For the first time in the history of social security in the country, people in the system were guaranteed ownership over their pension savings. At the same time, the introduction of a defined-contribution plan under the Mexican Social Security Institute (IMSS) supported by the participation of the public and private sectors, allowed progress to be made towards the establishment of pension systems that are better equipped to face the demographic changes

7: The public system has a non-defined contribution, defined benefit, a pay-as-you-go or collective partial capitalization financial scheme and public administration (Mesa-Lago 2004).
8: In Argentina, from 1994 to 2008, the management was divided between the state and private pension companies. In the case of Uruguay, management was only by the state.

taking place in the country. This made it possible to start overcoming the problems surrounding the old pension plan[9], which was not financed in the long term, was extremely vulnerable to demographic change and involved major guaranties on behalf of the state.

Peru carried out its reform in 1992 with two regimens that operated in parallel. On the one hand, the National Pension System (SNP) operates under a pay-as-you-go financial regimen, while the Private Pension System (SPP), which was launched in July 1993, is managed by the Pension Fund Administrators (AFPs), which manage an individual capitalization scheme. The AFPs are under the supervision of the Superintendency of Banking and Insurance. At the same time, given the high level of informality in the Peruvian economy and the need to extend pension coverage for the low-income population, the government has been taking steps to tackle this problem. In 2008, the access of employees in micro-enterprises[10] and SMEs[11] to pension systems, either under the SNP or SPP, was approved. A social pension system was also established, focused exclusively on workers in micro-enterprises.

The introduction of the individual-account defined-contribution plan aimed to incorporate greater efficiency into the management of workers' assets and better concentrate public resources in more disadvantaged groups, taking into account the existing fiscal constraints. The following elements were important: incorporation of specialized management that allowed a better collection of contributions and the investment of pension assets in financial portfolios that adequately balanced risks and performance; monitoring and regulating the balance of interests among the different players in the pension industry and, above all, the protection of property of the funds; laws that stipulated clear trustee obligations for the pension companies; technical criteria was established to assess the risk-return trade-off, the prudent handling of the portfolios, action by the capital markets; qualitative and quantitative limits on the assets in which pension funds could invest, etc.; implementation of insurance plans to allow pension funds to lessen the risks from these contingencies; a public distribution plan, at least at first, and adjustments to the system's parameters according to the demographic and financial situation of the country.

This also gave the way towards ownership rights of the retirement contributions through the incorporation of individual accounts and a regulatory framework that ensured management in line with the system. This was true also for the pay-as-you-go system, where although the contributions were collective, ownership was protected by the law, and there was prudent management of finances as well as greater transparency by the states. In the private case, a very careful regulation also ensured the right to individual ownership of the savings made by each of the members. At the same time, we must mention the impact that the pension reform generated on the efficient use of the government budget, the impact on the labor markets, the improved productivity, the boost to economic institutions, the development of financial markets and in general its global impact on long-term economic growth. According to Schmidt-Hebbel (2003), the overall effect of the reform on growth in Chile was a contribution of 0.49 percentage points to the average GDP growth of 4.63% in the period 1981-2001. This significant contribution means that 4.62% of GDP in 2001 was attributable to the reform. Thus the direct and indirect effects of the pension reform on the country's output have been substantial, through tax financing reform, the accumulation and utilization of productive factors and the levels of efficiency.

2.2. The portfolio of members in the defined-contribution system

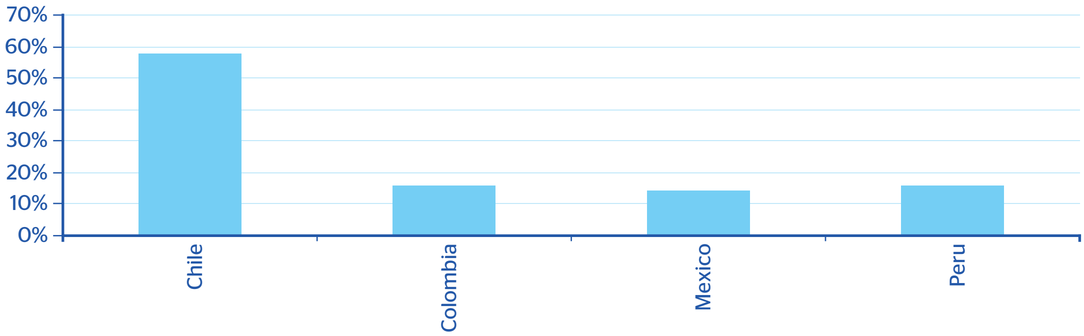
One of the most notable aspects of this reform was the introduction of investment rules that allowed specialized entities to take charge of the management of the pension fund portfolios, in accordance with the provisions of current regulations. As the capital markets developed, the regulations were gradually adapted towards more diverse plans, while, in turn, boosting the capital markets. The feedback between pension fund administrators and capital markets formed a virtuous circle for the countries involved, with a positive impact on the growth of managed pension assets (see Chart 1).

9: We refer to the Disability, Old-Age, Unemployment at Advanced Age and Death Insurance (IVDM).

10: Within the scope of Decree No 1086, the micro-enterprise must satisfy the following characteristics: (i) one to ten employees and annual sales up to a maximum of 150 applicable tax units (UIT, equivalent to S/. 3,600 in 2010).

11: Under Decree No. 1086, the small enterprise must satisfy the following characteristics: (i) one to one hundred employees and annual sales up to the maximum total of 1,700 applicable tax units (UIT, equivalent to S/. 3,600 in 2010).

Chart 1
Funds as percentage of GDP (%)



Source: BBVA Research

Among the issues that arose with the implementation of this plan and that led to new regulatory changes was the fact that individual accounts could not be treated in the same way, as they included new young members of the system and older people who were on the verge of retirement. This gave rise to the development of the multi-fund plans.

The investment rules in each country depend to a large extent on the assessment made by public policymakers on the development of their financial markets. This basically results in regulations that are very clearly focused on quantitative limits or more flexible plans that concentrate on supervising the behavior of the fund managers through management indicators. Although the plans are highly rigid and strict in their design and aim to provide greater security to members' savings, they may also give rise to an inadequate balance between risk and return.

The multi-fund plans help to balance the risk profile of investors and members, and allow pension companies to manage the investments in a defined number of portfolios that are differentiated by their risk exposure. This greater or lesser tolerance to the volatility of returns in each portfolio depends on the characteristics of the members, who in theory can choose which fund they want to invest their savings in, with certain restrictions. Taguas and Vidal-Aragón (2005) demonstrated that the optimum portfolio depends on the characteristics of the market, regulation and the characteristics of the people (such as degree of risk aversion, age, wealth, productivity). Given this, multi-funds allow the different characteristics and risk profile of the members to be taken into account with their employment cycle.

In Chile, the system has been in operation since 2002. In accordance with the improvements introduced into the pension system since then, the members have been able to take the option of assigning their pension savings in one of the five funds established (they may choose up to two). The plan allows each worker, except those close to retirement age, to change funds freely. If the members do not take advantage of these options themselves, the Chilean legislation defined a default option that assigns member to three of the five types of funds according to age: up to 35, Fund B (relatively volatile); from 36 to 50 for women and 36 to 55 for men, Fund C (intermediate); and from 51 for women and 56 for men, Fund D (relatively safe). It is important to point out that there are investment limits for each fund that depend on the characteristics of the instruments invested in, with maximum and minimum bands for the exposure of equity instruments. Throughout the 1990s, Chile also made its financial regulation more flexible and incorporated a greater participation of equity instruments in investment funds, in hedging instruments, asset-backed securities and foreign instruments, with a maximum limit for foreign investments in 2008 as 45% of the portfolio. By March 2010, more than 3.8 million participants had personally chosen their type of fund. This represents 39% of the total number of participants in the system.

In Peru, the multi-funds began to operate in 2005. Three funds were created. If no fund was chosen, new members were assigned to Fund 2, except for members over 60 years of age, who were assigned to Fund 1. There is no requirement for transferring contributions between funds. The pension companies can administer up to three types of obligatory savings funds, and they may also offer more funds for the management of voluntary saving. The funds have the following characteristics. Fund 1, also called the capital preservation fund, aims for stable growth with low volatility. It is obligatory for all members over the age of 60 and for those with a programmed retirement pension, unless the member expressly indicates his intension of joining Fund 2.

The minimum age for acquiring the right to a retirement pension is 65. Fund 2, or the mixed fund, aims to provide a moderate performance with average volatility. Finally, Fund 3, or capital appreciation fund, aims to maximize growth and can be subject to high volatility. The investment limits were defined in accordance with the financial nature of the instruments (degree of exposure to fixed-income or equity). At the same time, other limits to the portfolios were defined, taking into account factors such as the sum of the investments in instruments issued or guaranteed by the Peruvian state, the sum of investments in instruments issued or guaranteed by the Central Reserve Bank of Peru, and foreign investment. In 2009, the Type 2 Fund, which began operating in 1993, recorded a real annualized return of 8.8% over its 16 years in operation. The Type 1 and Type 3 Funds have recorded real yields of 6.2% and 21.8% respectively over the last four years.

In Mexico, regulation of multi-funds was approved in 2007 and has been applied since 2008. The five funds (Siefores) were defined according to the combination of fixed-income, equity, VaR limits and the age profile of members in each fund, although the members had the right to choose. If the member does not choose one of the funds, the regulatory body transfers the assets to the fund that corresponds to the worker's age. Workers may also request a transfer of assets from one Siefore to another at any time, as the Siefore invests assets of older or younger workers. In 2008 some criteria was introduced relating to the distribution of "undecided" members, taking into account performance in terms of returns of the pension companies. With regard to the funds, Fund 1 is the most conservative and is designed for members over the age of 56. Thus it does not invest in equity or structured instruments, and its VaR limit is the lowest. Fund 2 is designed for members aged from 46 to 55; Fund 3 for those between 37 and 45 years; Fund 4 for those between 27 and 36; and finally, Fund 5 is focused on those under 26 years of age. The investment limits also take into account the risk of the financial assets by incorporating the use of a global VaR, credit risk, concentration risk and by families of instruments in each of the portfolios. As has been shown in the case of Chile, Peru and Mexico, the authorized financial investments have become diversified. Initially there was a major concentration in government fixed-income, and gradually equity instruments were introduced, along with foreign securities, derivatives, capital guaranteed structured notes and securitized instruments.

Colombia, in the second half of 2009, introduced the multi-fund scheme, which allows members' assets to be invested in a way that is best adapted to their risk-return profile by permitting the existence of a variety of different investment portfolios for its members. The law is currently in the process of implementation, as its operation was defined by Decree 2373 of July 2010. The system must have 3 funds in its accumulation phase: a conservative fund, a moderate fund and a higher-risk fund, as well as a programmed retirement fund for its disaccumulation phase. The member may freely choose one of the 3 funds in the accumulation phase. Members will thus be in a single fund, unless they are 50 (women) or 57 (men) or over, in which case, they must have some of their funds in the conservative fund and, if they so wish, the remainder in the fund of their choice.

The operation of the multi-fund system has given excellent results. It is clear that the better handling of accounts according to the age of each member and his risk assessment has brought with it a positive trend in returns in the different types of funds. This fund diversification process has been fundamental for the modernization of the pension systems in the region. However, the improvement in this aspect has to be combined with a more flexible regulation, since moving from a very centralized system of decision-making on investment policies to one in which savers can determine certain aspects of the their portfolio composition (the proportion of fixed-income and equity), the risk associated with a concentration in the local market may be increasing.

2.3. The role of demographics and the economy

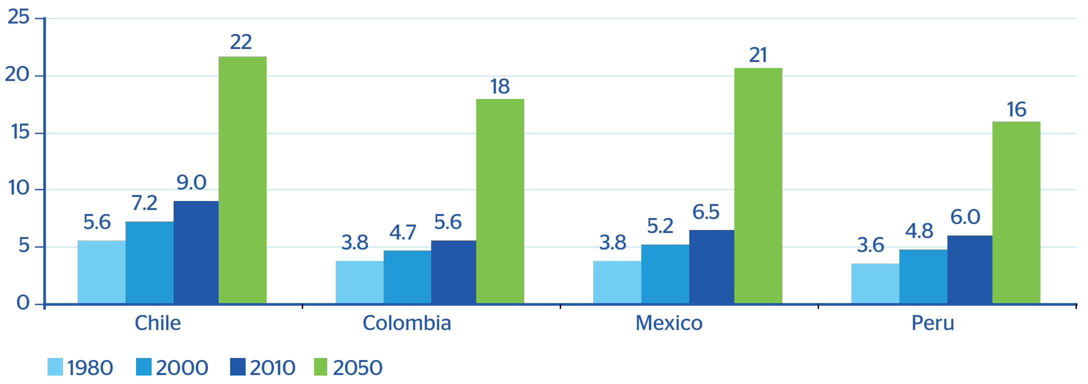
Population changes and the growth trajectory are two important components for the operation of pension funds. Demographic aspects determine the pressure that will be placed on pay-as-you-go systems by a growing life expectancy and higher birth rates. It is important to indicate that private systems will also be affected, as a greater longevity will mean that future generations will gradually have to work longer and save a greater proportion of their income to financially maintain themselves when they are no longer part of the active labor force. Meanwhile, economic stability and the determinants of economic growth are core variables that will determine the levels of savings needed for the retirement stage.

In the 1980s and 1990s, the population aged 65 years and over only represented an average of 5.9% of the total population in Chile, 4.1% in Colombia, 4.0% in Mexico and 3.8% in Peru (Chart 1.3).

In absolute terms, according to CEPAL population statistics, in 1990 Chile had around 620,000 people at the retirement age, Colombia 1,085,000, Mexico 2,599,000 and Peru 627,000. It is worth remembering that when the countries in the region were beginning their demographic transition in these decades, in other words when the average age of the labor force was falling, the system could have accumulated significant reserves. However, this did not take place as the surpluses were used to finance the public deficit. The financial situation of the systems worsened as the average age of the labor force increased. At the same time, the benefits were aggregated or increased and the investment balances had low or zero real rates of return.

Starting in 2000, the increase in the population aged 65 years and over shows a steeper curve, and accounts for 7.2% in Chile, 4.7% in Colombia, 5.2% in Mexico and 4.8% in Peru. As a result, the sustained growth of the older population in these countries represents a major challenge for their pension systems. This has led in the short term to the search for pension plans that can cater for those who have not been able to save (and may find themselves in a position of helplessness), as well as the incorporation into the pension systems of those workers who save for this purpose. It will also be important to think about alternatives that can tackle the financial problems that longevity risk brings with it, both for pay-as-you-go and individual capitalization plans. According to CEPAL population estimates (see Chart 2) for 2050, the elderly population will represent 20% in Chile and Mexico, 18% for Colombia and 16% in Peru. An adjustment of the systems is inevitable, given that the number of individuals at the working age is falling, while the number of people at the age of retirement is increasing.

Chart 2
Percentage of the population 65 years old or over (%)

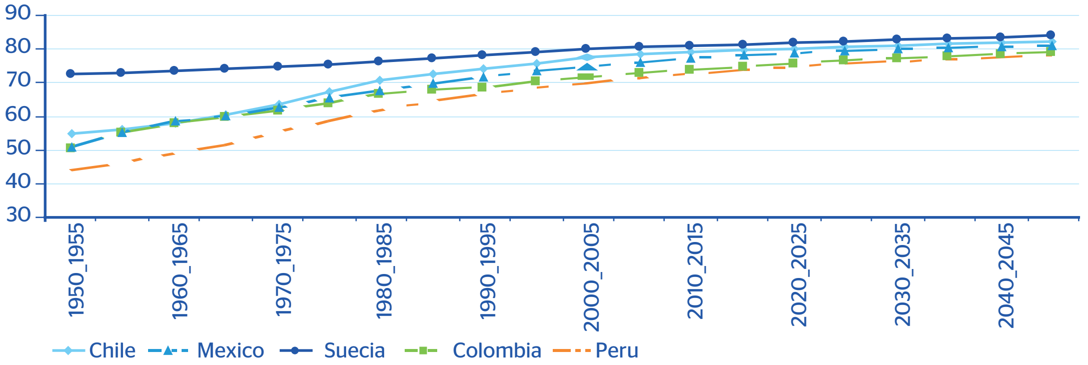


Source: CEPAL

Furthermore, in Chile, Colombia, Mexico and Peru, life expectancy for both men and women is increasing year by year, and with it the number of months and/or years during which pensions have to be paid out. In the 1980s the average life expectancy for the four countries was around 67. By the 1990s this had increased to 70 and now, between 2010 and 2050, it will be between 76 and 80 respectively[12]. It is interesting to see how this indicator converges on that of more developed countries like Sweden (See Chart 3). Thus, the retirement-age population will surpass the working-age population in 2050 (dependency ratio). For example, the dependency ratio in Chile and Mexico is approximately 35%. In Colombia, at the beginning of the 21st century, the dependency ratio represents a ratio of 21 pensioners per 100 contributing members, when in 1980 it was only at 2 pensioners per 100 members. In Peru, the ratio will be 24%.

12: CEPAL estimates.

Chart 3
Life expectancy, both sexes (average number of years)



Source: CEPAL. United Nations Population Statistics

On the economic side, we should remember that during the 1980s and 1990s most countries in the region experienced considerable macroeconomic instability, due to the established policies and the bad management of public administration, reflected in their high level of bureaucracy and serious problems with corruption. Mexico and Peru faced periods of hyperinflation with low or zero growth in these periods. Peru, in particular, had an average inflation of over 7,000% in 1990, with falls of GDP of 5.4%. This also meant that the pension systems ended up reflecting the performance of their economies.

The scenario of high inflation and low growth in various Latin American economies for more than a decade led various governments to begin to adopt structural reforms. Chile had already embarked on this process of changes in the 1980s, but the rest of Latin America only began to start moving along this path in the 1990s. Drastic stabilization programs were applied at the start of these reforms, with the aim of eliminating the distortions that existed in the goods markets, factors of productions and the management of fiscal and monetary policies. The governments then began to understand the core importance of incorporating discipline into these policies, so that they could make technical decisions that were secure from the intervention of politicians. This led to the establishment of fiscal rules that was designed to keep the public deficit balanced, and incorporate independence into the decisions of central banks. With the macroeconomic policy decisions established as a foundation, changes began to be introduced that would make the functions of the state more productive. Among these changes are the reform of the pension systems and the incorporation of the capitalization pillar with participation by private management. In general, the programs undertaken provided a clear control of inflation, and growth rates have tended on average to remain on improved growth trends. This has not meant that Latin American economies have remained unaffected by the global turbulence taking place over these years, as happened in the middle of the 1990s with the Tequila crisis in Mexico, the Asian and Russian crisis in the late 1990s and the recent global financial crisis. However, Latin America has steadily demonstrated a greater strength to stave off economic pounding and a significant flexibility to recover from the changes produced on the international scene.

Table 1
Average GDP (%)

Country	Growth from the start of the system to 2011*	Growth over the last 10 years (2001-2011*)	Growth 2010	Growth projections for 2011*
Chile (1981)	4.5	4.0	5.0	6.0
Colombia (1994)	3.4	4.1	4.5	4.0
Mexico (1997)	2.7	1.7	4.4	3.5
Peru (1993)	5.3	5.6	7.2	5.8

* estimate by BBVA Research
Source: BBVA Research

It is worth pointing out that according to Corbo and Schmidt-Hebbel (2003), a 10% increase in the size of the pension funds has an impact of 0.1 pp in accumulated savings. These authors also reveal that an increase of one percentage point in pension funds as a proportion of GDP has an impact of between 1 and 5 points of GDP in savings, as can be seen in Chart 1.8.

3. What progressed and what still needs to be done?

The reforms made by the four Latin American countries have led to important changes and advantageous effects within the systems. However, there are still challenges that each of the countries needs to undertake.

3.1. The Capital Market

The capital markets have performed better since the introduction of the multi-fund plans. Since the start of the reforms of the systems in Chile, Colombia, Mexico and Peru, positive returns have been observed, as we have mentioned above. The diversification of portfolios in the pension systems has evolved over the years. Currently in Chile there is a greater exposure to foreign issues, with 45% of the portfolios in these instruments. However, for Mexico, Colombia and Peru there is still room to extend portfolio investment abroad. At year-end 2010, Mexico invested up to 4.0% of the total in this area (See Table 2).

Table 2
Diversification of the portfolio by financial instrument (%) (June 30, 2010)

Instruments	Chile	Colombia*	Mexico	Peru
Government securities	10.1	42.0	66.0	19.2
Financial	17.3**	4.2	16.0	9.5
Non-financial	11.2**	5.4	....	11.1
Stocks	14.6	0.0	13.0	30.3
Mutual funds and others	2.4	36.1	....	3.1
Foreign issues	45.0	12.3	4.0	23.4
Others	-0.6	.....	1.0	3.4

*May 2010, **fixed-income
Source: BBVA Research

The actuarial model prepared by BBVA for Mexico (Albo et al 2007) indicates that the new IMSS pension system has a capacity to continue strengthening financial saving in the Mexican economy. This will help deepen and develop the country's financial markets and improve the allocation of resources. In addition, more flexible investment rules will allow improved financing of viable productive activities with high economic returns. Given this development, the market should consider broadening their opportunities, so that more proposals may be developed in matters of investment regulation regarding this point.

3.2. Fiscal Sustainability

By introducing the new reforms from the standpoint of fiscal impacts, the reforms reduced the tax costs of the pay-as-you-go system by different magnitudes in each of the four countries. Nevertheless, the public deficit has not disappeared, and in some countries it continues to be a problem.

In Mexico, it was clear that despite the major fiscal benefits that were implicitly achieved by replacing the pay-as-you-go scheme with a defined contribution scheme, the transition between the systems in the IMSS still represents a significant fiscal stress (an actuarial debt of 67% of GDP in 2004). On the whole, pensions in the public sector are still an important source of lost internal savings and pressure public finances. This is because pension funds that still operate in most public bodies (semi-state companies, universities and local governments) do so under pay-as-you-go plans and register serious financial imbalances.

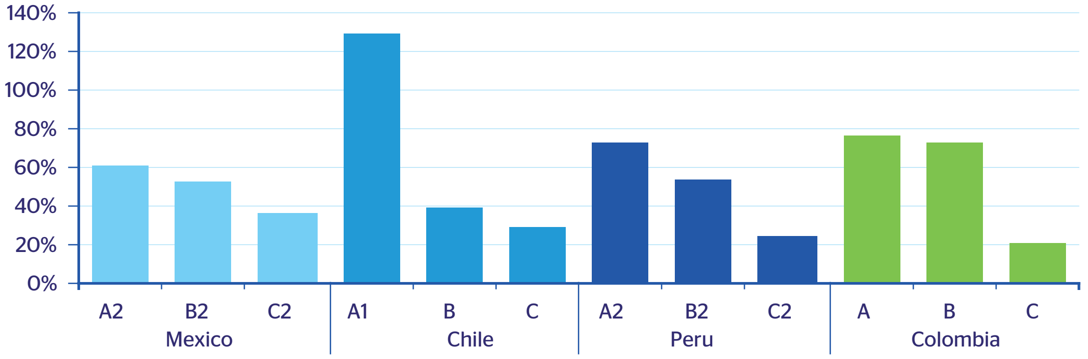
In Peru, at the current value, the actuarial debt represents 57% of GDP for 2006, which, though significant in comparison with macroeconomic ratios like debt/GDP, it does not represent such a high cost when compared to the situation prior to the reform and with the commitments faced by other countries in the region. In Colombia, the recent history of the RPM-ISS shows that there is actually a financial imbalance in the accounts of this system which could have significant fiscal effects in the future. Since 2004, when it became clear that the RPM-ISS reserves had been used up, the national government has undertaken the task to finance the pension deficits.

3.3. Replacement Rates

One of the fundamental objectives for pension systems to introduce new reforms is to improve access to adequate pensions. However, in the future, pensions will depend to a great extent on the different population groups having the ability to save, and this in turn depends on the possibility of access to the formal labor market. This may be closed for broad sections of society in some countries, where informality and unemployment rates are high.

In this situation, a divergence can be seen in the replacement rates in different population segments. Those groups who can remain in the labor market for longer obtain fairly high replacement rates, while those whose participation has been interrupted, or who have not accessed it, obtain meager pension levels.

Chart 4
Replacement rates (%)



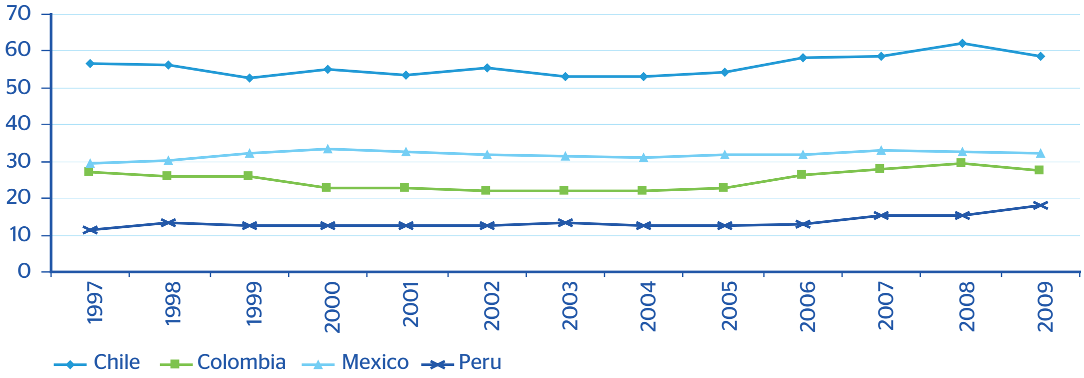
Source: BBVA Research

Obviously, the solution to the problem of groups with low contribution densities is not directly related to pension systems, but rather to the structural situation of the country in question. Problems such as informality, the operation of the labor markets and income inequality are aspects that require specific reforms, and their solutions will have a significant effect on the pension systems. Progress in these questions will not only be important from the point of view of replacement rates, but also in terms of coverage of the systems.

3.4. Coverage

Another challenge that pension systems have to face is extending the levels of coverage. As in the case of replacement rates, its solution requires a comprehensive response that goes beyond any specific design that may be given to pension plans in the future. Although the system has progressed in this task since the start of the reforms, there is still far to go.

Chart 5
Contributors as percentage of EAP



Source: BBVA Research

Coverage levels in Chile are relatively higher when compared to the rest of Latin America, being that it is an economy where informality is lower and the labor markets absorb the work force better. In addition, the percentage of members who are active contributors in the private systems is greater than in Mexico, Colombia and Peru by around 10 and 15 percentage points.

While the solution to these problems requires decisive action beyond the contribution systems, governments have been taking actions that mitigate the difficulties in coverage by incorporating new mechanisms. For example, Colombia has begun to introduce an integrated system of payments of social security contributions (starting June 30, 2005). This system allows payment of monthly social security contributions and other parafiscal payments through electronic transfers using the Integrated Contribution Settlement Template known as PILA. This provides a greater control and monitoring of the social security contributions made. More regulations were later introduced to the system to try to encourage more workers to participate.

In Peru, in June 2008, the promotion of competitiveness, formalization and the development of micro-enterprises and SMEs were established. The aim of the law is to integrate the largest number of workers possible to the pension system and thus extend the low coverage level. In addition, the creation of the Social Pension System (SPS) included the approval of a voluntary monthly contribution by members above the minimum[13], thus extending pension coverage by up to two times.

In Mexico, the defined-contribution scheme in the IMSS cannot combat the reality that a large number of contributors do not have high contribution densities. This is the case, for example, with many self-employed workers, temporary workers and those whose employment situation changes frequently from employed to unemployed or independent and vice-versa. Thus even though these people may at some time in their lives be members of an Afore, their life as active contributors is limited in most cases to the time during which they held a formal salaried wage. This is why there is urgent concern that new proposals for reforms should be made to resolve this problem.

Currently, Chile has introduced new measures through the 2008 reform to increase coverage of the obligatory pillar of the pension system. It makes contribution by independent workers obligatory according to taxable annual income. Another measure is to increase coverage under the second pillar of the Chilean pension system by creating a subsidy for hiring and contributing pensions for young workers in the most vulnerable sectors of the population.

13: Minimum remuneration PEN 550 (approx. USD 185)

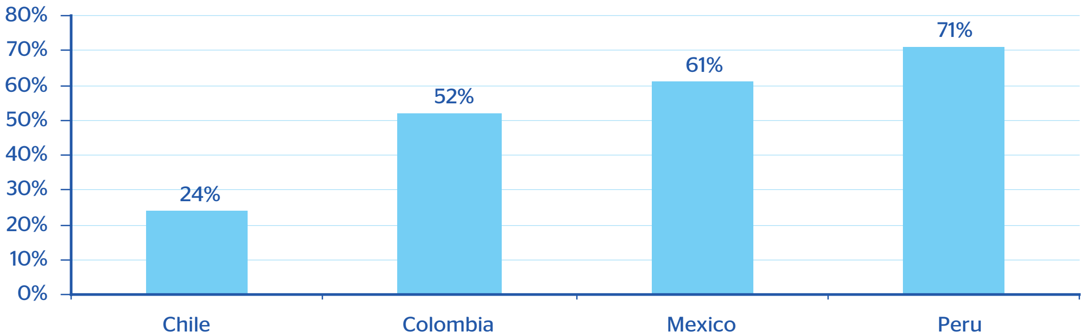
3.5. Job markets and informal employment

From the point of view of economic theory, regulation of the labor market is necessary if it creates obstacles for its operation as a competitive market. In practice, the regulation of labor relations involves considerations that reflect the pressures facing governments when trying to maintain a balance between employment stability and market flexibility. In some cases, the regulatory framework results in over-protection for certain types of workers and gives rise to a rigid labor market. Over-protection benefits those who have a job in the formal economy. These workers receive all the legal benefits and also, given the rigid labor market, have a high level of stability. The losers are those who do not have an adequate job, given that they have greater difficulties (possibly because the recruitment costs for the employer increase). The most vulnerable groups in the active population, such as young people or those with low skills and women, are those who are the most disadvantaged.

In developing countries, this lack of working opportunities pushes vast sectors of the active population into informality, either by accepting uncertain employment relations (such as without a formal contract or not appearing on the company payroll) or directly being self-employed in the informal sector, where they carry out jobs with low productivity and thus low income, reflected in higher poverty levels. This situation as a whole creates a context of limited social protection. With high levels of informality, the possibility of covering a large percentage of the population with any contribution pension system is complicated.

In the informal economy workers do not have established employment benefits, such as health coverage, pensions or paid sick leave. If they suffer abuse by employers they do not have recourse to the law as their employment relation is not documented. The negative relationship between excessive employment regulation and the size of the informal economy has been widely documented. For example, De Soto (1989) confirms that in Peru a significant part of the costs borne by small companies to remain in the formal sector is a result of regulations linked mainly to the labor market such as minimum wages and limitations for free hiring and firing of workers. Tokman (1992) finds similar evidence for Latin America as a whole. He concludes that the additional costs brought about by labor regulations are the main factors discouraging workers from remaining in the formal sector. Cárdenas (2008) reaches similar conclusions for the case of Colombia. The ideal would be for labor regulations to protect workers' fundamental rights without destroying market incentives. This implies reaching a balance between benefits and protection for workers on the one hand, and the productivity and operation of the labor market on the other. Chart 6 shows the percentage of the population that is not protected by social security in each of the countries, with Peru standing out for its high rate of informality.

Chart 6
Informality 2010 (% of population not covered by social security)



Source: BBVA Research

4. Challenges and recommendations

The reforms of the pension systems in Latin America were vital in jumpstarting the efforts to improve the ongoing development of this sector. The structural and parametric changes introduced were wide-ranging: they gave contributors property rights over their pension resources for the first time in history; pension resources were individualized and the individual accounts provided their members with legal security; state support was better directed and included a guarantee pension; an efficient and transparent long-term savings mechanism was established with a defined-contribution plan; the rights acquired by retirees at the time of the reform were fully respected, and new members were offered viable and sustainable finance; financial pressure on the government budget and public finances was reduced to the benefit of economic stability for the countries involved; and a new industry was created specializing in the handling of retirement funds and pension services with the participation of the private sector.

This has not only boosted savings and investment in the economies involved, but has also allowed them to focus on implicit factors (macro and microeconomic, business, labor markets and the informal economy, etc.) when assessing new policies to improve the systems. The interaction of the new pension systems with the financial markets has also created a beneficial response from two factors leading to improved prospects of development. On the side of pension systems, the introduction of multi-fund plans has been of great importance for the development of new investment rules that could provide an adequate management of risks and returns and give greater stability to future pensions.

Although it is true that in general terms, these reforms have represented major progress, there are still challenges that have to be resolved. The different structural realities of each country generate challenges that have to be tackled individually in terms of the labor, demographic, financial and regulatory differences in each. The weaknesses that the system still suffers should be considered as key to guaranteeing the financial, political and social sustainability of the countries involved.

The goal of the various actions presented here to improve the efficiency and effectiveness of existing pension systems is to strengthen the defined-contribution system by establishing appropriate incentives in the labor and saving markets, channeling the flows of savings in the best way for the macroeconomic structure, establishing a proper relationship between the population's income, contribution rates and pensions, and promoting the inclusion of individuals whose socioeconomic conditions do not allow them to participate in the pension system.

While there are peculiarities specific to each country, those related to coverage, informality and guarantees of minimum pensions to groups with low contribution densities and/or low incomes are common to all; and coverage is the principle obstacle to achieving more consolidated pension systems. It is important to point out that these problems represent different levels of depth in Chile, Colombia, Mexico and Peru, depending on the soundness of the current pension model in each and the existing incentives towards promoting a greater integration of informal or independent workers into the defined-contribution pension system.

In the same way, it is interesting to compare the measures that are analyzed in the previous chapters to allow access to minimum pensions for those people with low contribution densities or low incomes. These measures depend on the socioeconomic reality of each country. They take care not to distress the fiscal balance and focus expenditure in the most efficient way possible on those individuals who, given their contribution characteristics, would not have an adequate pension for retirement, or those who do not comply with the minimum requirements that make them eligible for a pension of any sort. To optimize the resources of contributors in the future, we highlight those proposals that allow pension funds more extensive possibilities for investment by extending the class of assets in which they can seek greater returns on the savings made by contributors in the system through new investment vehicles. Together with well defined investment regulations, this would allow notable room for improvement to current pension systems, in all cases to the benefit of those making contributions.

Given the differences in the employment and the economic structure of the countries analyzed, the proposals could be expected to be varied both in terms of characteristics and magnitude. First we focus on the proposals for structural improvements aimed at increasing coverage and resolving the most urgent problems facing the pension systems analyzed. It is already known that increasing and improving the coverage of all the pension systems in the study is a fundamental step towards more consolidated pension systems.

One of the proposals suggested for Peru, in order to broaden coverage, would be shared or matching contribution schemes, with pensions of one and two soles per day. The structure of this scheme is a direct response to the employment reality of the country. They aim to maintain incentives for savings by workers on low incomes. Bernal et al (2008) demonstrated that contributions of one or two soles would grant those low-income workers access to a pension. This kind of pension plan can be gradually converted into a basis for incorporating non-contributory pillars by the state, through properly focused assistance. Along the same lines, there is a proposal to make contribution by formal independent workers obligatory. For this obligatory measure to be successful, the proper control mechanisms have to be in place and the best means have to be designed so that as many independent workers as possible can be convinced to contribute to the systems. These measures, as a whole, would result in Peru's current coverage to double by the year 2050.

In Mexico, the increase in coverage faces a greater problem: the fragmentation of the pension system. The unification of the pension sub-systems (IMSS[14] and ISSSTE[15]) into a single National Pension System, as described by Albo et al (2007), would enable more independent workers to be included in pension plans and overcome the fragmentation of the social security system. It would also increase the contribution densities and pensions of those people who currently contribute on an intermittent basis in one or various pension sub-systems. Along the same lines, Albo et al (2007) also proposes a government co-financed plan for voluntary saving in individual accounts for independent workers within the Retirement Saving System. This plan consists of monthly contributions to the sub-account of long-term savings in the independent worker's individual account. The government contributions proposed would decrease as the contributions made by the worker increased. This co-financing scheme would provide more support to independent or informal workers on low incomes. At the same time it would offer the necessary incentives for people with middle incomes to move to the IMSS defined-contribution system and thus obtain greater benefits in terms of the returns provided.

Coverage in Colombia is still lower than in Chile or Mexico, and represents a structural problem that requires special attention. A large number of workers do not make contributions into the pension system, despite the legal obligation to do so for both formal and informal workers. The proposals made to increase and improve coverage in Colombia are aimed more towards the control and supervision of contributions to the pension system. The tool proposed to achieve this would be to boost the use of the program known as PILA (Integrated Contribution Settlement Table). At the same time, checking the validity of the information supplied by contributors in terms of their income and crossing this information with other sources held by the state would optimize the control and supervision of the contributions made to the pension system. Together with the above, this would make young people aware of the ageing population and the risks of entering this stage and would help them plan for greater coverage in the future. Law 1328 represents significant progress in this sense. It promotes the financial literacy of consumers and even goes so far as to create a Financial Consumer Service System whose mission is to "provide financial training to customers on the various transactions, services, markets and types of activity of the supervised institutions, as well as respect for the different mechanisms established to protect their rights."

In the case of Chile, the measures adopted to improve coverage are designed for an employment reality in which there are a significant proportion of workers with a high level of rotation in employment status during their active life, with alternating periods of employment, unemployment, inactivity, non-salaried activity and self-employed activity. This is why no single measure can resolve the lack of coverage. The proposals made by the Presidential Council for Pension Reform are an attempt to integrate the different employment realities into a more flexible contribution plan.

Among the most relevant measures by the Council designed to extend coverage are obligatory contribution that eliminates distinctions between dependent and independent workers. Other proposals are to extend the right to family benefits for all independent workers that make pension contributions, eliminate the prohibition on independent workers registering at the Cajas de Compensación (Compensation Funds) and allow them access to benefits under the Law on Occupational Accidents. Similar proposals include the following: to give equal tax treatment to pension contributions made by independent workers as contributions by dependent workers; allow independent workers access to benefits under the pension system (old-age, invalidity and survivors' pensions); simplify the payment mechanisms for contributions to reduce associated transaction costs, etc. These measures act as a clear incentive for all those informal and independent workers for whom integration into the pension system represents a tremendous

14: Instituto Mexicano del Seguro Social (Mexican Social Security Institute)
15: Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (Institute for Civil Servant Social Insurance and Services).

cost compared with dependent workers. Standardizing treatment benefits all workers as a whole, but particularly each worker during his working life, because (as has been indicated) alternating between salaried employment and self employment represents the reality for a large number of workers in the Chilean labor market.

Although these are major advances and coincide to a great extent with the proposals put forward by BBVA in the Favre et al study (2006), some elements remain which should be reinforced by the authorities. In this regard, making contributions by independent workers obligatory may not be enough to incorporate independent workers with lower incomes who are in the informal economic sector, as the latter may not have the necessary incentives for saving in a pension plan. Taking into account the challenge this problem poses for the country, it will be necessary to consider schemes that allow the employability of these segments to be enhanced, so that they can receive regular income as the basis for their savings.

Another interesting proposal of the Labor and Equity Council is to design a “pre-formalization” scheme that gradually incorporates informal workers into a set of minimum standards to be complied with, thus enabling them to move towards formality. This initiative was focused on micro-enterprises that are barely surviving, recognizing that the productivity of these activities is very low. These minimum standards would be progressive and should be viewed as a provisional framework, not as a parallel one. To provide more consistency to this measure and associate it with the pension mandate, a state subsidy could also be added to workers’ contributions, which would be deposited directly into the individual accounts. If all this were to be designed correctly, it would also make it possible to streamline future commitments that could be generated through the solidarity pillar.

Table 3[16] sums up the measures proposed to extend coverage in the different pension systems.

Table 3
Propuestas para ampliar la cobertura

Chile	Colombia	Mexico	Peru
1) Public policies designed to increase workers’ productivity and, thus, enhance their employability.	1) Greater control and supervision of contributions to the pension system.	1) The unification of the two pension sub-systems (IMSS and ISSSTE) into a single National Pension System, as referred to in this book, would enable more independent workers to join pension plans.	1) Adjusting the contribution amounts and presenting them as a minimum daily contribution that varies according to the contributor’s income would help improve coverage for informal workers who are not part of the pension system.
2) Consider a provisional framework of minimum formality standards (temporary, progressive and focused) for gradual incorporation of informal workers into the formal economy.	2) Boost the use of the PILA (Integrated Contribution Settlement Table).	2) Stop the fragmentation of the social security system and increase the contribution densities and pensions of people who currently contribute intermittently in one or more pension sub-systems.	2) Establish obligatory membership for formal independent workers.
3) Assess the possibility of complementing the minimum standard framework with a scheme of pension subsidies going directly into their individual account, conditional on fulfilling the requirements.	3) Keep a check on the validity of the information provided by the member, and cross check this information with the sources of information held by the state.	3) Establish a government co-financed plan for voluntary saving in individual accounts for independent workers within the Retirement Saving System.	
	4) Create awareness among young people about the ageing population and the risk of receiving low income when not making contributions towards the future, by promoting the financial literacy of consumers.		

Source: Escrivá, Fuentes and García Herrero (2010)

The disaccumulation phase is one of the areas to consider when analyzing pension systems. There is still some way to go within this phase in terms of providing guarantees of minimum pensions for groups with low contribution densities and/or low incomes in the four countries. The measures suggested in this document have focused on those elements that are presented as key to constituting a minimum level for the retirement pension.

16: This table is taken from Escrivá, Fuentes and García Herrero (2010).

These elements are basically as follows: the modification of the contribution rates; modification of the minimum contribution periods needed to qualify for a minimum pension; and concentrating state subsidies in order to extend the coverage of minimum pensions to groups on lower incomes or with low contribution densities. Thus we can see that although the different employment realities inherent in diverse economic structures give rise to different measures, all of them point towards guaranteeing minimum coverage in a focused and efficient way. This result is essential for the sustainability of the state contributions that guarantee coverage for minimum pensions over time. We should highlight that part of the problem of low contribution densities is due to the fact that many informal or independent workers do not join the contribution system because there are not enough incentives to do so. This is why measures that aim to guarantee a minimum pension for such workers are linked to the measures mentioned above to increase coverage and integrate them into a contribution system.

For Peru, extending the guarantee of the minimum pension for all those members of the SPP should be linked to the one or two soles pension scheme. In this regard, the rates of contribution will allow, after 20 years of contribution, to ensure at least 60% of a minimum pension for the pension-savers under the one sol contribution plan. From the above, we can conclude that the state subsidy required to provide a minimum pension would be focused mainly on contributors to this plan who could not meet the contribution requirements. Likewise, along the same lines, there has been a proposal to reduce the minimum vesting period required to access to a minimum pension from 20 to 15 years. This measure is designed to make requirements more flexible in response to the reality of less qualified workers, as the Peruvian labor market shows that low-skilled workers have major difficulties in maintaining their jobs. This results in them looking for jobs in the informal sector of the economy and thus no longer contributing to the system. This measure is therefore fundamentally focused on those workers with the greatest risk of exclusion from the contribution system and does not represent a danger to the equilibrium of the pension system. If we analyze these measures as a whole, we can see that they represent an efficient way of channeling subsidies to the groups at greatest risk, while creating a stimulus aimed at encouraging contributions from those workers excluded from the system. This means an effort to set up a sounder pension system, by applying measures in accordance with the employment reality of people whose incomes and employment situation have not allowed them, or have not created the right incentives for them, to participate in the pension system.

In the case of Mexico, according to Albo et al (2007) modifications have been proposed in terms of concentrating subsidies, contribution periods and contribution rates. One proposal is to modify the contribution rate, basically because the contributions made by the average worker generate a low replacement rate. But given that an immediate increase could generate a negative short-term impact on contributors' incomes, the contribution rate could instead be increased gradually. This proposal is designed to move Mexico towards contribution rates that are more in line with its level of development as a country. In turn, this helps ensure a higher pension level for all the members of the system as a whole. Another proposal is to relax the condition that members must accredit 1,250 weeks of effective contributions for access to a minimum guaranteed pension. The idea is that 50% of the guaranteed pension should be paid with 900 weeks of contribution, and that this should be increased by 7% for each 50 additional weeks of contribution. This proposal aims to be an effective tool to prevent total exclusion from minimum pension benefits of people with low contribution densities. It means that people who have not achieved the previous threshold of minimum weeks of contributions are not faced with a situation of poverty in old age; and at the same time, it does not create a disincentive to contribute for remaining members.

Along the same lines, there is a proposal to concentrate government expenditure on contributions for people with lower incomes. The aim is to concentrate state contributions at 11% of the SMGVDF (minimum wage in the Federal District) rather than the current 5.5% for people who have income of up to 3 times the minimum wage; with a contribution of 0% for people with incomes of more than 3 times the minimum wage. In this way the fiscal cost of increasing the Social Contribution for people with lower incomes would be fully compensated by eliminating this benefit for others with higher incomes. Taken together with the measure to co-finance pension savings for independent and informal workers, these measures demonstrate that all the proposals aim to set up a more efficient, supportive and inclusive system.

In Colombia, the measures proposed to guarantee a minimum pension to groups with the lowest incomes and low contribution densities are mainly concerned with making the requirements for accessing the complementary contributions offered by the Solidarity Account more flexible.

It is precisely the excessive demands in terms of weeks of contributions to access this benefit that prevent people with low contribution densities from benefiting from these supplementary contributions. The proposal is to relax the conditions for accessing this account in terms of weeks of contribution prior to requesting the contribution supplement. This would increase coverage by close to 10% of the economically active population by the year 2050. The measure is specifically limited to the group of workers with lower incomes and contribution densities, thus preventing the generation of a negative effect in terms of the contribution densities of the remaining workers.

In turn, it would be useful to provide financial benefits below the minimum pension and allow pension contributions to be made for periods of employment of under a month. This would give all those workers with low contribution densities (who tend to be in the informal economy) a way of ensuring a minimum pension for their old age. The formal mechanism for achieving this is Periodic Pension Payments (BEPs) considered by the government. BEPs provide aid below the level of the minimum wage to people who have reached retirement age (under the Average Premium Scheme in the General Pension System). By allowing contributions from jobs lasting under a month, it opens the door linking the informal system to the formal system and thus benefits precisely those workers who are least protected. The main result of this would be the formalization of the voluntary savings system so that informal workers can have access to a type of pension. The two measures mentioned above are extremely important, not only in terms of ensuring minimum pensions for the groups most likely to be excluded from the contribution system, but also as a bridge for moving forward in the reduction of informal employment and thus the consolidation of the pension system.

In the case of Chile, the 2008 pension reform created a new solidarity pillar that represents an enormous advance in terms of ensuring a minimum pension for people who have never had contact with the contribution system for economic, social, employment etc. reasons. This solidarity pillar is composed of a basic non-contributory solidarity pension for the elderly and disabled who have not paid into the system; and a welfare pension contribution for elderly and disabled as a supplement for people who have made contributions into the system, but not sufficient to receive adequate pensions. This state contribution is reduced proportionally to the amount of the self-financed pension until it terminates when the self-financed pension reaches the maximum pension. It is important to point out that both measures in this solidarity pillar would be aimed at men and women at the age of 65 who belong to the three poorest quintiles (60%) of the population in terms of income. These supportive and flexible measures that Chile seeks provide a basic level of insurance or minimum pension for the groups with the greatest social risk. We should point out that these proposals have their origins and purpose in a specific group of the most vulnerable people, and that they always safeguard the incentives currently in place to continue contributions.

Although the above is very much in agreement with the BBVA analysis in the report by Favre et al (2006), we still believe that it is important to address some issues in order to provide greater support in the retirement stage, especially if we take into account the challenges posed by the risks of longevity. In this regard, Escriva et al (2010) suggests that one measure that should be studied is an automatic increase in the retirement age as the population's life expectancy increases. This would enable future generations to be better prepared to obtain pensions that are adapted to demographic changes. As seen in previous chapters, the risk of longevity is assumed by the retiree in the case of a programmed retirement, which is particularly affected as the benefits decrease faster than life expectancy. Therefore, one initiative which in our opinion could improve this type of pension would be to promote temporary income schemes with deferred life annuities. Other options could also be considered, such as programmed retirement with group longevity insurance or other alternatives related to inheritance rights. Finally, to confront systematic longevity risk, more stress should be placed on the issue of longevity bonds, learning from the lessons left by the intention of doing so in 2009.

Table 4[17] sums up the measures proposed to ensure a minimum pension for people with low incomes and/or with low contribution densities[18].

17: This table is taken from Escrivá, Fuentes and García Herrero (2010)
18: For more information, please refer to each specific chapter of this book.

Table 4

Proposals for the conditions in the retirement stage to ensure a minimum pension for people with low incomes and/or with low contribution densities

Measures	Chile	Colombia	Mexico	Peru
Modification of the contribution rate.	Think in the medium-term about adjustments to contribution rates according to the changes in the socioeconomic and demographic sphere.	Remove the link between the minimum pension and the increase in the minimum wage.	Increase of 4.8% of the contribution base wage immediately, or gradually by 0.5% a year.	Contribution rate of 10% on the wage.
Modification of minimum contribution periods.	Automatic adjustments according to changes in life expectancy.	Make the requirements to access the Solidarity Account subsidy for people with lower incomes more flexible (currently they are at 250 weeks of contribution for independent workers, with a minimum age of 35).	900 weeks of contributions to have the right to 50% of the guaranteed pension. Increase it by 7% for each 50 additional weeks of contribution to the 100% under the Law with 1,250 weeks of contribution.	Reduction from 20 to 15 years of the minimum vesting period to receive the right to a guaranteed minimum pension.
State subsidy for the coverage of a minimum pension.	Subsidies intended for the minimum standard proposal for accessing formality should be properly aligned with the criteria for having access to a minimum pension, so that saving decisions are not distorted.	Provide financial benefits below the minimum pension and allow pension contributions to be made for periods of employment of less than one month.	State contribution of 11% of the minimum wage in the Federal District instead of the current 5.5% for incomes of up to 3 times the minimum wage; and a contribution of 0% for people with income over 3 times the minimum wage. The cost of the Social Contribution would be focused only on people with lower incomes. Establish a state co-financing plan to ensure the coverage of the minimum pension.	Subsidy depending on income level to cover the minimum pension. Greater subsidies for workers with lower incomes than for those who have higher incomes.
Incentives for inclusion of independent workers or those in the informal sector	Subsidies intended for the minimum standard proposal for accessing formality should be properly aligned with the criteria for having access to a minimum pension, so that saving decisions are not distorted.	Allow pension contributions for employment periods of under a month. Buy insurance to cover invalidity and survivors' risks, with the funds coming from the Occupational Risk Fund.	Sliding scale of supplements to voluntary savings in the individual accounts of independent workers, up to a maximum contribution by the worker of 750 pesos per month. The supplementary contributions are reduced as the contributions made by the workers increase.	Extend the guarantee of a minimum pension for all the members of the SPP. Obligatory membership for formal independent workers. Discount of the percentage corresponding to the contribution rate, together with withholding income tax for those workers with incomes of over 7 applicable tax units per year, which is equivalent to PEN 2,500 per month (approx. USD 830).

Source: Escrivá, Fuentes and García Herrero (2010)

All the proposals aim to make public spending an efficient and focused tool, and to use well-designed incentives to incorporate workers who do not contribute into the system, either by making the tax treatment of the different types of workers similar or by designing contribution plans in accordance with the different employment contexts, co-financing the contributions for the pensions of workers with low incomes or managing a better control over the declared contributions of workers. In short, the application of the different proposals would greatly help to generate more extensive, sounder and more efficient pension systems.

Finally, to ensure proper asset management, it is essential that the systems continue to make progress in extending the range of pension fund investments or making the regulation of funds more efficient. One aspect that is still pending in the countries' investment regimes is the form of assessing the performance of fund investment administrators. In this regard, the best solution is to develop a benchmark that considers the risk and return associated with the pension amount. A benchmark known beforehand would give the administrators more room for managing the investments around such a parameter and strongly reducing the herd effect.

We can see that the proposals for Chile, Colombia, Mexico and Peru are fairly similar and are basically related to the extension of the investment horizon. Although it is true that in Chile different funds can already be chosen according to their risk and return, improvements still have to be made in the investment options available for pension companies. Thus the proposal for Chile is to make the limits to investment abroad much more flexible, particularly for those with longer terms. Changes also have to be made to reduce as far as possible the risks associated with the time of retirement. This is because special consideration has to be taken for investments made in lower risk funds, given that their duration may be very different to that actually required due to the life expectancy of people who have already retired.

In Colombia, the creation of different funds (multi-funds) within the AFPs in already being implemented in which members can be distributed by levels of risk aversion and age profiles. This would allow pension fund administrators to work more efficiently when investing, as well as reducing the risk according to the profile of each type of fund. Although this measure has already been introduced recently through Law 1328, progress still has to be made in terms of increasing the investment possibilities for funds, as well as extending the class of assets which can provide greater returns on the savings made by contributors to the system.

In the case of Mexico a possible way to improve the investment rules of the Siefores further is to extend the class of assets in which they can invest. In this way, the Siefores could invest in specialized funds such as private capital, mutual funds, infrastructure and commodities. Another proposal along the same lines is to increase the 20% limit to investment abroad, or even eliminate it in the medium term.

For Peru, the AFPs were initially required to generate at least a positive minimum real return. However, the volatility of the markets made it clear that it was not always possible to achieve positive returns. The concept was therefore redefined to state that the investments made by the AFPs using fund assets must achieve the maximum returns while maintaining greatest security, for the purpose of providing benefits under the SPP. To achieve this objective, it is therefore essential that the AFPs in Peru can have even more extensive investment horizons and a properly diversified range of investment assets and vehicles. It is worth stressing here that the regulations on these aspects in Peru are appropriate, and allow the AFPs to use various investment instruments. In terms of the future, it would perhaps be a good idea to increase the investment limit abroad, currently set at 30%.

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Contact details

BBVA Research
Paseo Castellana, 81 - 7th floor
28046 Madrid (Spain)
Tel.: +34 91 374 60 00 and +34 91 537 70 00
Fax: +34 91 374 30 25
bbvaresearch@grupobbva.com
www.bbvaresearch.com