BANCO DE ESPAÑA
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THE END OF THE DEMOGRAPHIC DIVIDEND IN LATIN AMERICA: CHALLENGES FOR ECONOMIC AND SOCIAL POLICIES

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ABSTRACT

Population ageing is a major global challenge. The Latin American economies have a younger population structure than other emerging and advanced economies, which has allowed them to enjoy the so-called demographic dividend (a favourable working age/non-working age population ratio). However, according to the latest demographic projections of the United Nations (UN), it is estimated that in 2020 the Latin American population pyramid will resemble that of the advanced economies in 1990 and that, by around 2050, both groups will have similar population profiles. This article documents the current demographic trends in Latin America and discusses the main related challenges, in particular, those arising from the adaptation of social welfare systems to population ageing.

Keywords: demographic dividend, ageing, pension systems, dependency ratio, total factor productivity.

JEL classification: H55, J11, J26.

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Introduction

Population ageing is a major global challenge. In recent decades, the analysis of this
phenomenon and its economic consequences has focused on the advanced
economies. In contrast, the emerging countries enjoyed the so-called demographic
dividend.[1] This refers to the potential benefits of a population structure in which the
younger generations have a larger share, leading to a favourable working age/non-
working age population ratio. The economic literature documents how, when these
generations are educated and incorporated into the labour market, growth, economic
development and the sustainability of public finances improve.

In the case of Latin America the window of opportunity to benefit from this
demographic dividend is closing. According to the latest demographic projections
of the United Nations (UN), the speed of ageing projected for this region over the
next three decades is greater than for other economies, such as the European ones.
Against this background, this article documents the current demographic trends in
Latin America, from a global perspective. It presents the main challenges associated
with these trends, which the advanced economies have already been facing for
some time. In particular, it focuses on the challenges for pension systems, which in
Latin America have particular characteristics, and also a high degree of cross-
country heterogeneity.

Demographic drivers in Latin America

Over the past six decades, Latin America has recorded an ongoing decline in the
share of the younger generations (the under-14s), measured as a percentage of the
working-age population, while the percentage of elderly persons (the over-65s)[2] has
trended upwards (see Chart 1). These trends have been seen in all regions of the
world, but their rates have been especially pronounced in Latin America and Asia.

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1 See Bloom et al. (2003).

2 The inverse of this latter indicator – the number of potential workers for each person over the age of 65 – is also
used in the literature.

Chart 1

DEPENDENCY RATIO

The dependency ratio in Latin America is at a low level, owing to the fall in the fertility rate. However, this situation is not projected to last. According to current demographic projections, Latin America will face similar population ageing to that seen in the advanced economies, which will lead to an increase in the dependency ratio.
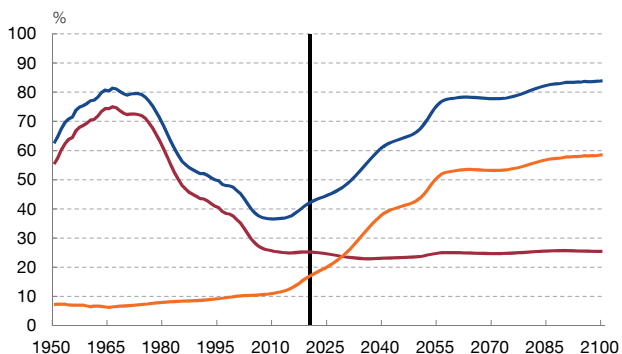
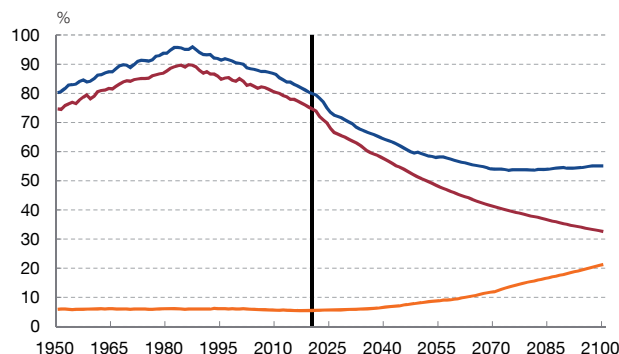**1 MEDIAN DEPENDENCY RATIOS IN LATIN AMERICA (a)**
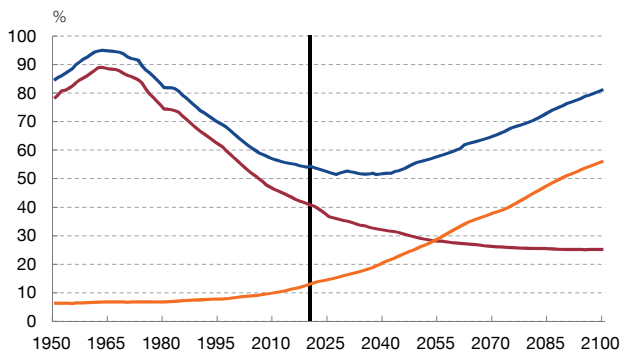
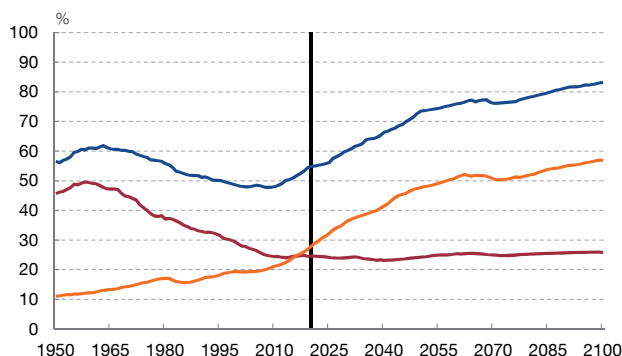**2 MEDIAN DEPENDENCY RATIOS IN SOUTH AND SOUTH-EAST ASIA (b)**
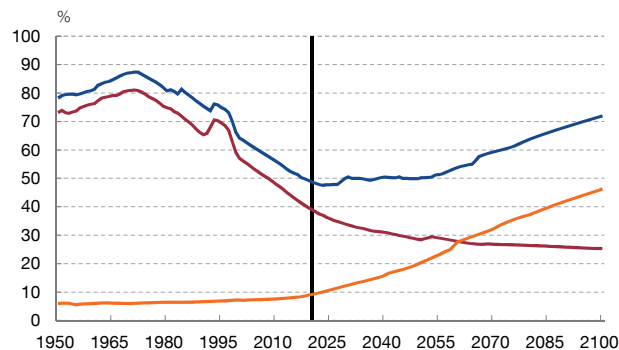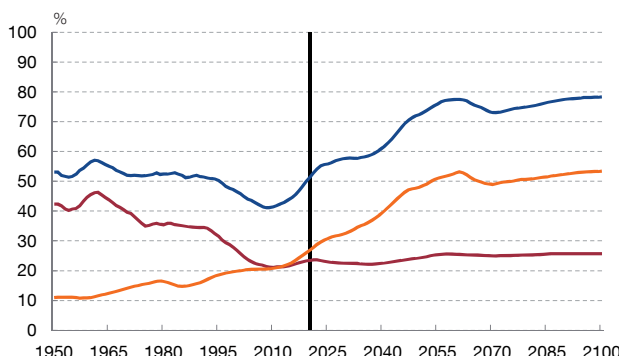
3 DEPENDENCY RATIOS IN CHINA

4 DEPENDENCY RATIOS IN AFRICA (c)

5 MEDIAN DEPENDENCY RATIOS IN THE ADVANCED ECONOMIES (d)

6 MEDIAN DEPENDENCY RATIOS IN EASTERN EUROPE (e)

——— DEPENDENCY RATIO   ——— 0-14 DEPENDENCY RATIO   ——— 65+ DEPENDENCY RATIO

SOURCE: Authors' calculations, based on UN data.

a South and Central American countries (UN classification, which includes Mexico in the latter group) with at least one million inhabitants in 2019.
b South and South-East Asian countries (UN classification) with at least one million inhabitants in 2019.
c African countries with at least one million inhabitants in 2019.
d High income countries according to the World Bank classification with at least one million inhabitants in 2019.
e Eastern European countries (UN classification) with at least one million inhabitants in 2019.
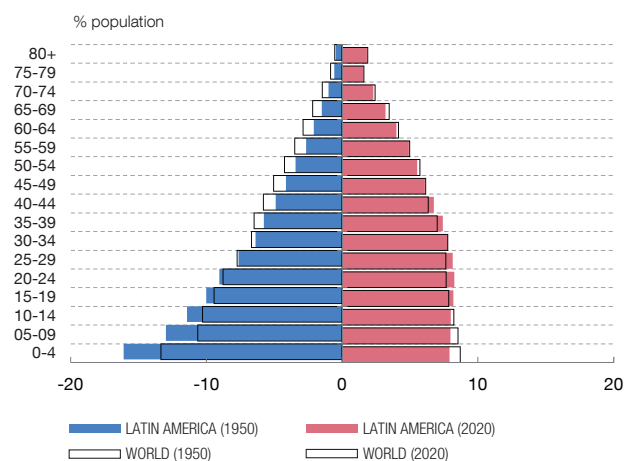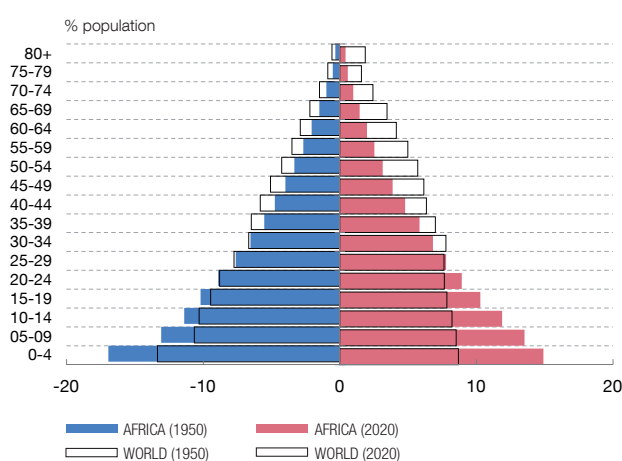
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Chart 2
POPULATION STRUCTURES

In 2020, the Latin American population pyramid will be very similar to the one for the world as a whole, while the African one will display larger differences than in 1950 since it is the only region in which the dependency ratio is still falling.

1 LATIN AMERICA AND THE WORLD (a)

% population

2 AFRICA AND THE WORLD (a)

% population

LATIN AMERICA (1950)   LATIN AMERICA (2020)
WORLD (1950)   WORLD (2020)

AFRICA (1950)   AFRICA (2020)
WORLD (1950)   WORLD (2020)

SOURCE: UN.

a The population pyramids depicted in the charts show the structure by age group (as a percentage of the total population) in the region and in the world.

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According to the UN's projections, these dynamics are expected to continue, especially in Latin America. The population structure of this region is currently similar to that of the world as a whole (see Chart 2), as compared with a much younger structure in the 1950s, when it was similar to that of the African continent. However, it is estimated that the population pyramid of Latin America in 2020 will be similar to those of the advanced economies in the 1990s and, according to the projections available, these two groups of countries will have similar population profiles by 2050.

As in other areas of the world, population ageing in Latin America is primarily a consequence of a fall in fertility and an increase in life expectancy over the past six decades (see Chart 3.1). In Latin America, moreover, the demographic transition has been boosted by a higher relative incidence of net population outflows (see Chart 3.2), and an emigration profile that has tended to be based on younger, working-age population strata (see Chart 3.3). Although net emigration has fallen in recent years, relative to the final decades of the twentieth century, net population outflows have, on aggregate, continued to be more significant in Latin America than in the rest of the world.[3]

Also as in other areas of the world, the fall in fertility in Latin America was accompanied by the incorporation of women into the labour market. The female participation rate in
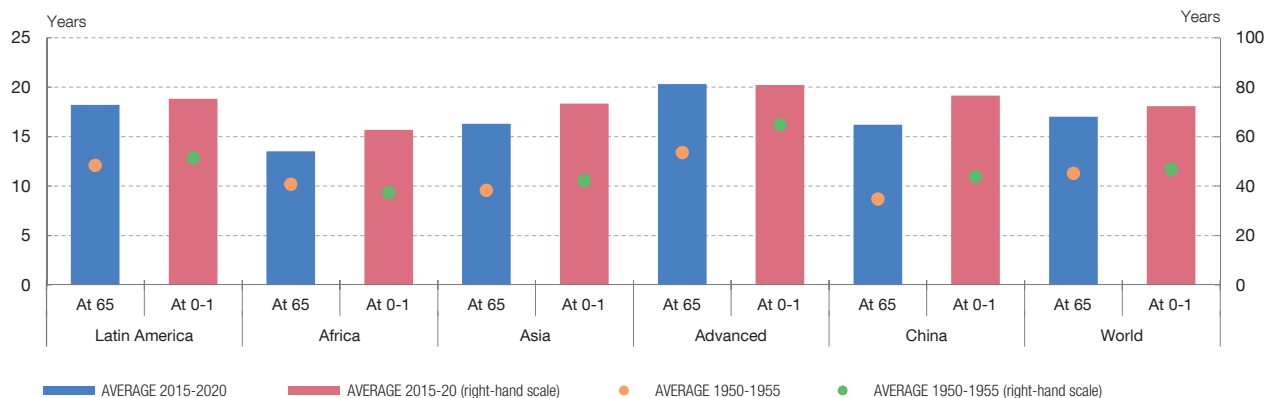
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3 The decline in population growth may also involve an increase in immigration into the region, especially in the cases of Brazil and Mexico (See Campos (2017)).
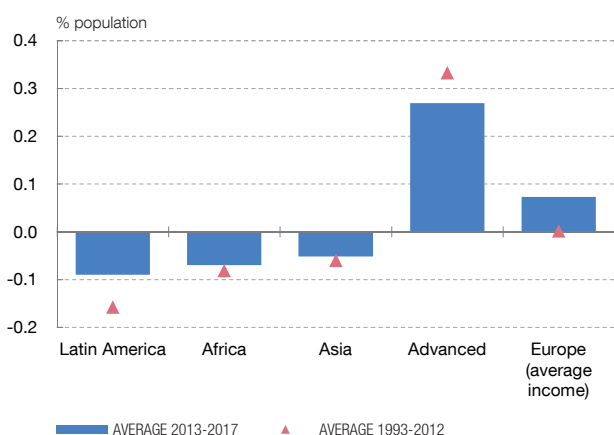
Chart 3

DEMOGRAPHIC DRIVERS OF AGEING

The increase in life expectancy, fall in fertility and migratory flows are the main factors driving ageing. Life expectancy has increased drastically over the last 60 years, especially in the emerging countries. In recent years, net emigration has declined in the region (except in Venezuela, for idiosyncratic reasons). However, emigrants are predominantly young people.
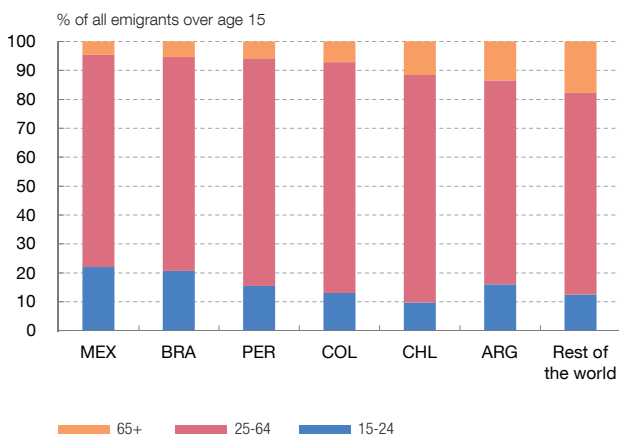
1 LIFE EXPECTANCY

AVERAGE 2015-2020   AVERAGE 2015-20 (right-hand scale)   AVERAGE 1950-1955   AVERAGE 1950-1955 (right-hand scale)

2 NET MIGRATORY FLOWS

AVERAGE 2013-2017   AVERAGE 1993-2012

3 EMIGRATION RATE

65+   25-64   15-24

SOURCE: Authors' calculations based on World Bank, UN and OECD data.

the region has doubled since the 1960s (see Chart 4.1), offsetting the downward trend in the male participation rate (see Chart 4.2). However, in recent decades, the rate of incorporation of women into the labour market has slowed and, in most of the countries of the region, the female participation rate has reached levels close to those in advanced countries, which may indicate that this transition is coming to an end.

The challenges of ageing

The faster demographic transition projected for Latin America means that the region will have less time to adapt to the consequences of ageing. This phenomenon has

Chart 4
POTENTIAL GROWTH AND DETERMINANTS

Latin America is growing at a slower pace than the other emerging regions, partly owing to the absence of total factor productivity growth. The transition involving the incorporation of women into the labour market seems to have come to an end.
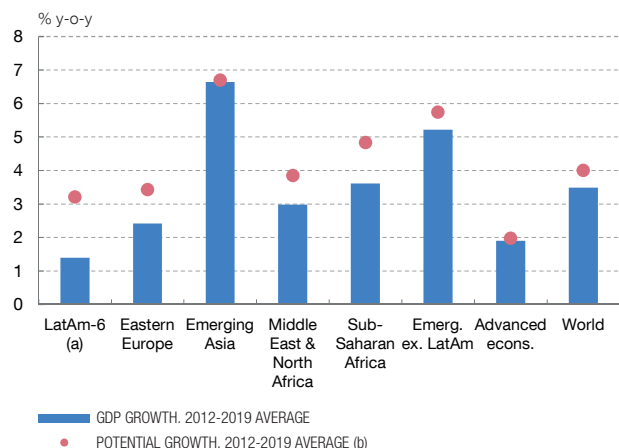
1 PARTICIPATION RATE: WOMEN

2 PARTICIPATION RATE: MEN

Legend: 1960 | 1980 | 2000 | 2018 | OECD 2018
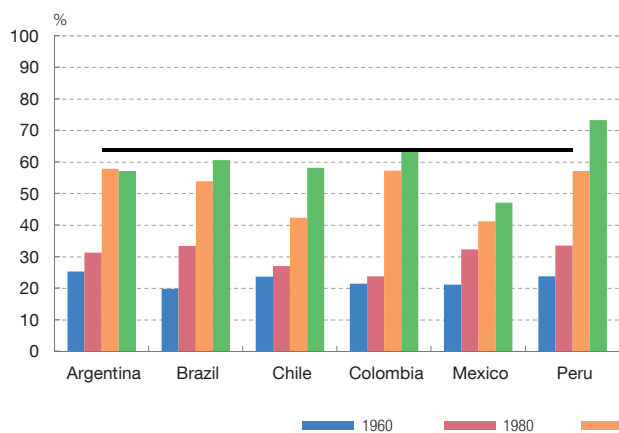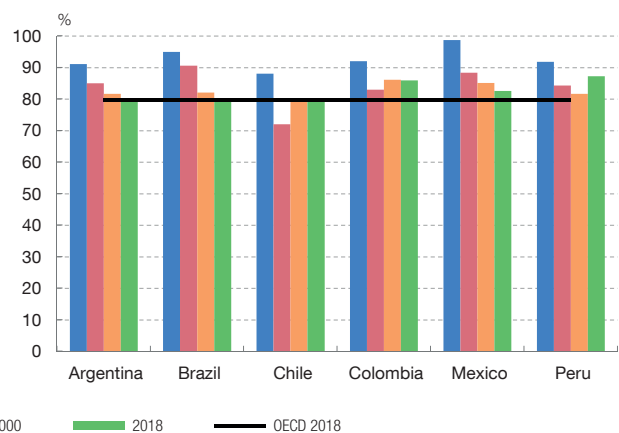
3 GDP GROWTH AND POTENTIAL GROWTH

4 TOTAL FACTOR PRODUCTIVITY

Legend:
GDP GROWTH. 2012-2019 AVERAGE
POTENTIAL GROWTH. 2012-2019 AVERAGE (b)

2010-2017
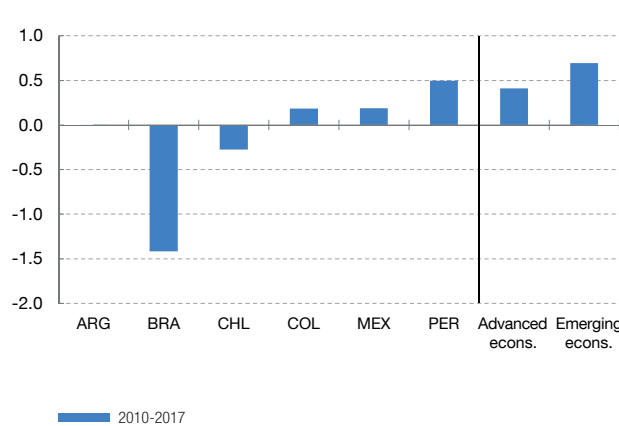
SOURCES: IMF, UN and own calculations drawing on Penn World Table 9.1 data.

a Latin America-6: Argentina, Brazil, Chile, Colombia, Mexico and Peru. Weighted by purchasing power parity.
b To estimate potential growth, the IMF forecast available at the time for the longest term (five years) was used for each year.

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significant effects on economies' aggregate supply and demand, and on macroeconomic and social policies. As explained in Banco de España (2019), demographic changes affect household consumption, business investment, employment, productivity and wage and price-setting processes. These changes affect the efficacy of monetary and fiscal policies, because, on one hand, the lower growth of the working-age population makes it more likely that real interest rates will remain low, while on the other hand, both the level and the composition of public spending and revenues depend on the age structure of the population.

These demographic trends may aggravate a situation in which the region's economic growth (only 1.4% in annual average terms over the last five years) and potential growth are already low relative to other emerging regions, partly due to scant productivity growth (see Charts 4.3 and 4.4). Here, it is essential to point out that Latin American labour markets are characterised by a large informal sector, which accounts for more than 50% of total employment, with a high degree of heterogeneity across countries, and by their rigid regulation. The first characteristic tends to smooth the adjustment of the economies to shocks, but hampers productivity growth, while the latter has a negative impact on their potential growth, according to the evidence available (David et al., 2020).

Against a background of increasing spending pressure associated with population ageing, the weak potential growth and the characteristics of the Latin American labour market pose significant challenges to the ability to raise extra revenue through the tax system. As to social policies, it should be noted that the need for spending on pension, health and long-term care systems is directly related to the size of the older population, a structural factor that exerts pressure on public spending.

Pension expenditure in Latin America

According to the economic literature, pension system coverage is one of the main challenges posed by population ageing, on account of its importance for fiscal sustainability. In the case of Latin America, the arguments that feature in the debate taking place in advanced economies – especially in Europe, where the debate has been most active –cannot be directly extrapolated as there is no single pension system model in place in the region.

In 1981 a reform was approved in Chile that completely replaced the pay-as-you-go (PAYG) public pension system[4] with an individually-funded system administered by the private sector.[5] This reform, which has given rise to a lengthy transition period in which both systems co-exist, was very influential in the region and various other countries introduced an individually-funded system, either as a main component of their pension system (Mexico in 1997) or to complement the traditional PAYG system (Peru in 1993, Colombia in 1994). The latter option is generally known as the parallel

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4 Under the PAYG system, contributions made to the pension system fund current pension benefits and also guarantee the rights of future beneficiaries whose pensions will be funded with the contributions of the new generations. This is a state-run system based on both inter- and intra-generational transfers, with benefits determined by law (the replacement rate, access requirements and adjustability of pensions are generally stipulated). Contributions are also set by law and may be borne by workers, employers and the State.

5 The individually-funded system has the following characteristic features: i) a funded system based on individual accounts; ii) the pension funds and individual accounts are mainly privately run but may also be run by the State; iii) benefits are funded by the capital built up in individual accounts, with no replacement rates determined by law (in other words, benefits depend on each individual's ability to save and on the returns obtained on the funds); and iv) contributions are determined by law.

model, in which workers have to choose between the public PAYG system and the individually-funded system. Among the countries that have a PAYG public pension system, Argentina[6] and Brazil stand out. Both these countries have recently introduced reforms (Brazil in 2019 and Argentina in 2017) and Argentina is currently discussing further reforms. In general, these reforms set stricter conditions for retirement and adjusted benefits (replacement rates),[7] seeking to address the ageing problem and to strike a balance between sufficient coverage and benefits, on one hand, and financial sustainability, on the other. In the specific case of Brazil, the most notable aspects of the latest reform are the increase in the retirement age and in the number of years of contributions required, and making workers' social security contributions progressive.

However, individually-funded systems are chiefly designed for the segment of the population who have formal, stable employment, receive medium-high incomes and make contributions most of their working life, and this is not generally the case of workers in Latin American countries, given the significance of informal labour markets and the low density of contributions in the formal ones (see Chart 5.1). In consequence, there is a certain degree of consensus among analysts[8] that individually-funded pension systems based on individual ability to save have not produced the desired results in terms of coverage and sufficiency of benefits.

Accordingly, some Latin American countries have recently reformed their pension systems by reinforcing public funding, to narrow the gap between the beneficiaries of the pension system insofar as coverage and quality of benefits are concerned. For instance, the reform of the Chilean pension system in 2008, which created an integrated model consisting of a minimum base and individually-funded systems, entails a return to a pension system administered and funded by the State. The recent social unrest in Chile has reopened the debate about potential reform of the pension system, highlighting the creation of new solidarity mechanisms such as, for example, the proposal to increase the employer contribution rate by 5 pp (from 10% to 15%), to create a solidarity fund to boost current and future pensions via inter- and intra-generational transfers.[9] This places pressure on public spending, owing to the need to reinforce and extend the coverage of non-contributory schemes and to complement contributory pensions in order to achieve minimum sufficiency levels.

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6 In 1994 an integrated model was introduced in Argentina, so named because it included a universal solidarity base that was part of the pension system. In 2008 the individually-funded system was eliminated, leaving just the state-run PAYG system.

7 The replacement rate is defined as the amount of a person's pension as a percentage of his/her last wage before retirement.

8 See, for example, Arenas de Mesa (2019) and some of the works referenced there.
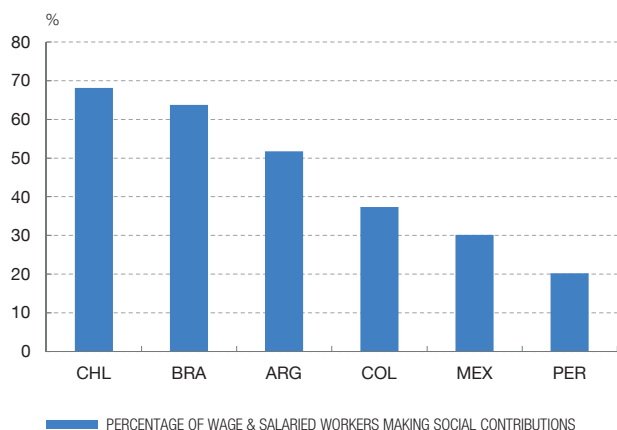
9 By contrast, in Mexico, there have been no subsequent major changes and the main changes made have been focused on the non-contributory pension system, resulting in increased coverage for over-65s with non-contributory pension schemes.
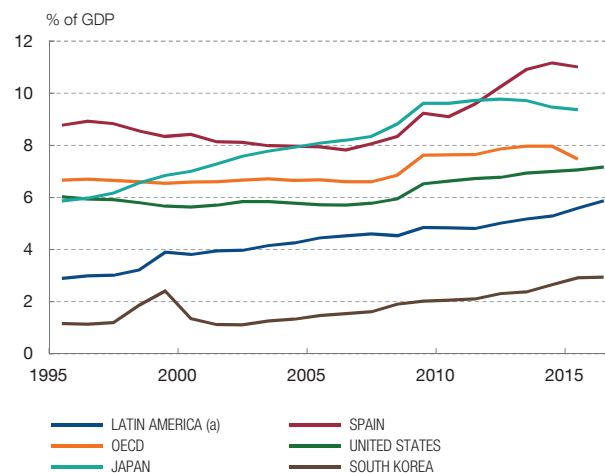
Chart 5

AGEING DRIVES UP PENSION SYSTEM EXPENDITURE IN LATIN AMERICA

Since 1995, pension expenditure as a percentage of GDP has doubled in Latin America (weighted average of Argentina, Brazil, Chile and Mexico) owing to the greater generosity of the pension systems and the increase in the dependency ratio. If the other determinants were to remain unchanged, the growth in the dependency ratio projected by the UN alone would push pension expenditure in the region up to 15% of GDP in 2050.
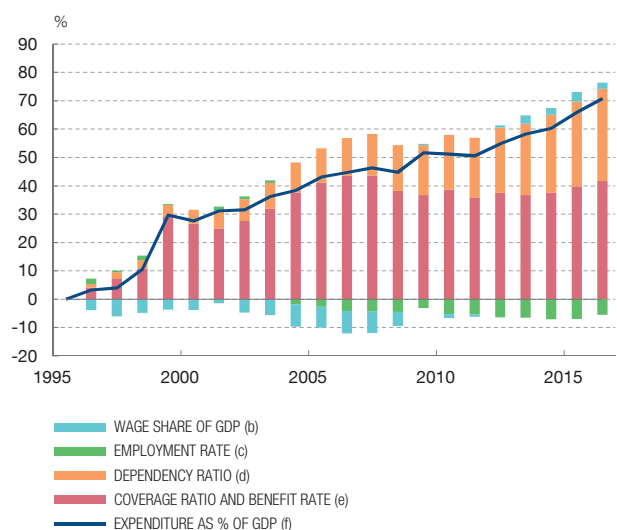
1 INCLUSION IN PENSION SYSTEM IN LATIN AMERICA

PERCENTAGE OF WAGE & SALARIED WORKERS MAKING SOCIAL CONTRIBUTIONS

2 PENSION EXPENDITURE

LATIN AMERICA (a)   SPAIN
OECD   UNITED STATES
JAPAN   SOUTH KOREA

3 DETERMINANTS OF PENSION EXPENDITURE IN LATIN AMERICA

WAGE SHARE OF GDP (b)
EMPLOYMENT RATE (c)
DEPENDENCY RATIO (d)
COVERAGE RATIO AND BENEFIT RATE (e)
EXPENDITURE AS % OF GDP (f)

4 SIMULATION OF PENSION EXPENDITURE IN LATIN AMERICA ACCORDING TO DEPENDENCY RATIO PROJECTION

95% CONFIDENCE INTERVAL   PENSION EXPENDITURE AS % OF GDP
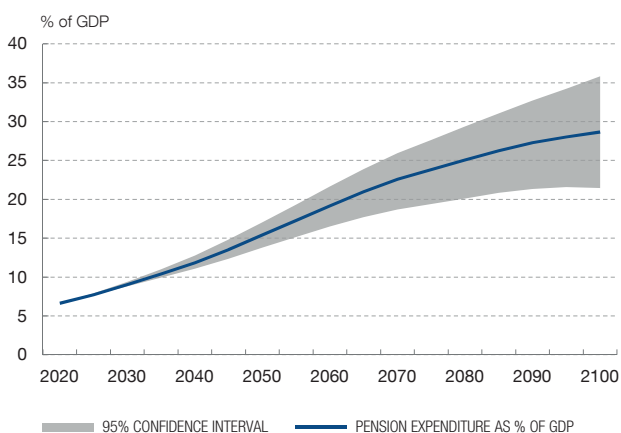
SOURCES: Own calculations, with data from World Bank, ECLAC, UN, OECD, Penn World Tables 9.1, IMF and national welfare systems.

a Aggregate of Argentina, Brazil, Chile and Mexico.
b Measures the contribution to pension expenditure/GDP of the wage share of GDP.
c Measures the contribution to pension expenditure/GDP of the change in the employment rate (employed population to working-age population).
d Measures the contribution to pension expenditure/GDP of the change in the dependency ratio (population over 65 to working-age population).
e Measures the contribution to pension expenditure/GDP of the change in the product of the benefit rate (ratio of average pension to average wage) and the coverage ratio (percentage of population over 65 receiving a pension).
f Cumulative percentage change in ratio of pension expenditure to GDP, measured as the log difference compared with the 1995 figure.

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Table 1

CHARACTERISTICS OF PUBLIC PENSION SYSTEMS IN VARIOUS LATIN AMERICAN COUNTRIES

	Dependency ratio (a)	Model	Calculation of benefit (b)	Statutory retirement age: women (b)	Statutory retirement age: men (b)	Contributors/ labour force	Pension recipients/ population 65+	Contribution rate (%) (b)	Minimum number of years (b)	Replacement rate (%) (b)	Public pension expenditure as % of GDP
Argentina	55.9	PAYG (2008)	DB/DC	60	65	56.2	92.5	23.7	30	80 (DB)	8.9
Peru	50.7	Parallel (1993)	DB/DC	65/65	65/65	26.9	48.8	13/10	20/20	47 (DB)/ 73 (DC)	1.5
Chile	45.7	Integrated (2008)	DC	60	65	63.4	87.0	10	—	38 (DC)	2.8
Colombia	45.7	Parallel (1994)	DB/DC	57/57	62/62	30.5	45.7	16/11.5	26	44 (DC)	4.1
Mexico	45.7	Private (1997)	DB/DC	65/65	65/65	36.3	81.6	8.1/6.3	10/25	107 (DB)	2.3
Brazil (c)	43.4	PAYG	Age/Years of contributions	60/55	65/50	58.0	86.9	28-31 (both)	15/35	80 (age)	11.0

SOURCES: IDB (2019), Arenas de Mesa (2019), IMF, OECD, national sources and UN demographic projections.

a Dependency ratio in 2018, on UN population data. The dependency ratio is defined as the ratio of the sum of the dependent population (over-65s and under-16s) to the working-age population (16-65 age group).
b Pension systems may have different pillars in different countries, according to how contributions and benefits are calculated, i.e. defined benefit (DB) when benefits are determined ex ante or defined contribution (DC) when contributions are fixed but benefits may vary. In some countries the two systems overlap; in these cases the parameters of the different calculations are separated by a "/" sign. Brazil has a dual calculation model, based on retirement age and years of contributions. The contribution rate is defined as the percentage of income (see IDB (2019)). The replacement rate is the percentage of last salary received as income in retirement: the simple average between married men and women.
c The Brazilian National Congress recently approved a reform of the pension system that maintains its status as a public benefit system. It raises the minimum retirement age to 62 for women and 65 for men, and the minimum number of years of contributions to 20 for men and women. It also unifies workers' social security contributions, introducing a progressive scale, and places upper and lower limits on contributory pensions.

Table 1 presents the key characteristics of public pension systems in the countries with the largest economies in Latin America.[10] Despite the progress made with the latest reforms, there is still a large gap between the level and quality of coverage of the pension systems in Latin America and those of the OECD countries. In 2017, for example,[11] only 45% of the labour force in the region as a whole contributed to a pension system (see Chart 5.4), compared with the OECD average of close to 80%. This means that more than half the current labour force may need some kind of financial supplement or support from the State in their old age to avoid falling below the poverty line. In turn, 76% of the over-65s were receiving a pension in 2017; this is an increase of almost 25 pp compared with the year 2000, but still considerably lower than the average of the OECD countries (close to 95%). Moreover, partly owing to their sharp growth in recent years, non-contributory pension systems account for 30% of coverage of pensioners in Latin America. Judging the quality of this coverage, as measured by the replacement rate, is not straightforward in individually-funded systems. However, according to the

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10 Although they are not included in Table 1, Costa Rica, Panama and Uruguay all have mixed models, i.e. pensions are funded mainly through the public PAYG system, complemented by an individually-funded system that may be public or private.

11 See Arenas de Mesa (2019).

literature,[12] coverage quality is generally higher in PAYG systems than in individually-funded ones.

As Chart 5.2 shows, in recent decades public pension expenditure in Latin America[13] has gradually risen as a percentage of GDP, doubling between 1995 and 2016 (see Chart 5.2). To understand the reasons for this increase, we decompose pension expenditure (expressed as a percentage of GDP) into its determinants. Pension expenditure depends positively on the dependency ratio (population over 65 to working-age population), negatively on the employment rate (employed population to working-age population) and positively on the wage share of GDP and the generosity of the pension system (which in turn is the product of the coverage ratio (percentage of population over 65 receiving a pension) and the benefit rate (ratio of average pension to average wage)). This is expressed in the following equation:[14]

$$\text{Pension expenditure/GDP} = \text{Dependency ratio} \times \text{Coverage ratio} \times \text{Benefit rate} \times \text{Wage share of GDP} / \text{Employment rate}$$

As Chart 5.3 shows, in Latin America public pension expenditure rose between 1995 and 2005 mainly on account of the increased generosity of the pension system, owing either to a higher public coverage ratio or a higher benefit rate. However, since 2005 the higher dependency ratio has been the main driver of the increase in expenditure. Likewise, public pension expenditure is expected to continue to grow owing to ageing of the region's population.

Chart 5.4 sets out the result of a simulation of pension expenditure, assuming the increase in the dependency ratio projected by the UN while keeping all other determinants unchanged at their present levels.[15] According to this simulation, public pension expenditure could increase from around 6% of GDP in 2020 to 15% in 2050. It is expected, therefore, that governments will continue to reform their pension systems, to address the challenges of the demographic transition facing the region.

13.2.2020.

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12 See Arenas de Mesa (2019) and the works cited there.

13 Aggregate of the region's four economies for which there are complete data available (Argentina, Brazil, Chile and Mexico).

14 The lack of uniform data for Latin America makes it impossible to calculate the coverage ratio and the benefit rate separately, which is why the analysis focuses on the product of the two, which measures the generosity of the pension system.

15 In the simulation the coverage ratio is constant. If it were to rise in the future, as it has in recent years, this would pose an additional challenge.

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