

PENSION MARKETS IN FOCUS

2020



Pension Markets in Focus 2020

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Foreword

The 2020 edition of *Pension Markets in Focus* provides an overview of retirement savings at the end of 2019 in 90 jurisdictions and outlines the developments in the pension sector worldwide. It exhibits an extensive range of indicators relevant to retirement savings, harmonised and standardised across jurisdictions. It monitors the key financial aspects, such as the amount of assets accumulated, the way these assets are invested and their investment performance, both over the past year and over the longer term. The report also examines the proportion of the population covered by pension plans, the amount of contributions paid into these plans and the benefits that members receive at retirement.

The special feature in this year's edition forecasts the evolution of the value of retirement assets from end-2019 to the third quarter of 2020. It also examines the funding position of DB plans in 2020.

The data used to prepare this report have been collected from national authorities within the framework of the OECD's Global Pension Statistics project, initiated in 2002 by the OECD Working Party on Private Pensions. The OECD's partnership with the International Organisation of Pension Supervisors (IOPS) and the World Bank in more recent years has broadened the geographical coverage of this report well beyond the 37 OECD countries.

The OECD is grateful to the national authorities for providing data and comments, and to the IOPS and the World Bank who made the preparation of this report possible.

This report was prepared by Romain Despalins under the supervision of Pablo Antolin and Stéphanie Payet from the Private Pension Unit of the OECD Directorate for Financial and Enterprise Affairs. Comments and inputs from Elsa Favre-Baron, Diana Hourani and Jessica Mosher from the OECD Private Pension Unit are gratefully acknowledged. Karen Castillo and Pamela Duffin provided editorial assistance.

Table of contents

Foreword	3
Main findings	7
1 Overview of retirement savings plans at the end of 2019	9
1.1. Size and importance of retirement savings plans	9
1.2. Investment performance and allocation of pension assets	27
1.3. Specificities and challenges of defined benefit and defined contribution plans	36
2 Assets in retirement savings plans in the time of COVID-19	45
2.1. Assets in retirement savings plans are forecast to exceed their pre-COVID-19 level by end-Q3 2020	45
2.2. The funding position of DB plans is less alarming than at end-Q1 2020	48
References	50
Annex A. Features of retirement savings plans covered in this report	51
Methodological notes	55
General notes	55
Specific notes	56
FIGURES	
Figure 1.1. Assets in retirement savings plans around the world, 2019 or latest year available	11
Figure 1.2. Geographical distribution of pension assets in the OECD area, 2019	12
Figure 1.3. Total assets in retirement savings plans, in 2009 (or first year available) and 2019 (or latest year available)	13
Figure 1.4. Annual nominal growth rates of pension assets in 2019 and over the last ten years (or longest period available) in selected OECD and other jurisdictions	14
Figure 1.5. Total amount of assets in retirement savings plans in the OECD and in other jurisdictions, 2009-2019	15
Figure 1.6. Coverage of retirement savings plans in selected OECD and other jurisdictions, by type of plan, latest year available	17
Figure 1.7. Evolution of the coverage of retirement savings plans between 2009 and 2019 (or the longest period available) in selected jurisdictions, by type of plan	19
Figure 1.8. Proportions of individuals owning assets and individuals contributing to their individual accounts in selected Latin American countries, 2019	20
Figure 1.9. Minimum or mandatory contribution rates (for an average earner) in mandatory and auto-enrolment plans (unless specified otherwise), 2019 (or latest year available)	21
Figure 1.10. Employer, employee and state contributions paid into retirement savings plans, in selected OECD and other jurisdictions, in 2009 and 2019	23

Figure 1.11. Average annual contribution per active account or member in selected OECD and other jurisdictions, latest year available	24
Figure 1.12. Total benefits paid and assets transferred to a third party for retirement, 2019 or latest year available	26
Figure 1.13. Annual real investment rates of return of retirement savings plans, net of investment expenses, 2019	28
Figure 1.14. Allocation of assets in retirement savings plans in selected asset classes and investment vehicles, 2019 or latest year available	31
Figure 1.15. Variations in the proportion of pension assets invested in equities and bills and bonds between 2018 and 2019 and over the longest time period possible in selected jurisdictions	33
Figure 1.16. Average allocation of pension assets in selected asset classes and investment vehicles in the OECD area, in 2009 and 2019	34
Figure 1.17. Share of pension assets invested abroad and in foreign currencies, in 2009 (or first year available) and 2019 (or latest year available)	35
Figure 1.18. Split of pension assets by type of plan, 2009 (or first year available) and 2019 (or latest year available)	37
Figure 1.19. Assets and liabilities of DB plans (in billions of national currency) and their funding ratio (in per cent) in selected jurisdictions, 2009-2019	39
Figure 2.1. Evolution of the MSCI indices of the seven largest pension markets and the world, 2020	46
Figure 2.2. Preliminary forecasts of assets in retirement savings plans in the OECD, up to end Q3-2020	46
Figure A A.1. Features of pension plans	51

TABLES

Table 1.1. Nominal and real geometric average annual investment rates of return of retirement savings plans over the last 5, 10 and 15 years, and over the longest period possible	29
Table 1.2. Fee structure and caps in selected OECD countries and other jurisdictions	40
Table 1.3. Annual fees charged to members, by type of fee, 2019 or latest year available	44
Table 2.1. Evolution of the funding ratio of DB plans in selected OECD countries in 2020	48
Table A A.1. Existing types of retirement savings plans by country and data coverage	54

Main findings

Assets in retirement savings plans reached new heights, exceeding USD 50 trillion before the COVID-19 outbreak

Retirement savings in pension funds, pension insurance contracts and in other vehicles exceeded the USD 50 trillion mark worldwide for the first time, with USD 49.2 trillion in the OECD area and USD 1.7 trillion in other reporting jurisdictions at the end of 2019.

The asset growth can be partly attributed to an increasing proportion of working-age people covered by a pension plan. This increase in coverage was especially strong in countries with relatively recent mandatory pension plans (e.g. Bulgaria, Israel, Latvia) or auto-enrolment programmes (e.g. New Zealand, the United Kingdom). The increased proportion of individuals with a pension plan, coupled with an increase in contribution rates in some countries (e.g. the United Kingdom), probably accounts for the increase in total contributions and eventually in assets.

Benefit payments also affect the trend in pension assets as they lower the overall amount of assets. The size of benefit payments remained limited in countries with relatively recent funded pension systems (e.g. Estonia, North Macedonia).

Retirement savings plans recorded strong investment returns in 2019 and a positive investment income over the last 15 years

The large growth of assets in 2019 also resulted from a strong investment performance, benefitting from an upturn of equity markets in 2019. Retirement savings plans recorded investment gains in almost all the reporting jurisdictions in 2019. Fifteen countries, including the Netherlands, Switzerland and the United States, exhibited a double-digit real investment rate of return in 2019, with the largest gains observed in Ireland (18.5%) and the Netherlands (13.7%).

Viewed over a longer period, pension assets generated a positive investment income in most reporting countries. Three Latin American countries recorded the strongest annual real investment rates of return on average over the last 15 years: Colombia (6.2%), the Dominican Republic (6.8%) and Uruguay (5.2%). Pension funds in Canada and the Netherlands also managed to earn a real annual return that was relatively high compared to other countries, close to 5% on average over the last 15 years.

Assets were sufficient to cover pension liabilities in most countries at end-2019

Assets in DB plans were equal to or even exceeded the level of pension liabilities in most countries at the end of 2019. Funding levels of DB plans, measured in this report as the ratio of investments to technical provisions (net of reinsurance), were above 100% in 6 out of the 13 reporting jurisdictions, and close to 100% in three others (i.e. Hong Kong (China), Luxembourg and the United Kingdom). However, the funding ratio of four reporting jurisdictions (i.e. Iceland, Indonesia, Mexico and the United States) ranged from 32% (in Iceland) to 97% (in Indonesia), meaning that assets in DB plans would not have been sufficient in these

four countries to cover all the pension liabilities (the way they are calculated) at the end of 2019 (2018 for Mexico).

Retirement savings plans are forecast to recoup Q1 2020 investment losses by the end Q3 2020

The COVID-19 outbreak has created instability in financial markets, generating investment losses for retirement savings plans in the first quarter of 2020. OECD forecasts suggest that pension assets declined by 10% in the first quarter of 2020 in the OECD area, from USD 49.2 trillion at end-December 2019 to USD 44.3 trillion at end-March 2020. However, the recovery of financial markets in the second and third quarters may have enabled pension providers to recoup these investment losses and see the level of pension assets rise back to their pre-COVID-19 level between Q2 and Q3 2020.

The sharp fall of assets in DB plans, coupled with a decline in interest rates, has put a strain on DB plan sponsors and providers in the first quarter of 2020. The funding ratio of DB plans deteriorated in the first quarter of 2020 in Canada, Finland, the Netherlands, Switzerland, the United Kingdom and the United States. Policy makers swiftly prepared responses to support DB plan sponsors and providers. As financial markets rebounded in the second and third quarters of 2020, the funding position of DB plans improved but remained below their 2019 level in several countries, including the Netherlands, the United Kingdom and the United States.

1 Overview of retirement savings plans at the end of 2019

The OECD, in cooperation with the International Organisation of Pension Supervisors (IOPS) and the World Bank, collects detailed statistics on retirement savings plans every year to monitor the latest developments in the funded and private components of pension systems. Monitoring pension systems closely is key to assessing their strengths and identifying the challenges they face, in a timely manner. This monitoring requires detailed and up-to-date statistics. All countries track and follow the developments in their pension systems through regular data collection exercises. The OECD, the IOPS and the World Bank contribute to this monitoring endeavour by gathering and publishing up-to-date national statistics on retirement savings plans, in a harmonised and comparable fashion, to the extent possible. The compilation of national statistics that follows aims at providing tools for cross-country comparisons.

This report covers all retirement savings plans where assets accumulate to finance future benefit payments. These assets can accumulate in pension funds, through pension insurance contracts or in other vehicles. These plans can be administered by a public or private entity and can cover public or private sector workers, the unemployed and even children in some countries. Employers' book reserves, which are private (unfunded) plans, are also included in this report. By contrast, reserves that some countries set aside to support the payments from public pay-as-you-go or unfunded schemes (such as Japan's Government Pension Investment Fund and Korea's National Pension Fund) are outside the scope of this report. Annex A describes the features of retirement savings plans that are analysed hereafter in greater detail. This annex also specifies which types of plans exist in all reporting countries and whether data in this report cover these plans.

This section first provides an overview of the size and importance of retirement savings plans around the world at the end of 2019. It considers four categories: i) the amount of pension assets accumulated; ii) the proportion of individuals covered by a pension plan; iii) the contributions paid into these plans; and iv) the benefits that these plans pay to retirees. Secondly, it examines the investment performance of retirement assets and the way these assets were invested in 2019 and in the last decade. The last part of this section shows the size of defined benefit (DB) and defined contribution (DC) plans (in terms of assets) and the evolution of the pension landscape through the end of 2019, before looking further into some specificities of these plans (i.e. funding ratios for DB plans, fees charged to members for DC plans).

1.1. Size and importance of retirement savings plans

1.1.1. Assets

Substantial assets have been accumulated in retirement savings plans around the world to finance future pension benefits. Pension assets exceeded USD 50 trillion worldwide for the first time at the end of 2019.¹

¹ This estimate for 2019 is based on the total amount of investments relating to retirement savings plans. This amount is used as an estimate of total assets in retirement savings plans. While in general, the difference between assets and

Pension assets were overwhelmingly accumulated in pension funds, gathering alone over USD 32 trillion of assets at the end of 2019.² In some countries, other vehicles can also be used to save for retirement such as pension insurance contracts sold by insurance companies (in Denmark and France for instance) or products offered and managed by banks and investment companies (such as individual retirement accounts, IRAs, in the United States).

The amount of assets in retirement savings plans varies widely across countries. In absolute terms, the largest amounts were recorded in North America (in Canada and the United States), Western Europe (in the Netherlands, Switzerland and the United Kingdom) and in Australia and Japan, exceeding USD 1 trillion in these seven countries (Figure 1.1, Panel A). Lower amounts of assets were accumulated in the rest of the world, below USD 0.2 trillion in 70 out of the 90 reporting jurisdictions based on their available data.³

In relative terms, large differences also exist across countries. Comparing the amount of pension assets to the size of the economy, measured by the GDP, gives a better picture of the relative importance of retirement savings plans domestically. Within the OECD area, 8 out of 37 countries had assets at the end of 2019 above 100% of their economy (Figure 1.1, Panel B). In countries like Iceland, assets accumulated may appear small (in USD terms) compared to other countries, but may be high with respect to the size of their economy (178% of GDP). However, the ratio of assets remained relatively low even when compared to GDP in a number of reporting jurisdictions, below 20% in 54 of them including some rapidly developing countries (e.g. China, India).⁴

investments would be minimal, this difference may be more substantial in some cases, such as the United States, where claims of pension funds on the plan sponsors are considered as assets of the (defined benefit) plan but not as investments.

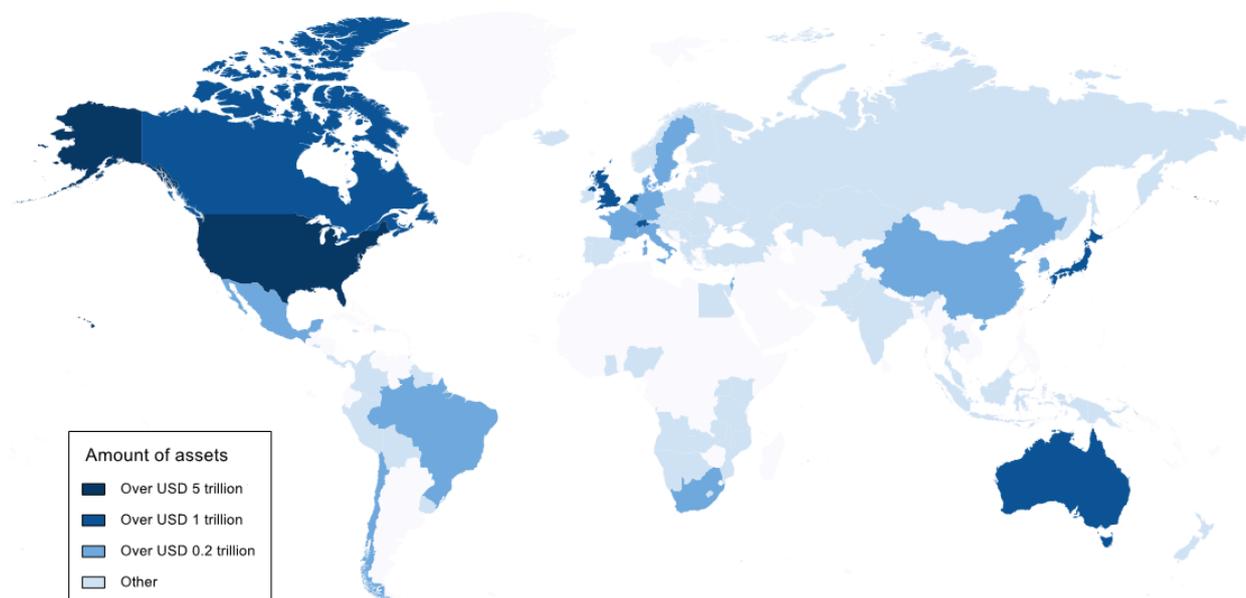
² See [OECD Pension Funds in Figures 2020](#).

³ The total amount of assets in retirement savings plans is available in millions of national currency in Table A.B.1, in USD million in Table A.B.2 and as a percentage of GDP in Table A.B.3 in the statistical annex of this report, accessible online at: <https://www.oecd.org/pensions/private-pensions/pensionmarketsinfocus.htm>

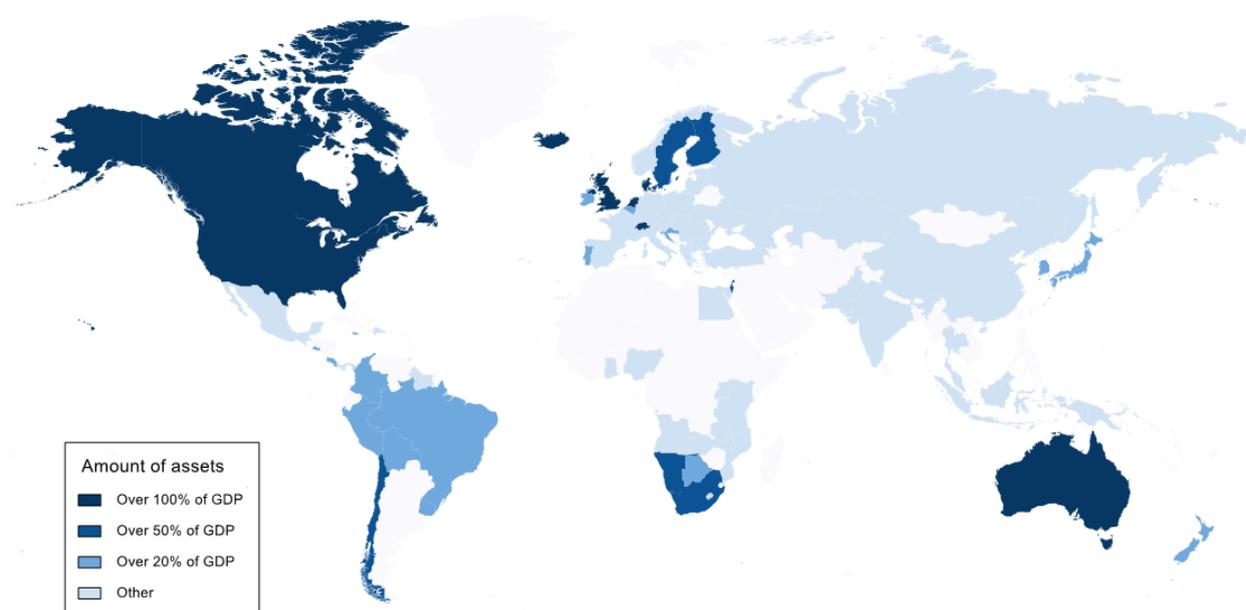
⁴ Statistics for China and India only cover a part of their retirement savings plans. Please see the methodological notes and Annex A for more information about the data coverage for China, India and other reporting countries.

Figure 1.1. Assets in retirement savings plans around the world, 2019 or latest year available

A. In USD trillion



B. As a percentage of GDP



Note: Please see the methodological notes at the end of the report.

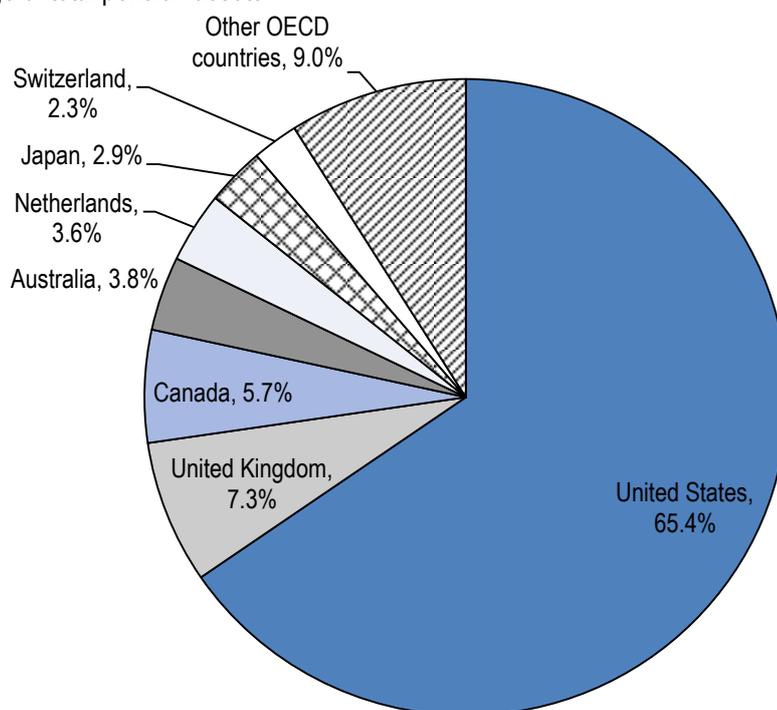
Source: OECD Global Pension Statistics.

Within the OECD area, 7 out of the 37 OECD countries held more than 90% of the total pension assets of the OECD area. The United States had the largest pension market within the OECD, with assets worth USD 32.2 trillion, representing 65.4% of the OECD total (Figure 1.2). The United Kingdom recorded the second largest amount (USD 3.6 trillion, i.e. 7.3% of OECD pension assets), followed by Canada (USD 2.8

trillion, 5.7% of OECD pension assets), Australia (USD 1.9 trillion, 3.8% of OECD pension assets), the Netherlands (USD 1.8 trillion, 3.6% of OECD pension assets), Japan (USD 1.5 trillion, 2.9% of OECD total pension assets) and Switzerland (USD 1.1 trillion, 2.3% of OECD pension assets). The 30 other OECD countries jointly held the remaining 9% of the OECD pension assets.

Figure 1.2. Geographical distribution of pension assets in the OECD area, 2019

As a percentage of total pension assets



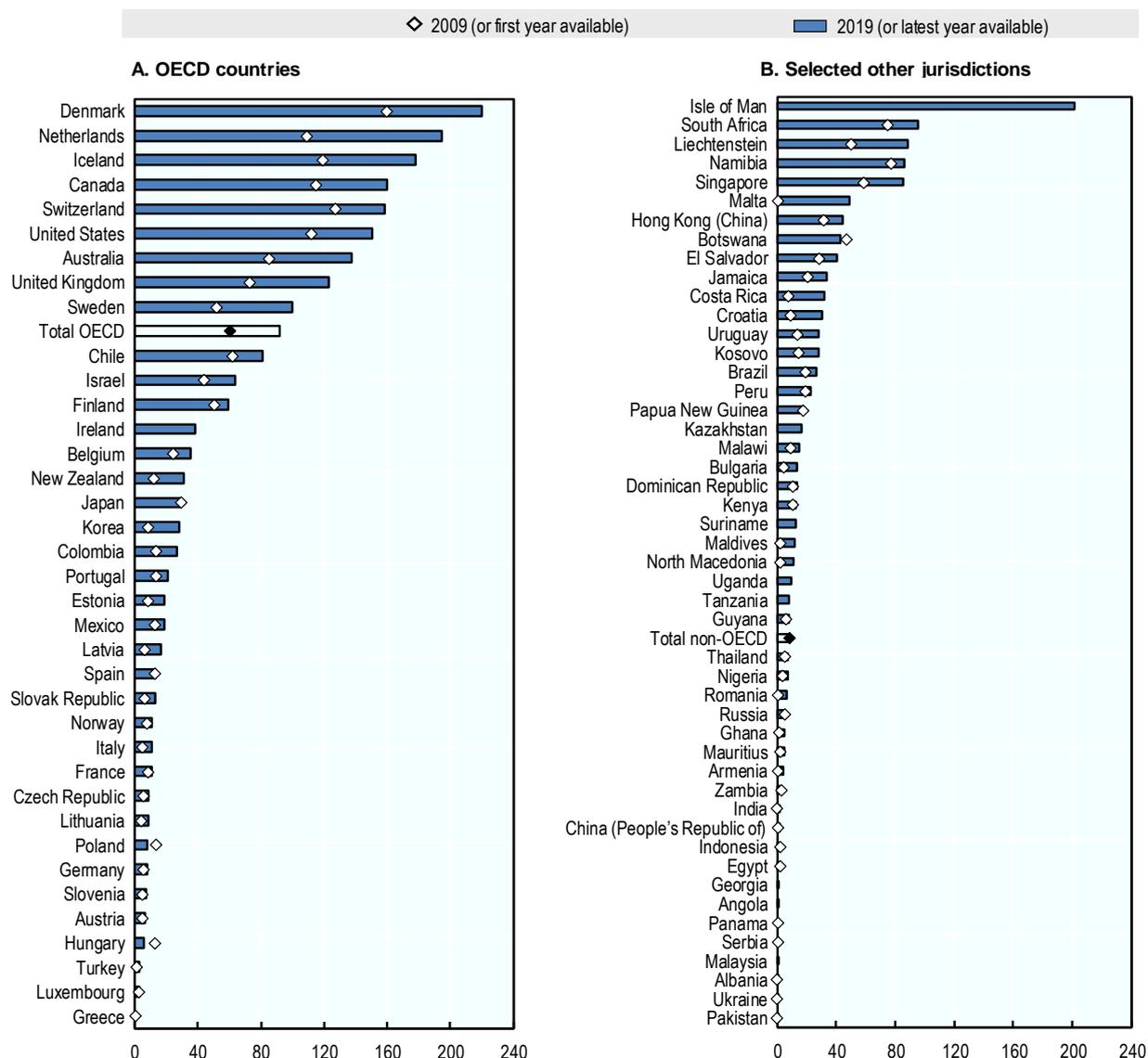
Note: Please see the methodological notes at the end of the report.

Source: OECD Global Pension Statistics.

The role of retirement savings plans has been growing over time. The total of all pension assets over the OECD area's total GDP rose from 60% at end-2009 to 92% ten years later (Figure 1.3). The number of OECD countries with pension assets exceeding GDP increased from six at end-2009 to eight at end-2019. Like in 2009, Denmark topped the ranking in 2019, with assets worth 220% of GDP, followed by the Netherlands (194%) and Iceland (178%) in the OECD area. Pension assets have also grown strong in some non-OECD jurisdictions, almost reaching the level of GDP in some cases such as in Liechtenstein (88%) and South Africa (95%). By contrast and despite some increases, pension assets still represented less than 1% of the GDP at the end of 2019 in some countries such as Albania, Greece and Serbia.

Figure 1.3. Total assets in retirement savings plans, in 2009 (or first year available) and 2019 (or latest year available)

As a percentage of GDP



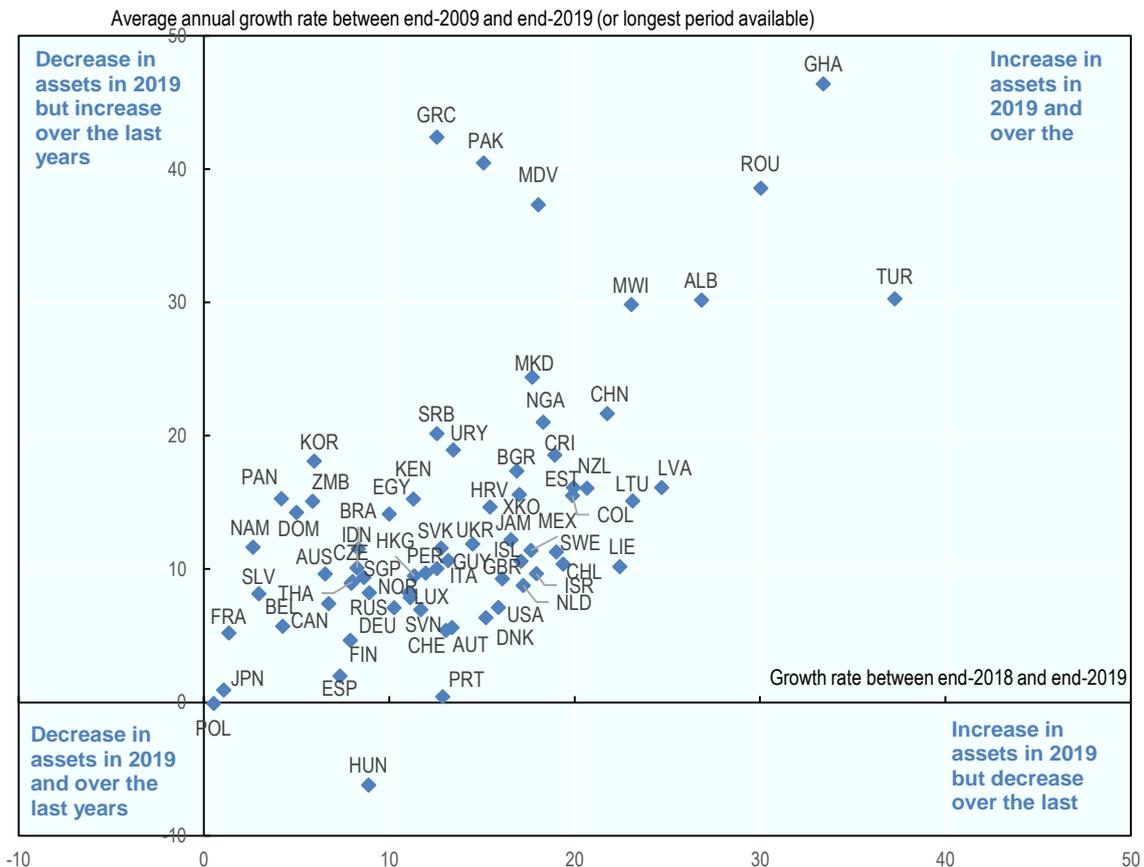
Note: Please see the methodological notes at the end of the report.
Source: OECD Global Pension Statistics.

Over the last ten years, all reporting jurisdictions except Hungary and Poland experienced a positive average annual nominal growth rate in pension assets (Figure 1.4). This growth has been especially fast in countries with young funded pension systems and small amounts of pension assets relative to the size of their economy, such as Armenia, Greece and Romania. Armenia and Romania phased in mandatory participation in pension plans relatively recently (in 2014 and in 2008 respectively). These plans are in an accrual phase as they gain contributing members while none or few have yet to receive benefits. Greece also introduced occupational insurance funds relatively recently (in 2002). The large rise of pension assets in Greece was due to the transformation of four funds operating on a pay-as-you-go basis into funded occupational schemes in 2013. By contrast, the size of pension assets was lower in 2019 than in 2009 in

Hungary and Poland, following a reform of the pension system in these countries in 2011 and 2014 respectively.⁵

Figure 1.4. Annual nominal growth rates of pension assets in 2019 and over the last ten years (or longest period available) in selected OECD and other jurisdictions

In per cent



Note: Please see the methodological notes at the end of the report.

Source: OECD Global Pension Statistics.

After a decline in some countries in 2018, pension assets grew again in all reporting jurisdictions in 2019. Turkey recorded one of the largest increases in 2019 (37%), which may partly result from the gradual introduction of an automatic enrolment programme between 1 January 2017 and 1 January 2019 (Peksevim and Akgiray, 2019^[1]). The growth of pension assets was also strong in 2019 in some of the major pension markets, such as the Netherlands (17%), the United Kingdom (16%) and the United States (16%). Poland recorded the lowest increase of all retirement savings in 2019 (below 1%), partly due to the

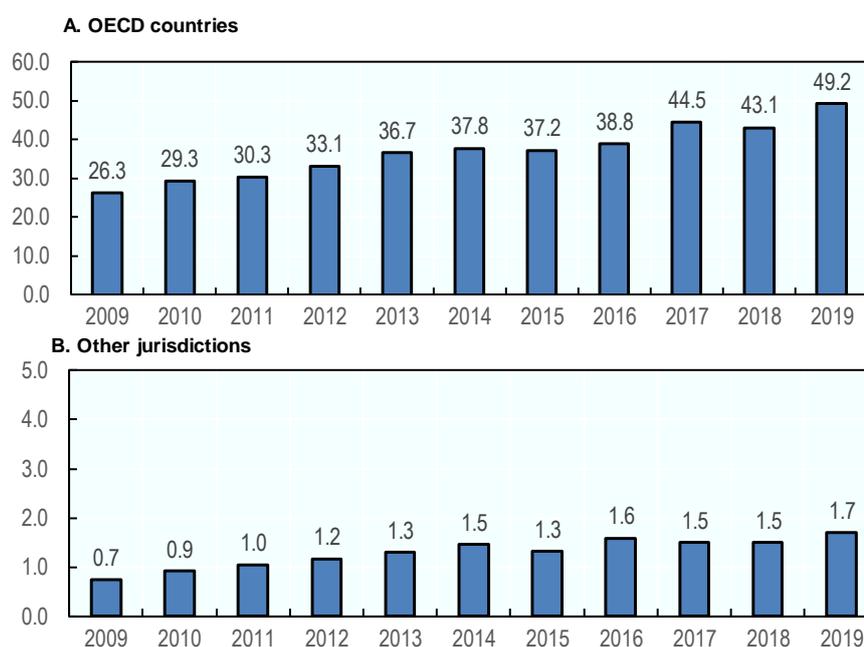
⁵ In Hungary, new entrants to the labour market have been enrolled in the public pay-as-you-go system only and no longer in a funded pension plan since 2011 following a pension reform. Members of the previously mandatory funded pension plans were given the choice of keeping their accounts or transferring their assets into the pay-as-you-go system. Most participants chose to switch back to the pay-as-you-go system. In the case of Poland, domestic sovereign bonds that were held by open pension funds were transferred to the social security system in 2014, and contributions to open pension funds became voluntary.

negative cash flows of open pension funds that have to transfer assets of members gradually to the Social Insurance Institute before their retirement.

Following this growth in 2019, assets in retirement savings plans recorded their highest level ever, exceeding USD 50 trillion worldwide for the first time at the end of 2019: USD 49.2 trillion in the OECD area and USD 1.7 trillion in other reporting jurisdictions (Figure 1.5). This overall amount is almost twice as big as at the end of 2009, right after the 2008 financial crisis (USD 27 trillion worldwide).

Figure 1.5. Total amount of assets in retirement savings plans in the OECD and in other jurisdictions, 2009-2019

in USD trillion



Note: Please see the methodological notes at the end of the report.

Source: OECD Global Pension Statistics.

A combination of factors may have driven these trends in pension assets, such as the evolution of members having a pension plan, their contributions into their plans, the benefits that these plans paid to retirees and the financial performance of pension assets. The subsequent sections of this report examine these different factors in detail.

1.1.2. Coverage

The proportion of individuals with a retirement savings plan is a useful indicator to assess how widespread these plans are in a country and how many people accumulate savings for their retirement. The coverage of retirement savings plans also has an impact on the overall level of pension assets of the country.

Participation in a pension plan may be mandatory, voluntary or encouraged through automatic enrolment. Employers may be obliged by law to set up a pension plan for their employees who then have to join the plan (e.g. Finland, Norway, Switzerland). In Denmark, the Netherlands and Sweden, the legislation does not require employers to set up a plan for their employees. However, participation in a plan in these countries is quasi-mandatory as the decision is made at the industry or branch level through collective bargaining agreements. Some Latin American and European countries do not require employers to set up

a plan for their employees but require employees to join a private pension fund of their choice (e.g. Chile, Colombia, Mexico) or a state funded pension plan (e.g. Denmark, Latvia). By contrast, in a number of other countries (e.g. Austria, the Czech Republic, France), there is no compulsion for employers to set up an occupational plan nor for employees to open an individual pension account. In-between, some countries use soft compulsion and encourage employees to participate in a plan through automatic enrolment (e.g. Italy, New Zealand, Turkey and the United Kingdom). In these countries, employers have to enrol their employees in a pension plan under certain conditions. Employees, however, have the option to opt out of the plan within a certain timeframe.

Individuals may participate in several different types of plans. They may have to participate in a mandatory plan accessed through their work and may also contribute voluntarily to a pension plan that they open on their own. In some countries, they could be members of several voluntary plans, contributing into the occupational plan of their current employer while retaining rights in the plans of their former employers.

Mandatory pension plans cover more than 70% of the working-age population in 17 out of the 32 OECD and non-OECD reporting jurisdictions where such plans exist (Figure 1.6). Estonia and Finland have some of the highest coverage rates, at respectively 88% and 93% of the working-age population in 2019. The coverage of occupational plans in the Netherlands was also quasi-universal according to the latest data available. In Turkey, by contrast, participation in a plan is mandatory only for certain employees (e.g. OYAK for military personnel), accounting for the relatively low proportion of people in a mandatory plan.

The coverage rate of mandatory individual accounts is nearly universal in Chile (88%) but this is not the case in several other Latin American countries. The high rate of informality in some Latin American countries, over 50% in Colombia and Peru (ILO, 2016^[2]), may account for the relatively lower coverage rate of mandatory plans covering formal workers (51% in Colombia, 34% in Peru). Additionally, people in Colombia and Peru can choose to participate either in the public pay-as-you-go or private funded pension systems. This competition between systems may result in a lower coverage rate by funded pension plans compared to countries where such a choice is not available.

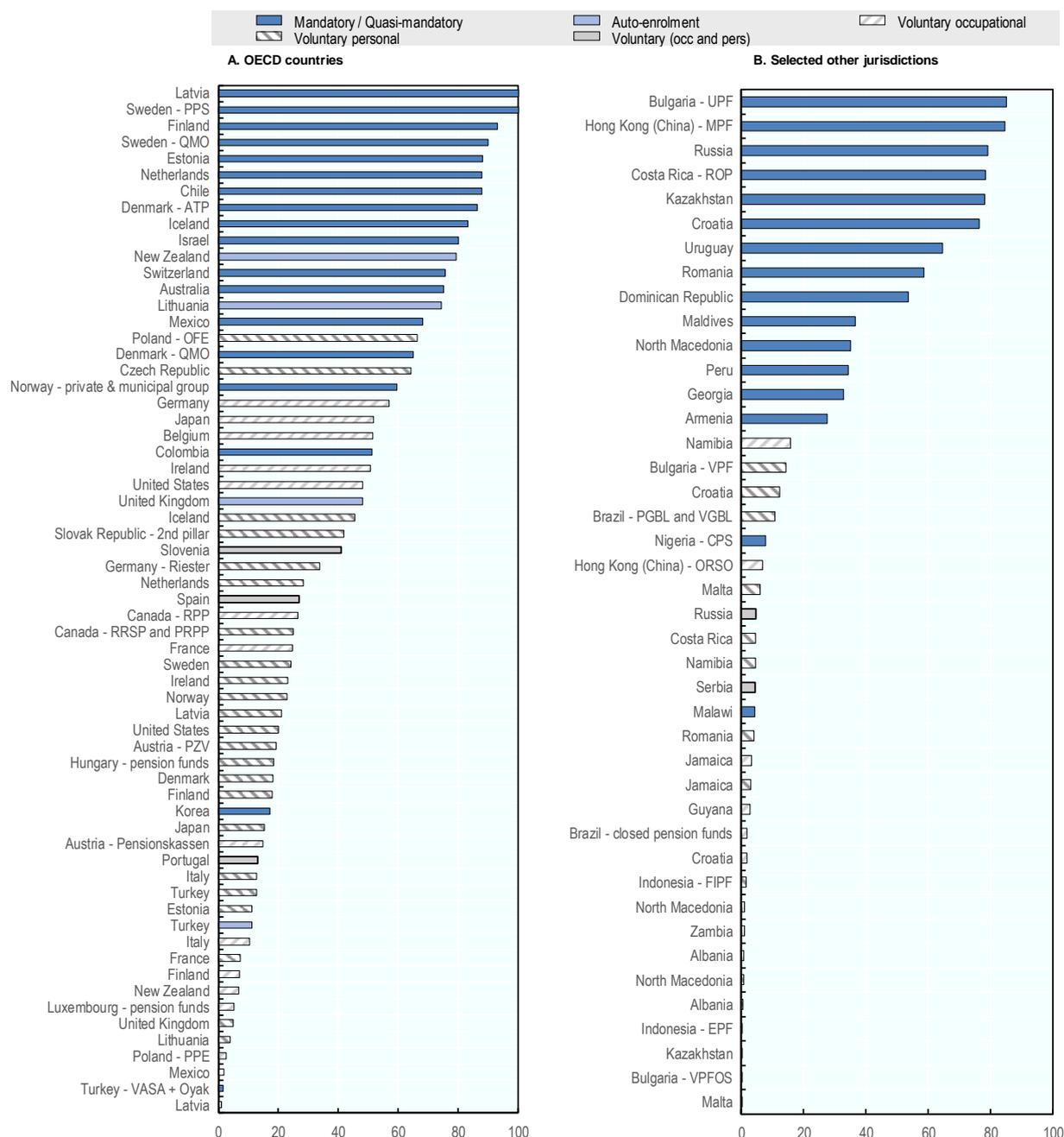
Participation in voluntary plans varies widely across countries. More than half of employees in Germany and Ireland, and more than half of the working-age population in Belgium, the Czech Republic, Japan and Poland are covered by a voluntary plan. None of these countries (except Poland before 2014) has mandatory plans where all the working-age population have to contribute.⁶ Saving for retirement was therefore only possible through voluntary participation in these countries. The participation in voluntary plans was much lower in some other countries, especially in Albania, Bulgaria and Kazakhstan. In Bulgaria and Kazakhstan, however, many individuals are already participating in mandatory funded plans, covering 85% and 78% of the working-age population respectively. The low take-up of voluntary plans in Albania might be due to a lack of awareness of these plans.⁷

⁶ Participation in open pension funds used to be mandatory in Poland before 2014. The proportion of people still having a plan in open pension funds was still high in 2019.

⁷ <https://www.tiranatimes.com/?p=142723>

Figure 1.6. Coverage of retirement savings plans in selected OECD and other jurisdictions, by type of plan, latest year available

As a percentage of the working-age population



Note: Please see the methodological notes at the end of the report.

Source: OECD Global Pension Statistics; ABS Household Income and Wealth 2017-18 (Australia); FSMA Annual Report 2019 (Belgium); Statistics Canada; ATP Annual Report 2019 and Danish Insurance Association (Denmark); DREES (France); Survey on Pension Provision 2015 of the Federal Ministry of Labour and Social Affairs (Germany); Central Statistical Office (Ireland); Ministry of Health, Labour and Welfare (Japan); OECD Pensions Outlook 2012 (Netherlands); Finance Norway; 2017 edition of the survey "Inquérito à Situação Financeira das Famílias (ISFF)" (Portugal); Spanish Survey of Household Finances (EFF) 2017 of the Bank of Spain; Statistics Sweden for voluntary personal plans; DWP's Family Resources Survey 2018/19 (United Kingdom); 2019 National Compensation Survey and 2017 Statistics of Income (United States).

The proportion of people with a pension plan has generally increased over the last decade, especially in jurisdictions that introduced auto-enrolment and mandatory plans recently (Figure 1.7). New Zealand recorded a substantial increase in pension plan coverage following the introduction of an auto-enrolment programme in July 2007. The proportion of working-age people with a KiwiSaver plan in New Zealand soared from 42% in 2010 to 79% in 2019, which is the largest increase among reporting jurisdictions over the last decade. In the United Kingdom, the Family Resources Surveys of the Department for Work and Pensions show a rapid increase in the proportion of working-age adults with an employer-sponsored plan from 38% in 2015 to 48% in 2018.⁸ In Bulgaria and Israel, where it became mandatory for all employees to participate in pension plans in 2002 and in 2008 respectively, the coverage rate increased by more than 30 percentage points between 2009 and 2019. Estonia, Latvia and North Macedonia also observed a large increase in the participation in mandatory plans. However, the growth pace has recently slowed down in North Macedonia as the conditions to join mandatory plans changed in 2019 and some members could or had to leave the plans in 2019 following amendments to the Law on Mandatory Fully Funded Insurance at the end of 2018 (MAPAS, 2019^[3]).⁹

The increase in the proportion of people in a mandatory plan or automatically enrolled in a plan was more limited in countries where most of the working-age population was already in a plan in 2009 (e.g. in ATP in Denmark) but also at the other extreme in some countries where the coverage rate was relatively low (e.g. Italy). In Italy, automatic enrolment into a pension fund has been competing with a previously existing severance system. Employees value their severance system and often opt out from auto-enrolment, preferring to keep the new accruals of severance pay in the system and not to divert them into a pension plan. The overwhelming majority of those who actually enrolled in a pension plan made the explicit choice to pay additional contributions, in order to get the matching contributions by the employer – therefore they are not counted as auto-enrolled.

Coverage rates of voluntary plans remained more or less stable over the last ten years despite some notable exceptions (such as in France and Hungary). The proportion of workers in voluntary occupational plans increased significantly in France between 2009 and 2018. By contrast, the coverage rate in Hungary dropped as participation in a plan (mandatory before 2011) became voluntary. In Austria, the coverage rate of PZV contracts was slightly lower in 2019 than in 2009.¹⁰ The number of PZV contracts was increasing until 2012. However, from 2012 onwards, the number of contracts has been declining following a cut in government subsidies and a low return outlook given the low interest rate environment.

Governments have introduced or considered a number of measures to increase the coverage of retirement savings plans. Lithuania implemented an automatic enrolment programme in 2019 (for all workers below 40). Ireland is planning to follow suit from 2022. Other countries aim to increase the coverage rate of certain groups of people in particular (such as Korea, Kenya and Nigeria). In July 2017, Korea extended the scope of people eligible to open an individual retirement pension plan (IRP) to the self-employed, workers with less than one year of service, part-time workers, government employees and members of the armed forces.¹¹ Kenya has recently launched pension products targeting workers in the informal sector. Likewise,

⁸ Figure 1.7 does not show this increase as the Figure covers a longer period, minimum of five years.

⁹ The criteria for mandatory participation in the second pillar changed with the amendments to the Law on Mandatory Fully Funded Insurance. Following these amendments, participation in the second pillar became mandatory for individuals who were employed for the first time after 1 January 2019 (instead of 1 January 2003 previously) and who were under 40. Existing members in the second pillar who were employed for the first time after 1 January 2003 and were born before 1967 had to leave the second pillar. Members who were born before 1967, were employed for the first time before 2003 and voluntarily joined the second pillar, could choose to stay or leave the second pillar. If they did not make a choice by end-September 2019, they were considered as leaving the second pillar.

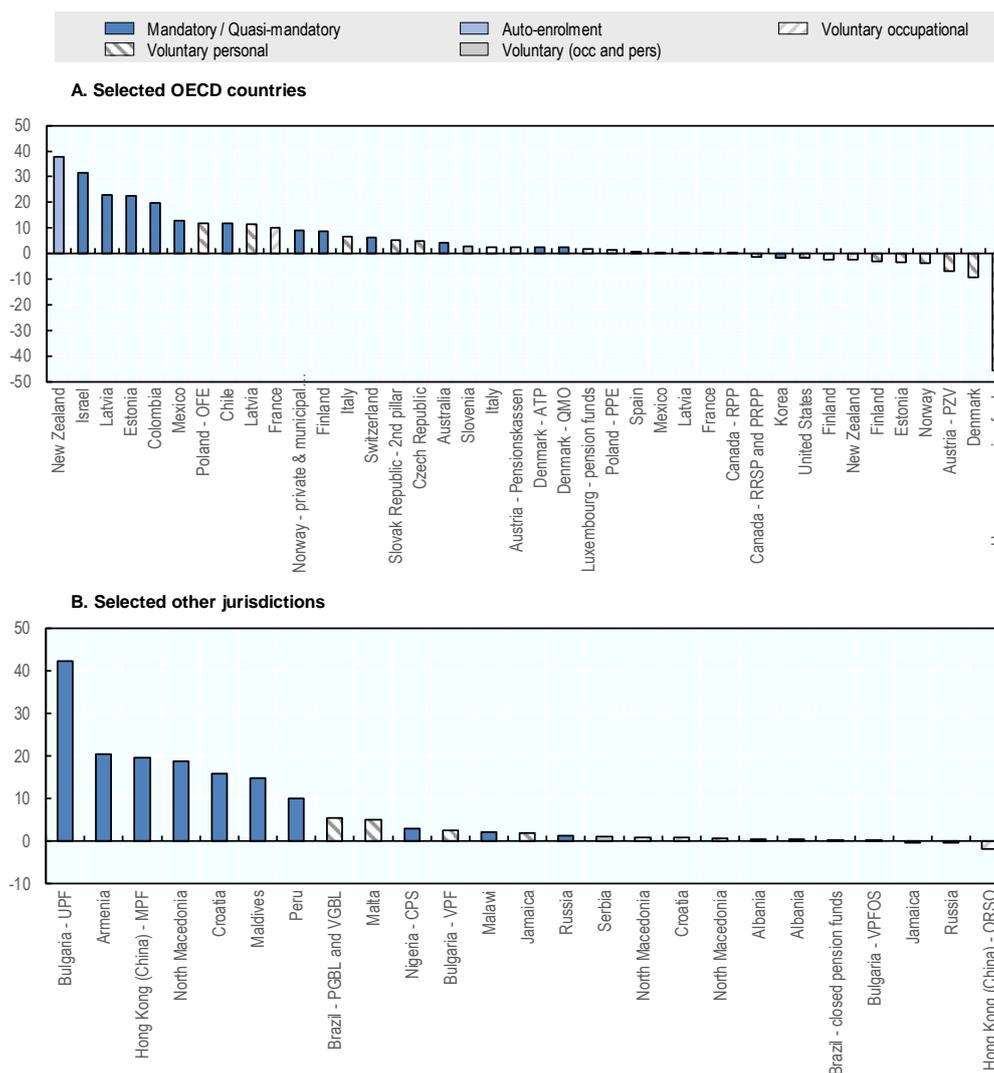
¹⁰ PZV contracts are personal pension insurance contracts.

¹¹ <http://www.iopsweb.org/resources/IOPS-Profile-Korea-2017.pdf>

Nigeria launched a micro pension plan in 2019 to expand the coverage of workers in the informal sector. To encourage people to open and contribute to a pension plan, some countries, such as Malta, are also using financial incentives. Over the past few years, Malta introduced incentives in the form of tax credits to encourage Maltese people to save for retirement.

Figure 1.7. Evolution of the coverage of retirement savings plans between 2009 and 2019 (or the longest period available) in selected jurisdictions, by type of plan

In percentage points of the working-age population



Note: Please see the methodological notes at the end of the report.

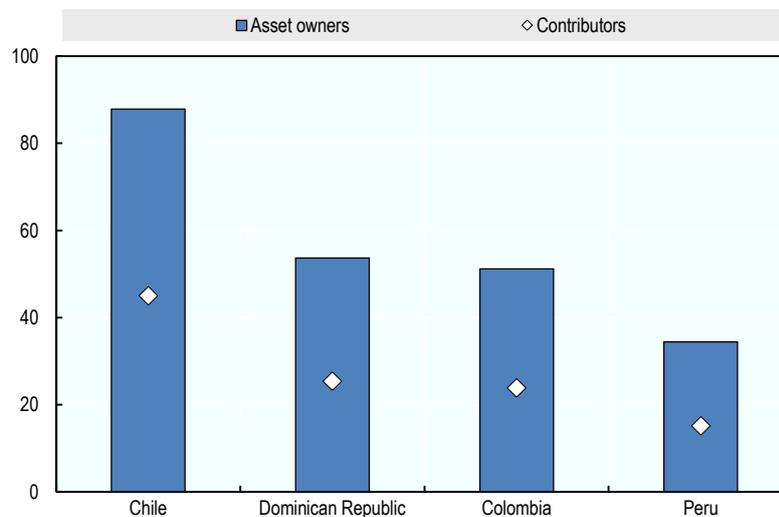
Source: OECD Global Pension Statistics and other sources.

Saving for retirement implies having access to a pension plan and contributing to that plan. The proportion of individuals actively saving for retirement and making contributions to the plan may be lower than the proportion of individuals having a plan. Individuals with a plan may not necessarily contribute to it. They may simply hold rights in their former employers' plan or may have assets in their personal plan but may not contribute to it on a regular basis.

The difference between individuals covered by a plan and individuals contributing to a plan can be large, such as in some Latin American countries (Figure 1.8). Latin American pension supervisors track the proportion of people contributing each month to the different pension funds. Around half of the individuals with an individual account in Chile, Colombia, the Dominican Republic and Peru contributed to their plan within the last month in December 2019. In some cases such as Peru, individuals may not contribute throughout their career because of high rates of informality and transitions between formal and informal employment (OECD, 2019^[4]).

Figure 1.8. Proportions of individuals owning assets and individuals contributing to their individual accounts in selected Latin American countries, 2019

As a percentage of the working-age population



Note: Please see the methodological notes at the end of the report.

Source: OECD Global Pension Statistics and websites of national pension supervisors.

1.1.3. Contributions

The role that pension plans can play at retirement depends on the amount of assets accumulated, which in turn hinges on the amount of contributions paid into these plans during the accumulation phase.

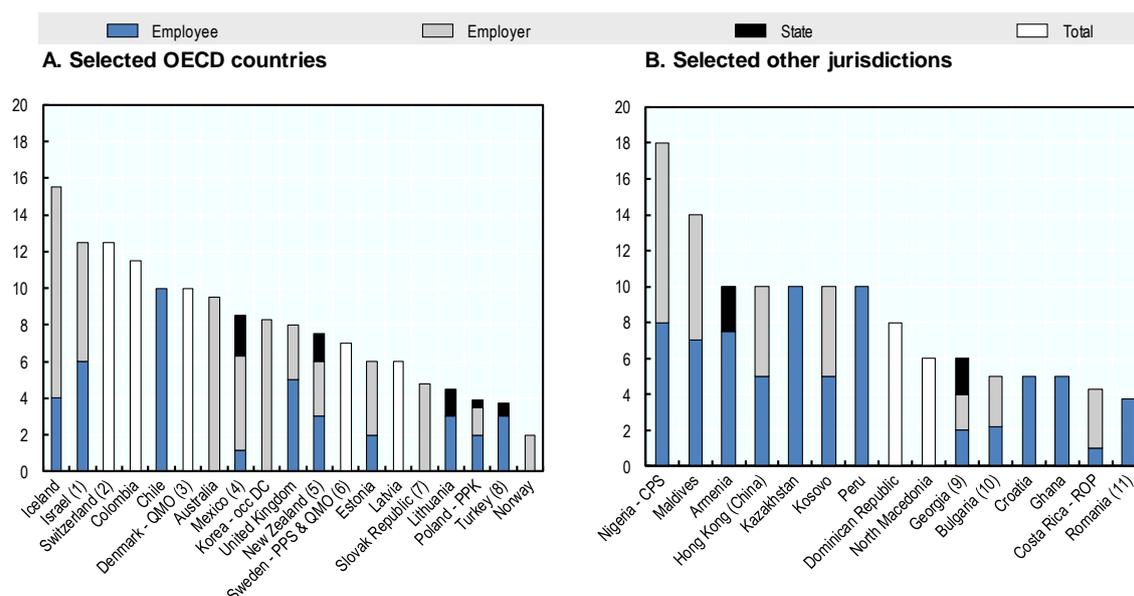
Regulation sets a contribution rate in countries with mandatory and auto-enrolment plans. The responsibility to pay the contributions may fall on the employees (e.g. in Chile, Croatia, Ghana, Kazakhstan, Peru, Romania), on the employers (e.g. in Australia, Korea, Norway, the Slovak Republic) or on both (e.g. in Estonia, Iceland, Switzerland). This obligation may only apply to certain employees or under certain conditions (e.g. mandatory employer contributions only for employees earning at least AUD 450 a month in Australia). Romania has recently exempted workers in the construction sector from contributing to mandatory pension plans for the period 2019-2028. Contributions may be complemented by state matching contributions (e.g. New Zealand) or subsidies (e.g. social quota in Mexico).

Mandatory contribution rates are fixed at different levels across countries. Nigeria sets the highest mandatory contribution rate, at 18% of salary for its contributory pension scheme (CPS), split between employers (10%) and employees (8%) (Figure 1.9). Mandatory contribution rates also represent over 10% of salary in four other countries: Colombia, Iceland, Israel and the Maldives. In Switzerland, the contribution credits to pay vary by age group, from 7% between 25 and 34 years of age, up to 18% for those aged above 55. By contrast, Norway has the lowest mandatory contribution rate among the reporting countries

(2% paid by the employer). Employers and employees can however agree on whether employees have to contribute on top of employer contributions. These mandatory contribution rates sometimes vary by income or by sector in which employees work (e.g. public or private in Mexico). In Kazakhstan, employers have to pay an additional mandatory contribution of 5% of salary for workers in hazardous jobs.

Figure 1.9. Minimum or mandatory contribution rates (for an average earner) in mandatory and auto-enrolment plans (unless specified otherwise), 2019 (or latest year available)

As a percentage of earnings



Note: Please see the methodological notes at the end of the report.

Source: OECD Global Pension Statistics; OECD Pensions at a Glance 2019.

A number of countries have adjusted their mandatory or minimum contribution rates over the last decade. In New Zealand, the minimum contribution rates to KiwiSaver plans rose from 2% to 3% of gross salary for each of the employee and the employer in April 2013. The United Kingdom increased the minimum contribution rates from 1% to 2% of qualifying earnings for employers and from 1% to 3% for employees in April 2018, and then to 3% for employers and 5% for employees in April 2019. The contribution rate in the Slovak Republic decreased between 2012 and 2016 (from 9% to 4% of the salary) but has been recently increasing since 2017 by 0.25 percentage point every year with the goal of reaching 6% in 2024 and the subsequent years. By contrast, the contribution rate declined in Romania from 5.1% in 2017 to 3.75% in 2018.¹² Lithuania changed the minimum contribution rates in 2019 with the introduction of its automatic enrolment programme. Before 2019, workers participating in the second pillar had 2% of their salary diverted from social contributions and could contribute an additional 2% of their salary to benefit from the state contribution of 2% of the average salary. Since 2019, social contributions are no longer

¹² This measure was enacted simultaneously with changes in the Fiscal Code with respect to gross wages. All in all, nominal contributions to the second pension pillar in 2018 were higher than those of 2017.

diverted. Workers enrolled in a plan have to contribute at least 3% of their income, and receive an additional contribution from the state of 1.5% of the average salary.¹³

Individuals or their employers may have the option of making additional voluntary contributions and contribute above the mandatory or minimum rate. In New Zealand, the minimum contribution rate for KiwiSaver plans has been 3% for employees since 1 April 2013. Members can however select a higher personal contribution rate of 4%, 6%, 8% or 10% of salary. In Poland, where automatic enrolment in Employee Capital Plans (PPK) has been in place since 2019, the minimum contribution rate is 2% for employees and 1.5% for employers if employees do not opt out of the PPK. Employers and employees have the option of making additional contributions of up to 2.5% (for employers) and 2% (for employees). In the Slovak Republic, individuals can voluntarily contribute into their second pillar pension plan or ask their employers to pay voluntary contributions into their plan on their behalf (provided that employers and employees have concluded an agreement on this). In Australia, employees have no obligation to contribute to a plan but can make voluntary contributions on top of their employer's contributions. This is the other way around in Peru. Employers are not required to contribute but can make voluntary contributions on behalf of their employees.

Countries may encourage voluntary contributions through financial incentives. Countries may use tax incentives (i.e. indirect subsidies provided through the tax code) or other incentives (e.g. matching contributions, fixed nominal subsidies) where the state makes direct payments to the pension plans of eligible individuals.¹⁴

The overall amount of contributions paid into retirement savings plans in 2019 varied widely across countries but were the highest among OECD countries with mandatory funded pension arrangements. Contribution payments ranged from less than 0.1% of GDP in Albania, Indonesia and Pakistan to more than 10% of GDP in Iceland in 2019 (Figure 1.10). Australia, Denmark, Iceland and Switzerland recorded the highest amount of contributions relative to the size of their economy and compared to other OECD countries. These four countries all have a relatively high proportion of the working-age population covered by a mandatory plan (over 75%) and a higher mandatory contribution rate than most other countries. Contributions are also split between employers and employees in these four countries. By contrast, pension plans received the lowest amount of contributions in Albania, Pakistan and Indonesia, where participation in a plan is voluntary and where less than 2% of the working-age population has a pension plan (in Albania and Indonesia).

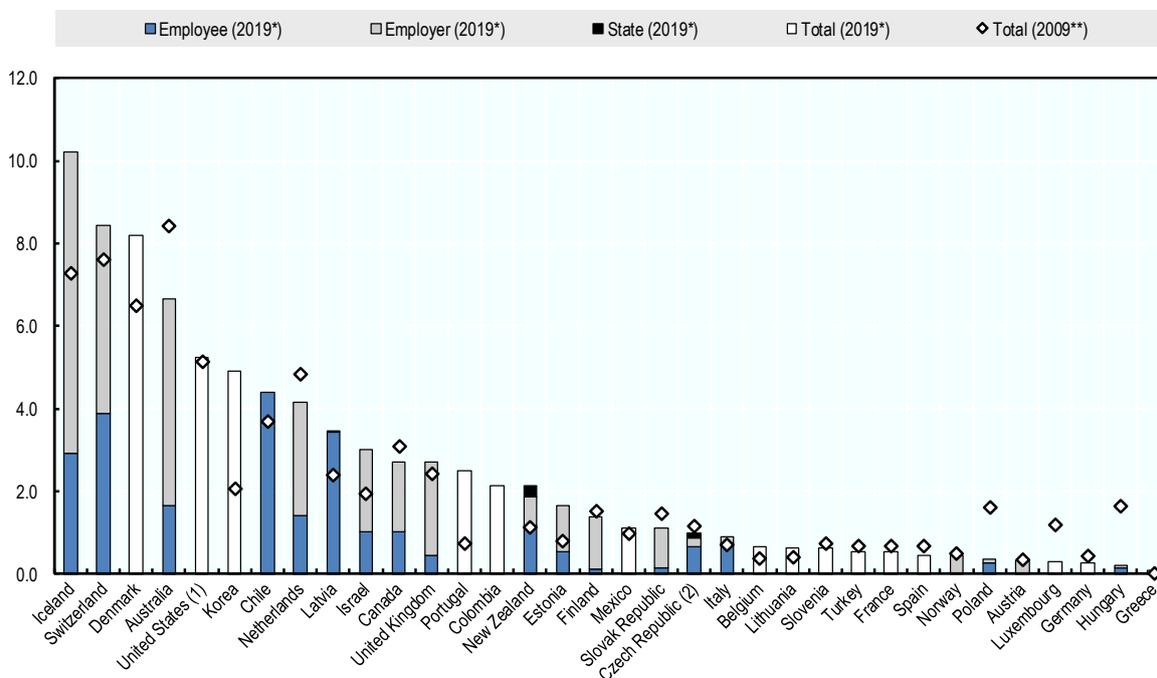
¹³ The default contribution rate for new members and those already in the supplementary pension scheme before 2019 who were not making voluntary contributions is lower, at 1.8%. This rate will gradually rise to 3% between 2019 and 2023, with a growing state contribution (from 0.3% to 1.5% of the average salary in the country).

¹⁴ See <https://www.oecd.org/daf/fin/private-pensions/Financial-Incentives-for-Funded-Pension-Plans-in-OECD-Countries-2019.pdf> for a compilation of financial incentives for funded and private pension plans as of June 2019.

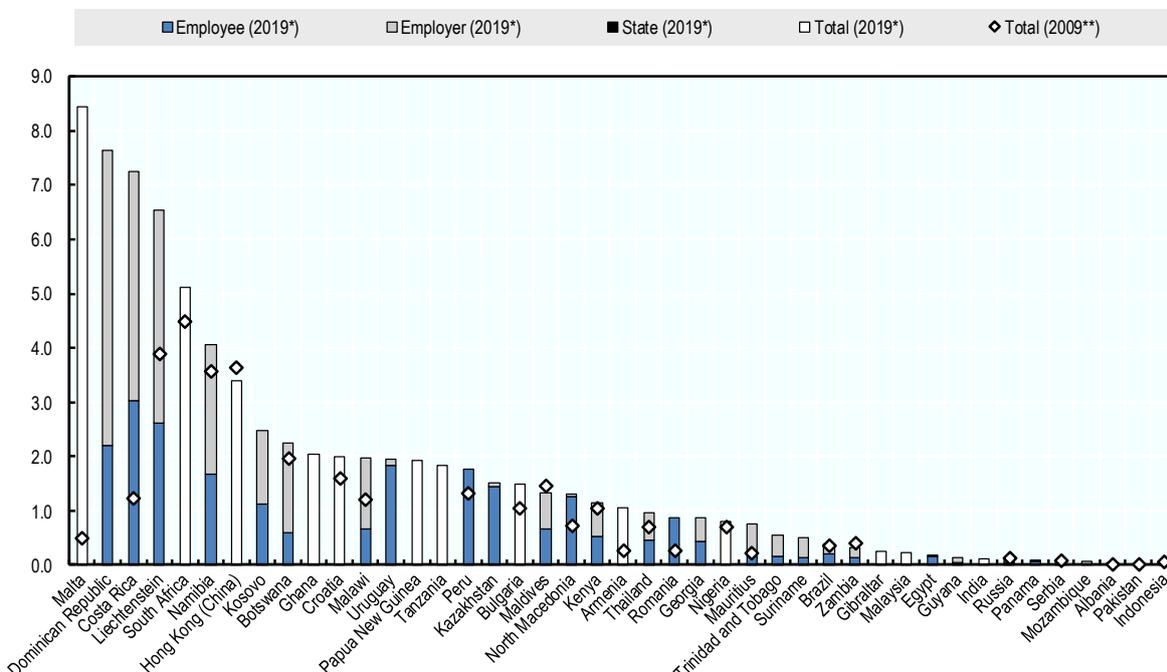
Figure 1.10. Employer, employee and state contributions paid into retirement savings plans, in selected OECD and other jurisdictions, in 2009 and 2019

As a percentage of GDP

A. Selected OECD countries



B. Selected other jurisdictions



Note: Please see the methodological notes at the end of the report. The stars show the amount of contributions paid in 2009 (or the earliest year available).

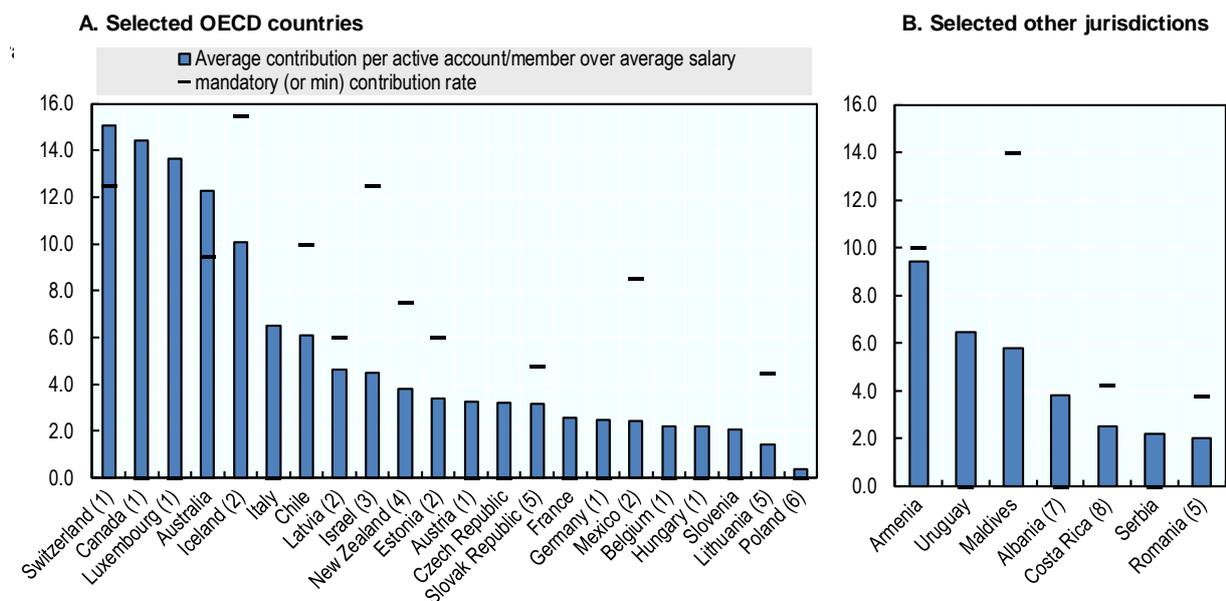
Source: OECD Global Pension Statistics and other sources.

More contributions were paid into retirement savings plans (relative to GDP) in 2019 than in 2009 in most reporting jurisdictions, including Malta, New Zealand and the United Kingdom for instance.¹⁵ The largest increase occurred in Malta where contributions rose from 0.5% of the GDP in 2011 to 8.4% in 2019.¹⁶ The amount of contributions increased in New Zealand and the United Kingdom where both the proportion of working-age people covered and the minimum contribution rates have increased. By contrast, some countries experienced drops in contributions such as Hungary (because of the reform of the pension system in 2011 and a change in taxation that reduced the incentive for employers to contribute into a pension plan in 2019). In Australia, contributions did not grow as fast as GDP over the last decade, but remained among the largest in the OECD area.

The high level of contributions (relative to GDP) in Australia probably reflects the relatively high average contribution per member, representing 12.3% of the average annual wages in Australia in 2019 (Figure 1.11). Additional voluntary contributions into superannuation schemes may account for this rate, above the mandatory 9.5% contribution rate.

Figure 1.11. Average annual contribution per active account or member in selected OECD and other jurisdictions, latest year available

As a percentage of average annual wages



Note: Please see the methodological notes at the end of the report.

Source: OECD Global Pension Statistics.

¹⁵ Contributions into retirement savings plans (as a percentage of GDP) are available for each reporting country and each year between 2009 and 2019 in Table A.B.4 in the statistical annex of this report, accessible online at: <https://www.oecd.org/pensions/private-pensions/pensionmarketsinfocus.htm>

¹⁶ Most contributions into Maltese pension plans come from individuals who are not resident in Malta. Over 50% of the Maltese retirement plans are Qualifying Recognised Overseas Pensions Schemes, and thus receive contributions from UK expatriates (or UK residents who intend to retire outside the United Kingdom).

The average amount of contributions per member (relative to average annual wages) is sometimes lower than the mandatory contribution rate, such as in some Latin American countries.¹⁷ Average contributions per member amounted to 6.1% of the average salary in Chile and 2.4% in Mexico in 2019, while the mandatory contribution rate is at 10% of salary in Chile and 8.5% in Mexico (for private-sector employees, including the social quota). This difference in Chile and Mexico may potentially reflect irregular contributions to pension plans when workers switch between formal jobs and informal jobs or unemployment.¹⁸

In voluntary systems, the average amount of contributions per member was below 10% of the average salary except in Canada and Luxembourg.

1.1.4. Benefit payments

Benefit payments from retirement savings plans represent an outflow reducing the amount of assets in the plans. The amount of these payments depends, to a large extent, on the seniority of the system.

Payments from retirement savings plans can take several forms. They can be a lump sum payment, a regular stream of income in retirement (e.g. pensions or programmed withdrawals) or a combination of the two. Benefit payments can be paid as a full or partial lump sum under certain conditions in some countries. In Switzerland for instance, members can claim a payment of a quarter of their retirement assets (up to the full amount depending on the plan rules) as a lump sum benefit. In the Netherlands, the government and social partners agreed in June 2019 to allow pensioners to take out up to 10% of their accrued pension entitlements as a lump sum.¹⁹ Some countries allow full lump sum payments if the accumulated amount is lower than a given threshold (e.g. below EUR 12 600 for Pensionskassen in Austria as of 1 January 2019). A part of the lump sum payments may however be reinvested in alternative savings vehicles after the lump sums are taken out.

Individuals may have the option of receiving a retirement income from the entity managing their assets or from another entity. They may for instance be able to purchase an annuity from a life insurance company such as in Chile. In this case, assets are transferred from the entity in charge of the asset accumulation phase (i.e. AFPs in Chile) to the one in charge of paying benefits to retirees.

The entity in charge of the pay-out phase may be a public entity in some cases such as in Latvia, Lithuania (from July 2020) or Poland. Individuals in Latvia can choose to transfer their assets to the State Social Insurance Agency, which then combines these assets with the ones accumulated in their notional account from the pay-as-you-go system in order to pay overall benefits. In Lithuania, assets from private pension funds in charge of the accumulation phase are transferred from July 2020 to a special unit of the State Social Insurance Fund Board (SoDra, i.e. the entity in charge of the payment of public PAYG pensions), in order to pay a life annuity to retirees from their supplementary pension savings. In Poland, open pension funds became accumulation-only vehicles since the pension reform in 2014. The accumulated assets of members with ten or fewer years to retirement are incrementally transferred to the Social Insurance Institution for benefit payments (which is the so-called “slider”).

¹⁷ This indicator is not an effective contribution rate. In some cases, contributions are expressed per account instead of per member, as the exact number of members holding one (or several) pension plans is unknown. This is the case for instance in France where individuals can have an occupational (e.g. PERCO) and personal plans (e.g. PERP) at the same time. Additionally, the population holding a pension plan may not be representative of the population on which the average wages are calculated.

¹⁸ Workers in informal jobs can still contribute voluntarily if they wish so.

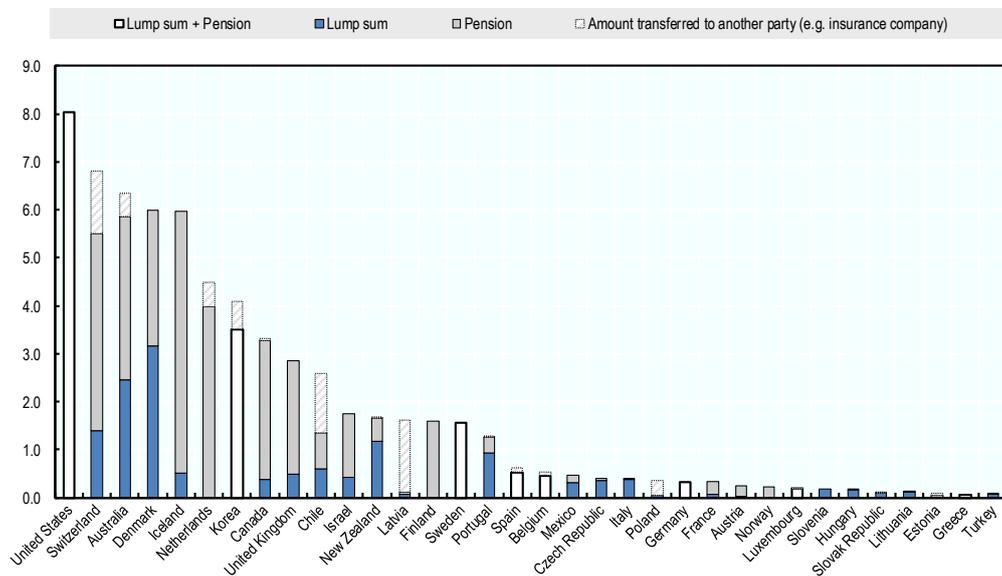
¹⁹ <https://www.asinta.com/news/netherlands-pension-reform-approved-by-largest-workers-union/>

In 2019, payments from pension providers to retirees or to entities in charge of the pay-out phase were the largest in Australia (6.3% of GDP), Denmark (6.0%), Iceland (6.0%), Switzerland (6.8%) and the United States (8.0%) (Figure 1.12). These countries tend to have mature pension systems with large amounts of pension assets accumulated (over 100% of the GDP in all of them). In some countries where retirement savings plans were introduced recently, the size of pension payments remained relatively limited (e.g. Estonia, North Macedonia).²⁰ The largest transfers of assets to a third party were observed in Chile (1.2% of GDP), Latvia (1.5%) and Switzerland (1.3%) in 2019 among OECD countries.

Figure 1.12. Total benefits paid and assets transferred to a third party for retirement, 2019 or latest year available

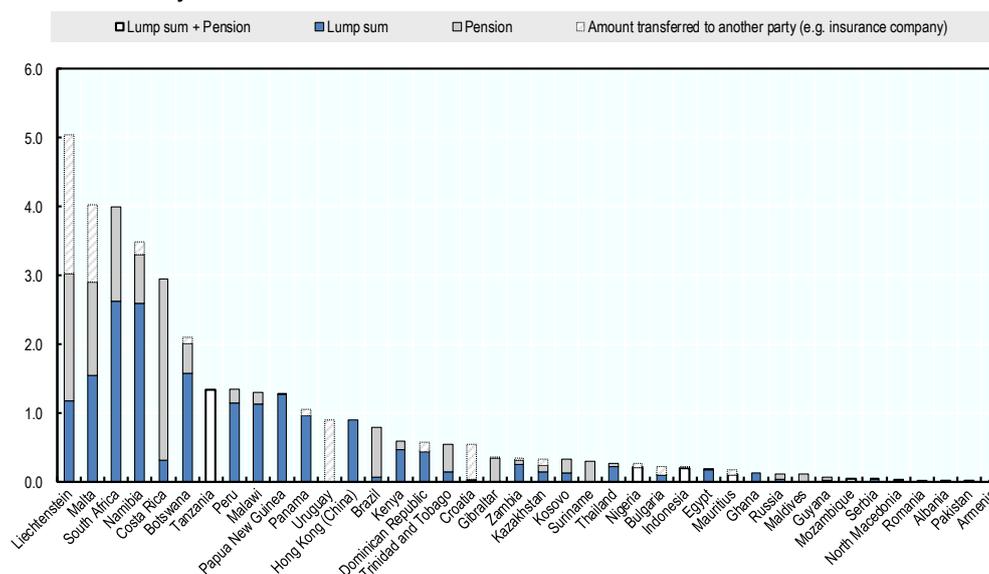
As a percentage of GDP

A. Selected OECD countries



²⁰ The amount of benefits paid from retirement savings plans as a lump sum or a pension is available for each reporting country and each year between 2009 and 2019 as a percentage of GDP in Table A.B.5 in the statistical annex of this report, accessible online at: <https://www.oecd.org/pensions/private-pensions/pensionmarketsinfocus.htm>

B. Selected other jurisdictions



Note: Please see the methodological notes at the end of the report.
Source: OECD Global Pension Statistics.

1.2. Investment performance and allocation of pension assets

The performance of portfolio investments is an essential driver of the evolution of assets in retirement savings plans, together with contributions and benefit payments.

1.2.1. Investment rates of return

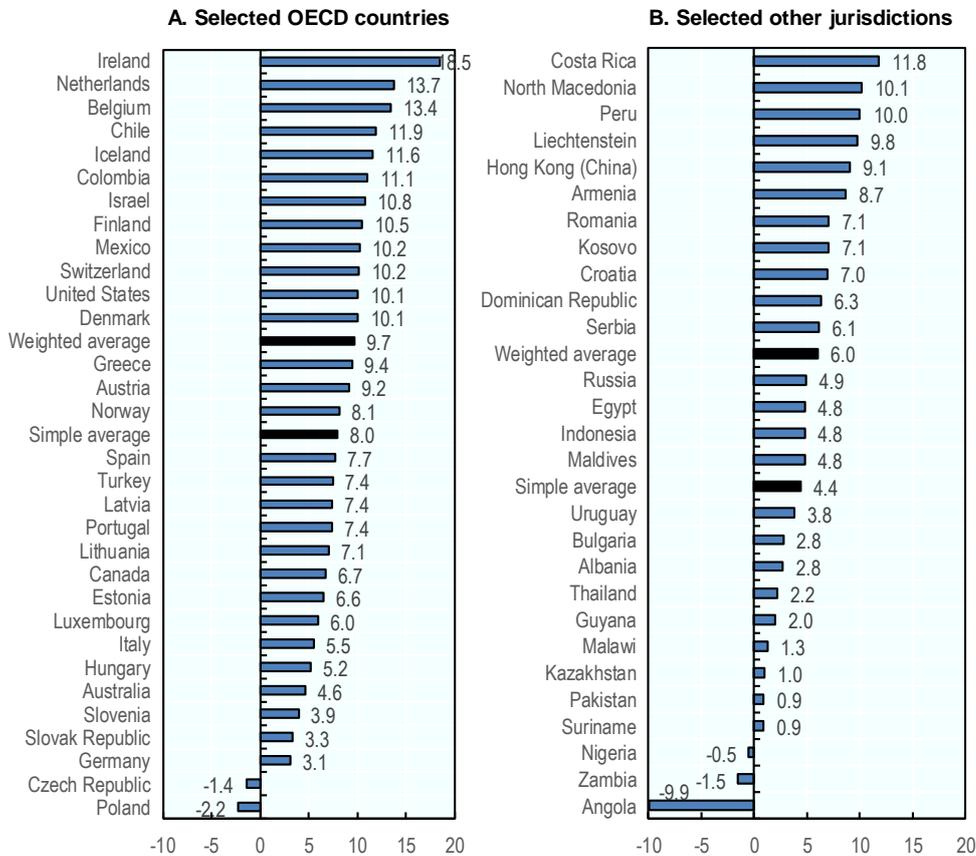
The large growth in pension assets in 2019 (Figure 1.5) partly results from the strong investment performance of retirement savings plans in 2019. Pension plans earned a real investment rate of return (net of investment expenses) of 8.0% on average in the OECD, and 4.4% in other jurisdictions (Figure 1.13). The average real investment rate of return, weighted by the assets managed at the end 2019 was even higher, at 9.7% in the OECD and 6.0% in other jurisdictions, reflecting that some of the largest pension markets recorded larger gains. Retirement savings plans recorded investment gains in almost all the reporting jurisdictions in 2019. The largest gains in 2019 were achieved in Ireland (18.5%) and the Netherlands (13.7%). Thirteen other countries, including Belgium, Costa Rica, Switzerland and the United States, recorded a double-digit real investment rate of return.

Retirement savings plans generally benefitted from the upturn of stock markets in 2019, after heavy losses in the last quarter of 2018. An easing of trade tensions between the United States and China, as well as the prospect of a Brexit deal, contributed to the rise in asset prices in 2019 (BIS, 2019^[5]). Major stock market indices ended 2019 at higher levels than 2018 (e.g. +25% for the FTSE 250, +26.5% for the DAX and +28.9% for the S&P 500).²¹

²¹ Source: Market Data Center of the Wall Street Journal.

Figure 1.13. Annual real investment rates of return of retirement savings plans, net of investment expenses, 2019

In per cent



Note: Please see the methodological notes at the end of the report.

Source: OECD Global Pension Statistics.

Pension assets failed to generate a positive investment income in real terms in 2019 only in a few countries (the Czech Republic, Poland, Angola, Nigeria and Zambia) and for different reasons. As the real net investment return is the combination of the nominal performance of the plans and inflation, a low figure could be accounted for by either low gains or high inflation. In the Czech Republic, pension funds have a conservative investment strategy that yielded a nominal investment rate of return (1.7%) below inflation (3.2%) in 2019. The case of Poland is different as Polish pension funds hold a large share of assets in domestic equities. However, the Warsaw Stock Exchange did not fare as well as some other stock markets in 2019, with a 0.25% increase of the WIG index (which includes all listed companies in Poland). In Angola, Nigeria and Zambia, inflation was high in 2019, above 10%. Inflation was higher than the nominal investment performance that pension providers managed to achieve in these three countries.

Returns over the long term are more important than yearly returns. Saving for retirement is for the long haul. Average annual returns were all positive in nominal terms over the last 5, 10 and 15 years among reporting countries (Table 1.1) and remained positive in most countries after adjusting for inflation. Despite the relatively low and often negative investment performance in 2018, retirement savings plans achieved a positive real investment return over the last five years in 50 out of 53 reporting countries. Out of 53 jurisdictions, it was possible to calculate an average return over the last ten years for 39 jurisdictions, positive in all except the Czech Republic, Turkey and Nigeria. Over the last 15 years, the annual average returns of pension plans were positive in 21 out of 25 reporting jurisdictions for which such a calculation

was possible, despite the 2008 financial crisis. Three Latin American countries recorded the strongest average annual real investment rates of return over the last 15 years: Colombia (6.2%), the Dominican Republic (6.8%) and Uruguay (5.2%). Pension funds in Canada and the Netherlands also managed to earn a relatively high real annual return compared to other countries, close to 5% on average over the last 15 years.²²

Table 1.1. Nominal and real geometric average annual investment rates of return of retirement savings plans over the last 5, 10 and 15 years, and over the longest period possible

In per cent

	Nominal				Real				Longest period possible
	5-yr average (Dec 2014 - Dec 2019)	10-yr average (Dec 2009 - Dec 2019)	15-yr average (Dec 2004 - Dec 2019)	Average over the longest period possible	5-yr average (Dec 2014 - Dec 2019)	10-yr average (Dec 2009 - Dec 2019)	15-yr average (Dec 2004 - Dec 2019)	Average over the longest period possible	
Selected OECD countries									
Australia	7.7	8.3	7.0	6.9	6.0	6.1	4.5	4.4	(Jun 2002- Jun 2019)
Austria	3.4	4.0	3.4	3.3	1.8	2.1	1.5	1.4	(Dec 2001 - Dec 2019)
Belgium	5.1	6.0	5.7	5.0	3.3	4.1	3.7	3.1	(Dec 2001- Dec 2019)
Canada	6.5	7.2	6.8	6.4	4.6	5.4	5.0	4.4	(Dec 2001 - Dec 2019)
Chile	6.9	7.0	7.0	7.4	3.8	3.7	3.6	4.2	(Dec 2001 - Dec 2019)
Colombia	8.0	9.1	10.7	11.5	3.2	5.1	6.2	6.7	(Dec 2001 - Dec 2019)
Czech Republic	0.9	1.6	2.0	2.2	-1.0	-0.2	-0.2	0.2	(Dec 2001 - Dec 2019)
Denmark	4.7	6.4	5.8	6.0	4.0	5.1	4.2	4.4	(Dec 2001 - Dec 2019)
Estonia	2.9	3.6	2.6	3.0	0.9	1.2	-0.5	-0.1	(Dec 2002 - Dec 2019)
Finland	5.4	..	..	6.1	4.7	..	..	5.1	(Dec 2011 - Dec 2019)
Germany	3.5	3.9	3.9	4.0	2.2	2.6	2.5	2.5	(Dec 2001 - Dec 2019)
Greece	5.1	..	..	4.9	4.7	..	..	5.0	(Dec 2013 - Dec 2019)
Hungary	5.1	..	..	6.8	2.7	..	..	4.7	(Dec 2011 - Dec 2019)
Iceland	7.5	7.7	7.6	7.7	5.1	4.7	2.8	3.2	(Dec 2001 - Dec 2019)
Ireland	6.5	..	..	6.5	6.0	..	..	6.0	(Dec 2014 - Dec 2019)
Israel	5.2	5.9	..	5.7	5.1	4.9	..	4.2	(Dec 2005 - Dec 2019)
Italy	2.3	3.1	3.2	3.3	1.7	2.0	1.8	1.7	(Dec 2001 - Dec 2019)
Korea	..	..	..	4.2	..	..	..	1.8	(Dec 2002 - Dec 2018)
Latvia	2.4	3.3	3.1	3.4	0.5	1.5	-0.5	-0.3	(Dec 2001 - Dec 2019)
Lithuania	3.7	..	..	4.0	1.6	..	..	2.1	(Dec 2010 - Dec 2019)
Luxembourg	2.5	3.6	..	2.6	1.0	1.9	..	0.8	(Dec 2005 - Dec 2019)
Mexico	5.0	6.6	6.4	6.4	1.0	2.5	2.3	2.3	(Dec 2004 - Dec 2019)
Netherlands	6.3	8.0	6.5	6.0	4.7	6.2	4.8	4.3	(Dec 2001 - Dec 2019)
New Zealand	..	..	..	4.7	..	..	..	2.1	(Mar 2001- Mar 2013)
Norway	5.4	6.0	5.9	5.9	2.9	3.9	3.7	3.8	(Dec 2001 - Dec 2019)
Poland	1.6	..	..	1.6	0.2	..	..	0.2	(Dec 2014 - Dec 2019)
Portugal	3.0	3.0	3.6	3.9	2.3	1.8	2.3	2.3	(Dec 2001 - Dec 2019)
Slovak Republic	2.3	2.2	..	1.7	1.0	0.6	..	-0.2	(Dec 2006 - Dec 2019)
Slovenia	4.2	4.8	..	5.9	3.2	3.5	..	4.2	(Dec 2006 - Dec 2019)
Spain	2.6	3.5	..	2.9	1.7	2.3	..	1.7	(Dec 2007 - Dec 2019)
Sweden	..	..	..	5.2	..	..	..	4.2	(Dec 2010 - Dec 2018)
Switzerland	3.8	4.2	3.7	3.2	3.7	4.2	3.4	2.8	(Dec 2001 - Dec 2019)
Turkey	10.9	9.0	12.6	12.6	-1.1	-0.8	2.9	2.9	(Dec 2004 - Dec 2019)

²² The annual nominal and real investment rates of return are available for each reporting country and each year between 2009 and 2019 in Table A.B.6 and in Table A.B.7 in the statistical annex of this report, accessible online at: <https://www.oecd.org/pensions/private-pensions/pensionmarketsinfocus.htm>

	Nominal				Real				Longest period possible
	5-yr average (Dec 2014 - Dec 2019)	10-yr average (Dec 2009 - Dec 2019)	15-yr average (Dec 2004 - Dec 2019)	Average over the longest period possible	5-yr average (Dec 2014 - Dec 2019)	10-yr average (Dec 2009 - Dec 2019)	15-yr average (Dec 2004 - Dec 2019)	Average over the longest period possible	
United Kingdom	..	..	..	8.3	..	..	..	6.0	(Dec 2001 - Dec 2017)
United States	4.0	4.9	3.0	3.0	2.2	3.0	1.0	0.9	(Dec 2001 - Dec 2019)
Selected other jurisdictions									
Albania	4.5	5.3	..	5.7	2.7	3.3	..	3.5	(Dec 2007 - Dec 2019)
Armenia	7.7	..	..	6.8	6.8	..	..	5.4	(Dec 2013 - Dec 2019)
Bolivia	..	..	..	8.8	..	..	..	1.9	(Dec 2004 - Dec 2010)
Bulgaria	3.2	3.8	3.3	4.5	1.4	2.0	-0.1	0.9	(Dec 2001 - Dec 2019)
Costa Rica	8.8	9.0	10.0	10.0	7.5	5.8	4.4	4.4	(Dec 2004 - Dec 2019)
Croatia	6.0	..	..	6.6	5.4	..	..	6.1	(Dec 2013 - Dec 2019)
Dominican Republic	9.9	11.2	11.7	11.7	7.1	7.3	6.8	6.8	(Dec 2004 - Dec 2019)
El Salvador	..	..	..	4.3	..	..	..	2.1	(Dec 2004 - Dec 2018)
Guyana	3.0	..	..	3.0	2.0	..	..	2.0	(Dec 2014 - Dec 2019)
Hong Kong (China)	3.9	3.6	..	5.5	1.7	0.3	..	2.3	(Dec 2008 - Dec 2019)
India	..	..	..	8.2	..	..	..	0.4	(Dec 2010 - Dec 2015)
Indonesia	8.0	..	..	8.1	4.6	..	..	3.5	(Dec 2010 - Dec 2019)
Kosovo	3.0	..	..	4.2	1.8	..	..	3.3	(Dec 2012 - Dec 2019)
Liechtenstein	4.3	3.2	..	2.8	4.2	3.2	..	2.7	(Dec 2007 - Dec 2019)
Malawi	17.7	..	..	21.1	2.8	..	..	3.9	(Dec 2012 - Dec 2019)
Maldives	6.2	..	..	6.2	5.2	..	..	5.2	(Dec 2014 - Dec 2019)
Malta	..	..	..	1.6	..	..	..	0.2	(Dec 2010 - Dec 2017)
Nigeria	11.4	10.3	..	10.3	-1.7	-1.2	..	-1.2	(Dec 2009 - Dec 2019)
North Macedonia	5.6	5.9	..	5.1	5.0	4.4	..	3.6	(Dec 2007 - Dec 2019)
Panama	..	..	..	5.3	..	..	..	3.0	(Dec 2010 - Dec 2018)
Peru	5.8	5.6	7.2	7.8	3.1	2.7	4.3	4.9	(Dec 2001 - Dec 2019)
Romania	5.1	7.3	..	9.0	3.2	4.4	..	5.6	(Dec 2007 - Dec 2019)
Russia	7.5	..	..	6.6	1.8	..	..	0.1	(Dec 2012 - Dec 2019)
Serbia	8.7	9.0	..	7.8	6.6	4.5	..	2.4	(Dec 2006 - Dec 2019)
South Africa	..	..	..	9.1	..	..	..	4.1	(Dec 2002 - Dec 2018)
Thailand	2.5	3.3	..	3.5	2.0	1.8	..	1.9	(Dec 2008 - Dec 2019)
Uruguay	12.2	14.8	13.3	13.3	3.7	6.2	5.2	5.2	(Dec 2004 - Dec 2019)
Zambia	13.5	13.4	..	13.6	2.5	4.2	..	4.3	(Dec 2008 - Dec 2019)

Note: Please see the methodological notes at the end of the report.

Source: OECD Global Pension Statistics.

Pension providers generally managed to get a positive investment income in real terms over the longest period for which data are available in each jurisdiction, despite shocks to financial markets in 2008 and 2018. This positive income contributes to the financing of future benefit payments.

1.2.2. Asset allocation

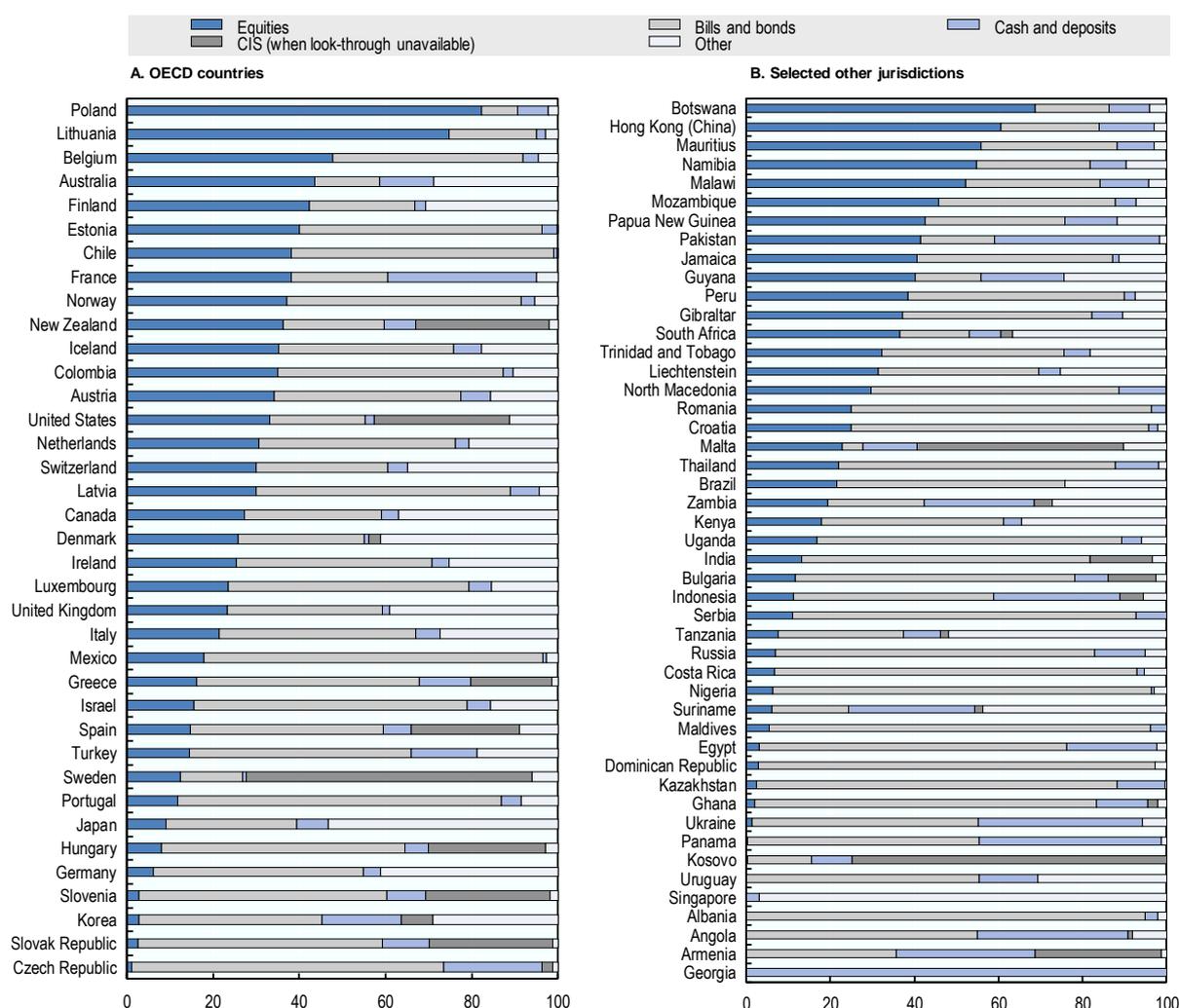
Asset allocation and returns go hand in hand, as well as risk levels. Higher portfolio allocation to risky assets entail higher potential returns and higher return volatility.

In most countries, bonds and equities are the two main asset classes in which retirement savings were invested at the end of 2019, accounting for more than half of investments in 34 out of 37 OECD countries, and 39 out of 47 other reporting jurisdictions (Figure 1.14). Therefore, developments in bond and equity markets played a major role in the financial performance of retirement savings plans. The combined

proportion of bonds and equities was the highest (relative to the size of the portfolio) in Chile (99%), the Dominican Republic (97.3%), Mexico (96.6%), Estonia (96.4%), Nigeria (96.4%), Romania (96.3%), the Maldives (96.2%) and Croatia (95.7%).

Figure 1.14. Allocation of assets in retirement savings plans in selected asset classes and investment vehicles, 2019 or latest year available

As a percentage of total investment



Note: Please see the methodological notes at the end of the report.
Source: OECD Global Pension Statistics.

Pension assets may have been invested in bonds and equities either directly or indirectly through collective investment schemes (CIS). For some countries, the look-through of investments in collective investment schemes was not available, such as for Sweden (where 66.3% of assets were invested in CIS) and the United States (31.3% of investments). Only the direct investments in bonds and equities are available: 26.8% for Sweden, 55.4% for the United States. The overall exposure of pension assets to fixed income securities and equities is therefore probably higher in these countries.

The relative importance of equities and bonds varied considerably across countries in 2019. Although there was in general a greater preference for bonds, the reverse was true in 8 OECD countries and 11 other

jurisdictions where equities outweighed bonds. This was the case for instance in Botswana where 68.7% of assets were invested in equities compared to 17.7% in bonds, and Hong Kong (China) where 60.5% of assets of mandatory provident fund (MPF) schemes and MPF-exempted ORSO registered schemes were invested in equities compared to 23.5% in bonds.

Public sector bonds, as opposed to corporate bonds, represented a larger share of the combined direct bond holdings (i.e. excluding investment via collective investment schemes) in a number of countries. For example, public sector bonds accounted for 100% of total direct bond holdings in Albania and North Macedonia, 96.5% in the Maldives, 96% in Ghana and Serbia, 88.2% in the Czech Republic and 87.1% in Israel, but only 21.4% in Norway and 12.2% in New Zealand.

Several reasons may account for the high proportion of investments in government bonds in some countries. One of them may be a lack of other investment opportunities domestically, as reported by some national authorities (e.g. Albania, Ghana, the Maldives, Serbia). Albania created a stock exchange recently (the Albanian Stock Exchange) that may enable a greater diversification of pension assets, currently almost fully invested in domestic government bonds. Another reason may be the need for a fixed and guaranteed income. For example, in the Czech Republic, transformed pension funds offering an annual non-negative nominal guarantee to plan members invested in bills and bonds to receive a fixed income and ensure they keep their promise. Investment regulations in some countries may also require pension providers to invest a certain proportion of their assets in certain instruments (e.g. at least 30% of assets of old and new pension funds in earmarked government bonds in Israel) (OECD, 2020^[6]).

Cash and deposits also accounted for a significant share of pension assets in some OECD and non-OECD jurisdictions. For example, the proportion of cash and deposits was as high as 22.9% of pension assets in the Czech Republic in 2019, 34.5% in France (PERCO plans in 2017) and 43.4% in Panama in 2016.

In most reporting countries, loans, real estate (land and buildings), unallocated insurance contracts, private investment funds and other alternative investments (shown as “other” in Figure 1.14) only accounted for relatively small proportions of the investments of pension assets, though with some exceptions. In a few countries, the share of assets invested in “other” is relatively high: 35% in Switzerland, 37% in Canada, and 41% in Germany for instance. This relatively large share may deserve monitoring from the supervisory authorities. Real estate was a significant component of the portfolios of pension providers (directly or indirectly through collective investment schemes) in some countries such as Canada (12% of total assets) and Switzerland (20%).

Many jurisdictions set limits on investments of retirement assets in less traditional asset classes such as real estate (OECD, 2020^[6]). For example, direct investment in real estate is not allowed in Hong Kong (China), Japan (except for the Mutual Aid Associations), Mexico, Peru, Russia (for mandatory plans) and Thailand. However, in most of the countries previously listed, only direct investment is prohibited and indirect investments in real estate may be allowed through bonds and shares of property companies, or real estate investment trusts for instance.

Some countries have loosened investment limits over recent years and encouraged investments in infrastructure and long-term projects (e.g. Croatia, Romania). In Croatia, the Mandatory Pension Funds Act from 2014 expanded investment opportunities for mandatory pension funds, allowing them to invest in infrastructure projects directly and in alternative investment funds. Since 2019, pension funds in Romania have been allowed to invest 15% of their assets in infrastructure projects created under the national legislation of the Emergency Government Ordinance.

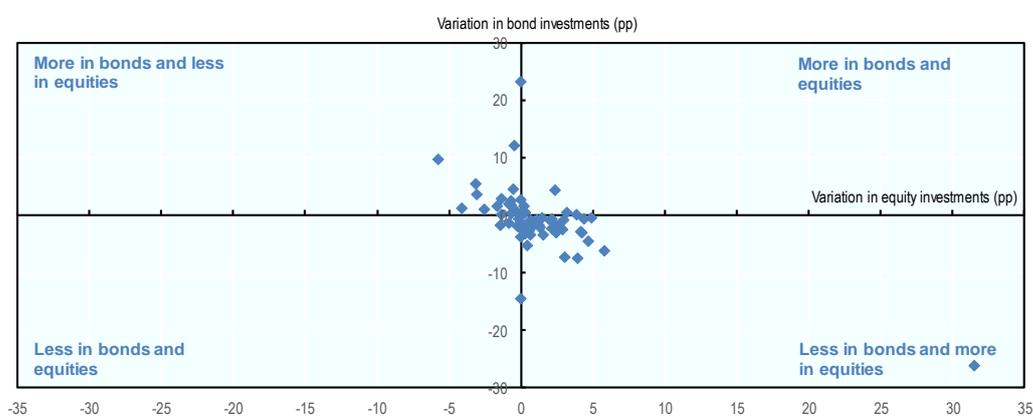
The allocation of assets remained broadly the same in 2019 compared to 2018. Compared to 2018, the proportion of pension assets invested in bonds and equities changed by less than 5 percentage points in 57 out of 67 reporting countries (Figure 1.15, Panel A). The proportion of equities in portfolios tended to be slightly higher in 2019 than in 2018, by 1.2 percentage points on average. The largest change in asset allocation occurred in Lithuania following a pension reform at the end of 2018. In 2019, all assets in second

pillar pension funds in Lithuania were transferred to life-cycle funds, leading to some reallocation of assets from bonds to equities. Mexico also changed the structure of the portfolio of pension providers, from a multi-fund structure (where a worker moved from one fund to another one when s/he turned 37, 46 and then 60) to 10 target date funds in December 2019: a Basic Initial Fund managing assets of plan members aged 24 or less, 8 funds with 5-year age brackets starting at age 25, and a Basic Pension Fund for plan members aged 65 or more. While this transformation will smooth the change in asset allocation as members age, it did not lead to any significant reallocation of assets at the end of 2019 compared to the end of 2018 (less than 1 percentage point difference in asset allocation to equities and bonds respectively).

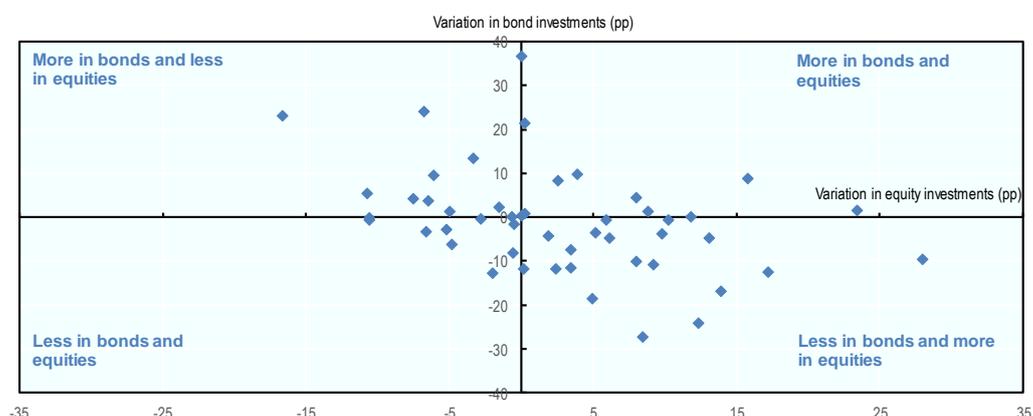
Figure 1.15. Variations in the proportion of pension assets invested in equities and bills and bonds between 2018 and 2019 and over the longest time period possible in selected jurisdictions

In percentage points

A. Between 2018 and 2019



B. Between 2009 and 2019 (or the longest time period possible)



Note: Please see the methodological notes at the end of the report.

Source: OECD Global Pension Statistics.

By contrast, a reallocation of assets from bonds to equities seems to have happened over the last decade in some countries.²³ The proportion of investments in bonds declined by more than 5 percentage points in

²³ The allocation of pension assets in selected investment categories is available for each reporting country and each year in Table A.B.8 (for equities), Table A.B.9 (for bills and bonds), Table A.B.10 (for cash and deposits) and Table A.B.11 (for the “other” category) in the statistical annex of this report, accessible online at: <https://www.oecd.org/pensions/private-pensions/pensionmarketsinfocus.htm>

17 out of 51 reporting jurisdictions over 2009 to 2019 (Figure 1.15, Figure 1.15Panel B, bottom left and rights quadrants). In these 17 countries, the proportion of investments in equities increased by more than 10 percentage points on average. However, the decline in bond investments was not always offset by an increase in equity investments to the same scale. Denmark experienced one of the largest declines in the proportion invested in bonds (27 percentage points less in 2019 than in 2009), but only 8 percentage points were directed to equities. The largest reallocation went to other investments.

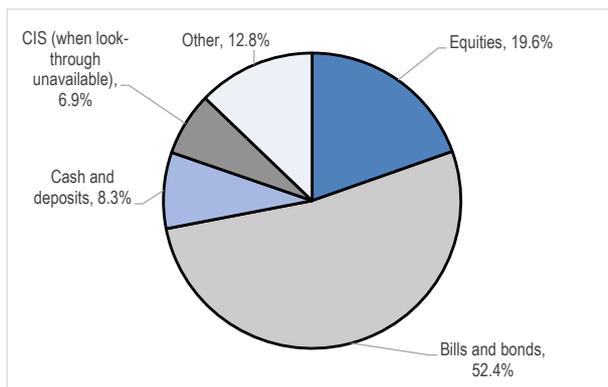
In some cases, changes in asset allocation may be driven by the preferences of plan members (when they can select the investment strategy) or the age structure of the population. In Hong Kong (China), the Mandatory Provident Fund Schemes Authority noted a preference of members for growth funds. This could be reflected by a relatively high proportion of assets (over 50% of total assets) invested in equities in the period 2009-2019. In life-cycle investment strategies, assets of plan members are exposed to more conservative and less risky investments as they age. These strategies are in place in several countries such as Chile. Over the last decade, a number of countries introduced life-cycle investment strategies, such as Croatia (2014), Slovenia (2016), Nigeria (2018) and Lithuania (2019).

Investments in alternative investments, i.e. investments other than equities, bills, bonds, cash and deposits, have increased in absolute terms (by USD 5 trillion in the OECD area), but relative to the size of the portfolio the increase is less noticeable. Figure 1.16 shows the average relative allocation of pension assets in all reporting OECD jurisdictions in 2009 and 2019, while Figure 1.14 above showed the asset allocation for each reporting country in 2019. In some countries, the proportion of other investments has increased significantly, such as in Switzerland (from 27% in 2009 to 35% in 2019). Adjustments to the portfolio of pension providers, potentially as a search for yield to meet pension promises, are not intrinsically bad as long as they do not imply an excessive increase in the risk profile of the portfolio. Nevertheless, pension regulators and supervisors need to continue to monitor these developments closely to avoid damaging increases in the risk profile of the portfolio of pension providers in their search for yield.

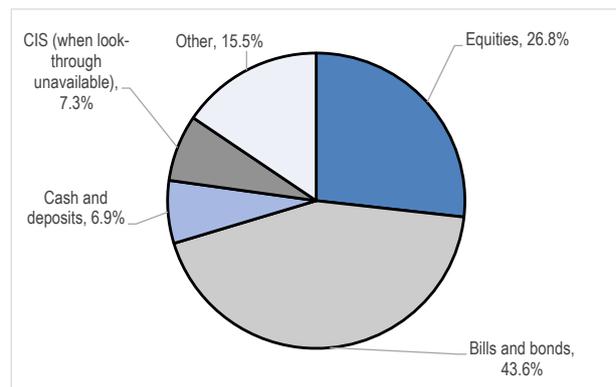
Figure 1.16. Average allocation of pension assets in selected asset classes and investment vehicles in the OECD area, in 2009 and 2019

As a percentage of total investment

A. 2009 (or first year available)
Over 28 reporting OECD countries



B. 2019 (or latest year available)
Over 37 reporting OECD countries

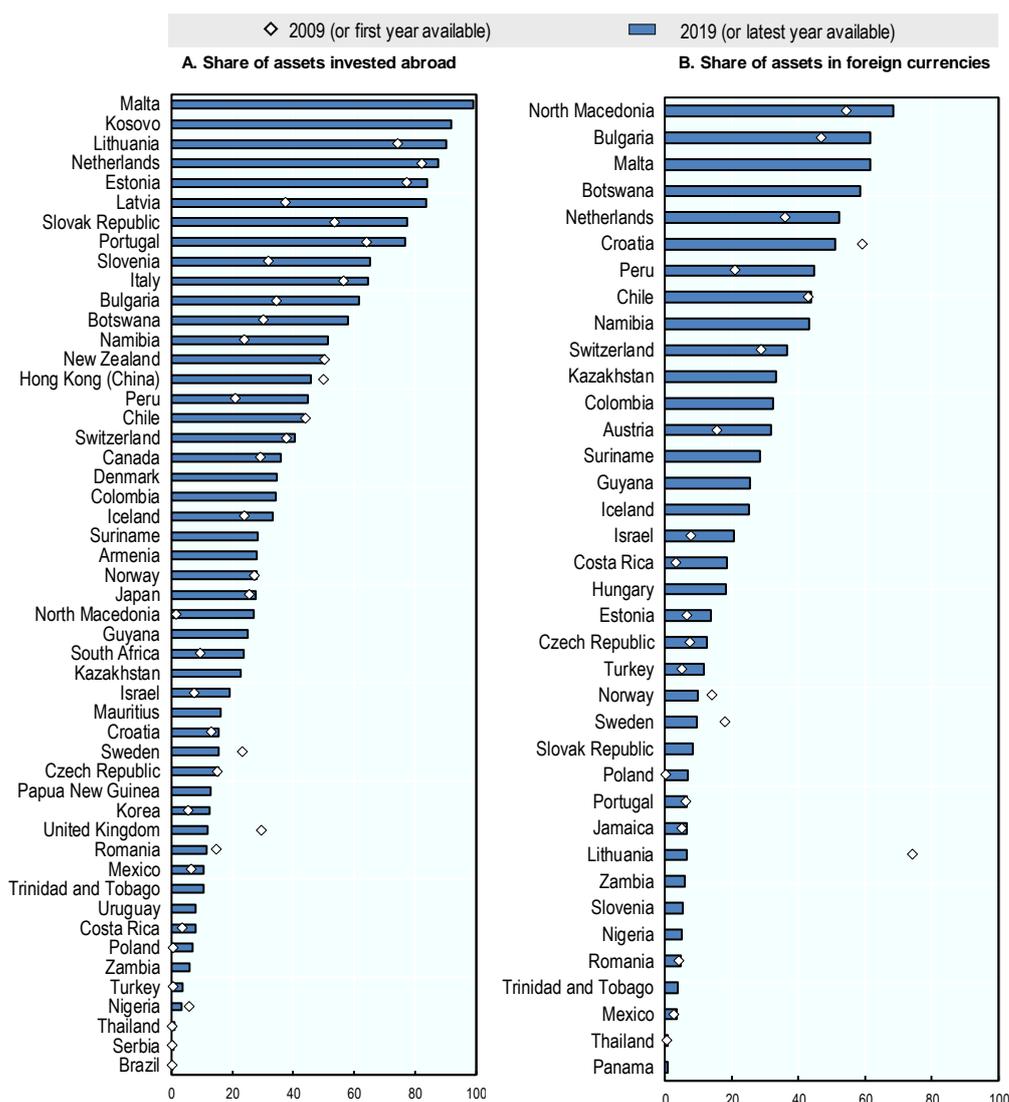


Source: OECD Global Pension Statistics.

The proportion of pension assets invested abroad increased over the last decade for 31 out of 37 reporting countries (Figure 1.17).²⁴ This increase may be related to the lifting of investment restrictions on foreign investments (such as in Peru) and a potential search for higher yields or risk diversification.

Figure 1.17. Share of pension assets invested abroad and in foreign currencies, in 2009 (or first year available) and 2019 (or latest year available)

As a percentage of total investment



Note: Please see the methodological notes at the end of the report.

Source: OECD Global Pension Statistics.

Countries with the highest proportion of pension assets invested abroad were Eurozone members with small capital markets. The ten countries with the largest proportion of assets invested abroad are all from

²⁴ The share of pension assets invested abroad is available for each reporting country and for each year between 2009 and 2019 in Table A.B.12 in the statistical annex of this report, accessible online at: <https://www.oecd.org/pensions/private-pensions/pensionmarketsinfocus.htm>

the euro area or were using the euro as their main currency in 2019: Malta (99% of assets invested abroad), Kosovo (92%), Lithuania (90%), the Netherlands (88%), Estonia (84%), Latvia (84%), the Slovak Republic (77%), Portugal (77%), Slovenia (65%) and Italy (65%). The domestic capital markets of these countries may be too small to absorb the savings from pension plans (Stewart, Despalins and Remizova, 2017^[7]). A significant share of pension assets may have been invested in other countries within the euro area, as the share of pension assets exposed to foreign currency was much lower than the share of assets abroad for Estonia (14%), Lithuania (6%) and the Slovak Republic (8%) for instance. The share of pension assets exposed to foreign currencies dropped between 2010 and 2019 in Lithuania, which adopted the euro in 2015.²⁵

Other countries with small domestic capital markets opted for domestic investment options instead of investments abroad. Pension funds from Albania and the Maldives did not invest abroad at all for instance. These funds mainly invest in domestic bonds instead, even though domestic regulation does not prevent them from investing abroad. Investing abroad was completely forbidden only in a few responding non-OECD jurisdictions at the end of 2019, including the Dominican Republic, Egypt and India (OECD, 2020^[6]).

1.3. Specificities and challenges of defined benefit and defined contribution plans

The pension landscape includes various types of retirement savings plans worldwide (see Annex A). The features of the plans may entail different risks that may impede the sustainability of the pension promise or the adequacy of retirement benefits.

1.3.1. The landscape of different retirement savings plans

Individuals may be accumulating savings for retirement through various types of pension plans. They may be members of occupational pension plans, accessed through employment and established by employers or social partners on behalf of their employees. Depending on how pension benefits are calculated and who bears the risks, occupational plans can be either defined benefit (DB) or defined contribution (DC). In DC plans, participants bear most of the risks, while in DB plans, sponsoring employers assume some of the risks if assets do not cover pension liabilities. Individuals may also have the option of opening a personal plan with a pension fund or another financial institution without any intervention from their employer and not necessarily in the context of an employment relationship.²⁶

In almost all OECD countries, employers can set up occupational plans for their employees (Table A A.1). In OECD countries where employers do not set up occupational plans (e.g. Colombia, Estonia, Lithuania and the Slovak Republic), individuals can usually still have access to (personal) pension plans through their work and choose the fund they would like to join. All OECD countries and almost all the other jurisdictions in this report offer personal plans.

Most countries - 26 OECD countries and 25 out of the 43 other reporting jurisdictions – had DB plans in 2019, but the size of these plans varied worldwide. DB plans had a relatively large prominence, in terms of assets, in several large pension markets such as in Switzerland (89% of all pension assets) (Figure 1.18). The proportion of pension assets in DB plans was lower than in occupational DC and in

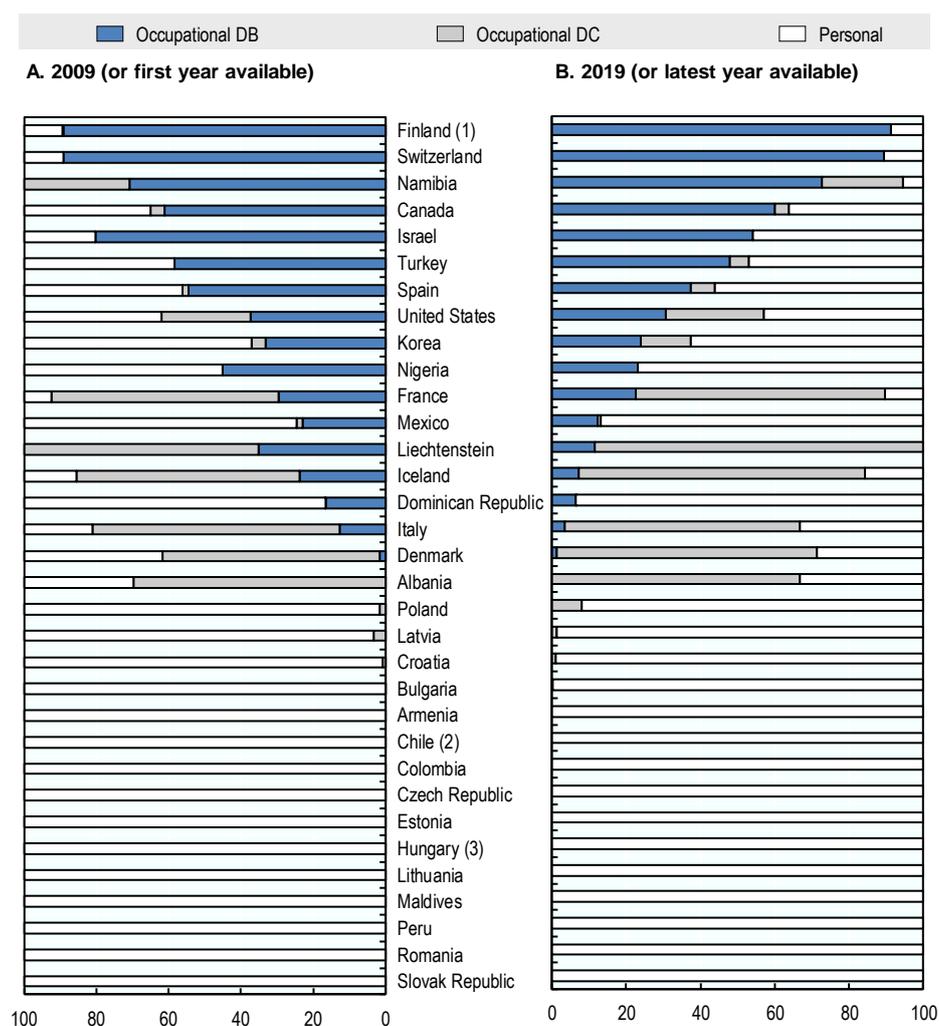
²⁵ The share of assets denominated in foreign currency is available for each reporting country and for each year between 2008 and 2018 in Table A.B.13 in the statistical annex of this report, accessible online at: <https://www.oecd.org/pensions/private-pensions/pensionmarketsinfocus.htm>

²⁶ There is nowadays a full range of plans between traditional DB plans where plan sponsors bear all the risks (e.g. investment, inflation and longevity risks) and individual DC plans where individuals bear all the risks. The features of these plans may be closer to DB or DC plans but all have some risk sharing components between the different parties.

personal plans combined, in most reporting countries. Less than 50% of pension assets were held in DB plans in 28 out of 33 reporting jurisdictions. Some countries had no occupational DB plan at all, especially in Latin America and Central and Eastern Europe.

Figure 1.18. Split of pension assets by type of plan, 2009 (or first year available) and 2019 (or latest year available)

As a percentage of total assets



Note: Please see the methodological notes at the end of the report.

Source: OECD Global Pension Statistics.

Occupational DC plans and personal plans have been gaining prominence at the expense of DB plans even in countries with a historically high proportion of assets in DB plans such as the United States. The proportion of assets in DB plans was lower in 2019 than previous years in 14 out of the 17 reporting countries with DB plans, including the United States (31% in 2019 compared to 37% in 2009). The fastest shift away from DB plans happened in Israel (from 80% in 2009 to 54% of in 2019), where DB plans have been closed to new members since 1995. Some other countries also closed DB plans to new members, such as Italy since 1993. New members had the option (in Italy) or the obligation (in Israel) to join DC plans instead. More recently, Iceland reformed a pension plan for state and municipal employees at the end of 2016, converting it from DB to DC.

1.3.2. Funding ratio of defined benefit plans

Funding ratios measure the proportion of liabilities that available assets cover. When the value of assets in DB plans is less than the value of liabilities arising from the retirement income promise, or in other words, when the funding ratio is below 100%, the plan is underfunded. DB plan sponsors are usually responsible for guaranteeing the funding of the plan.²⁷

The funding ratio of all DB plans (aggregated at the national level) evolved differently across countries since the aftermath of the 2008 financial crisis (Figure 1.19). The funding position of DB plans improved by 23 percentage points in Germany (from 107% in 2009 to 130% in 2019), 20 percentage points in the United Kingdom (from 80% in 2009 to 99% in 2019) and 13 percentage points in Liechtenstein (from 101% in 2009 to 114% in 2019). The funding ratio of DB plans also improved in Finland, Switzerland and the United States between 2009 and 2019. However, the opposite trend was observed in Hong Kong (China), Iceland, Indonesia, Luxembourg, Mexico, the Netherlands and Norway where the funding ratio deteriorated between 1 percentage point (in Luxembourg) and 33 percentage points (in Iceland) over the last decade.

The evolution of the number of DB plans for which the aggregated funding ratio was calculated may influence the trends. Liechtenstein reported that many DB plans were converted into DC plans, leaving a single well-funded DB plan in the market. This probably accounts for the drop in assets and liabilities of DB plans in Liechtenstein between 2012 and 2014, as well as the improvement of the aggregated funding ratio. In Iceland, the funding ratio dropped between 2016 and 2017 as a public-sector scheme for state and municipal employees (one of the most highly funded) was converted into a DC plan and therefore not included anymore in the aggregated funding ratio from 2017 onwards.

Assets in DB plans were equal or even exceeded the level of pension liabilities in most countries at the end of 2019. Funding levels of DB plans were above 100% in 6 out of the 13 reporting jurisdictions, and close to 100% in three others (i.e. Hong Kong (China), Luxembourg and the United Kingdom). However, the funding ratio of four reporting jurisdictions (i.e. Iceland, Indonesia, Mexico and the United States) ranged from 32% (in Iceland) to 97% (in Indonesia), meaning that assets in DB plans would not have been sufficient in these four countries to cover all the pension liabilities at the end of 2019 (2018 for Mexico).

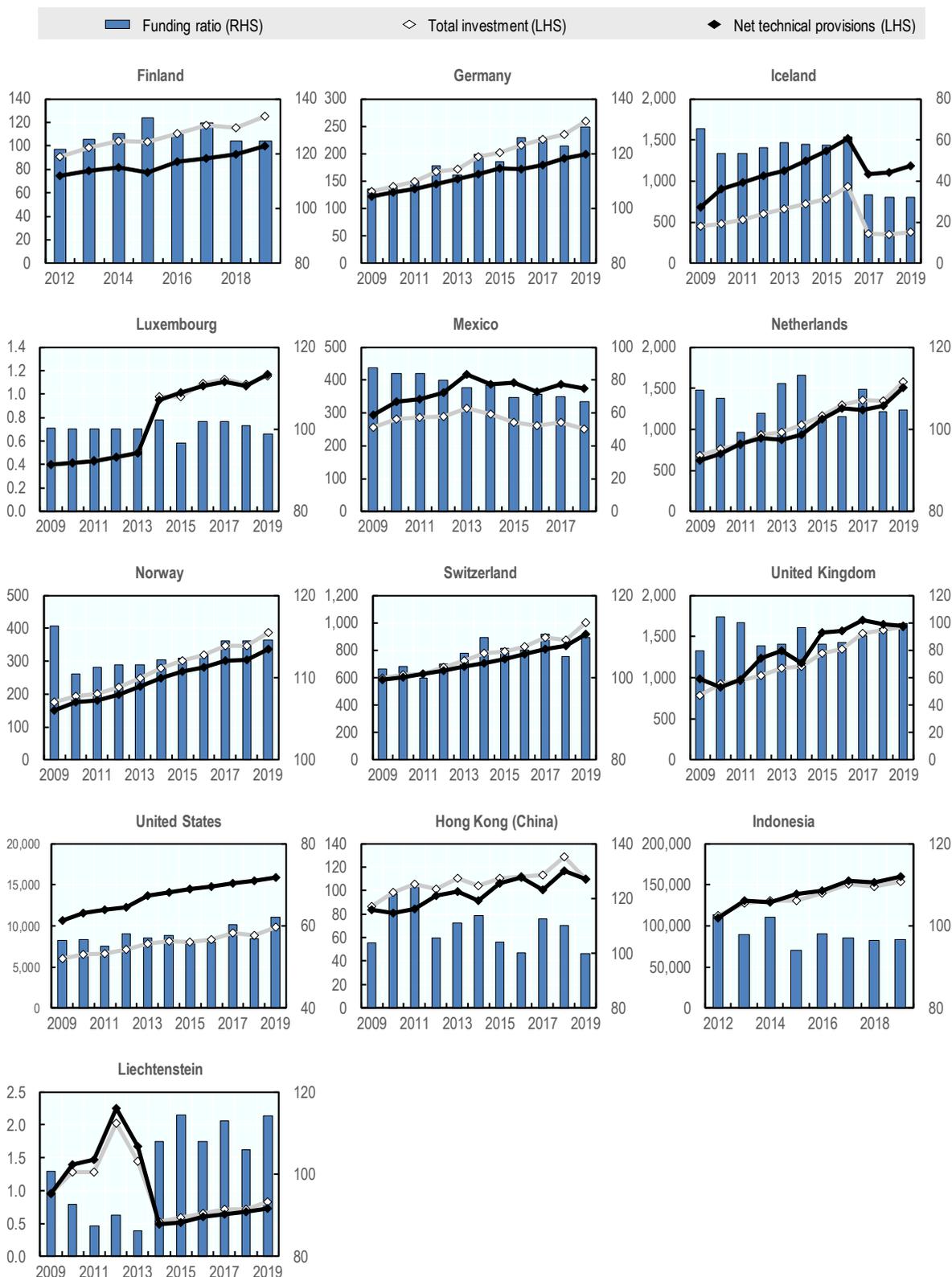
These aggregated funding ratios hide the disparities of the solvency of DB plans that can exist within a country. For example, although the aggregated funding ratio was above 100% in the Netherlands for 2019, a number of Dutch funds were underfunded and below the required funding level, raising the risk of benefit cuts. The large metal sector schemes PMT and PME had a funding ratio around 95% at the end of October 2019.²⁸ To avoid benefit cuts for current retirees, the Dutch government reduced the minimum required funding ratio to 90% in 2019.

Funding ratios are also not strictly comparable across countries given the different national valuation methods of liabilities. Some countries use fixed discount rates while others reference market rates. Pension funds have to use a 3.5% discount rate in Iceland to calculate their liabilities. In the Netherlands, pension funds use an Ultimate Forward Rate (UFR) for the valuation of liabilities. The UFR is an extrapolation of the observable term structure to take into account the very long duration of pension liabilities. The choice of the discount rate that is used to express the stream of future benefit payments in today's terms can have a major impact on funding levels.

²⁷ The funding position of DB plans is assessed in this report as the ratio between the investments and the technical provisions (net of reinsurance) of DB plans. Calculations are based on data provided by national authorities participating in the joint OECD, IOPS and World Bank Global Pension Statistics exercise. Investments of DB plans may be a low estimate of assets of DB plans as they would not include receivables and claims against the plan sponsor to cover the funding shortfall. Technical provisions represent the amount that needs to be held to pay the actuarial valuation of benefits that members are entitled to. This is the minimum obligation (liability) for all DB pension plans.

²⁸ See IPE's article: [Dutch schemes get reprieve from cuts as minister lowers funding floor](#)

Figure 1.19. Assets and liabilities of DB plans (in billions of national currency) and their funding ratio (in per cent) in selected jurisdictions, 2009-2019



Note: Please see the methodological notes at the end of the report.
Source: OECD Global Pension Statistics.

1.3.3. Fees charged to members of defined contribution plans

Fees charged by pension providers for the cost of running pension plans reduce the increase in the overall amount of assets in those plans. This affects negatively the retirement benefit payments that members will eventually get.

The fee structures that pension providers apply vary across countries. Fees can be charged on contributions or on salaries directly as in some Latin American countries (e.g. Chile, Colombia), on assets (e.g. Estonia, Spain), on performance, or a combination (e.g. the Czech Republic where pension funds can charge fees on assets and profits, Bulgaria where supplementary voluntary pension funds can charge fees on contributions and returns). On top of regular fees, members in some countries can be charged fees when they join, switch or leave a pension provider (e.g. Albania, Hungary, the Czech Republic).

Most countries - 30 out of 40 reporting countries - cap some of the fees that pension providers can charge to members (Table 1.2). Most of them cap fees on assets (25 out of 30), which is one of the most widespread way for pension providers to charge members. Australia passed a legislative reform in 2019 introducing a fee cap at 3% on low balances (i.e. below AUD 6 000). Armenia has one of the highest caps on fees on assets among those setting one, at 5% of the net value of the assets annually for voluntary plans. By contrast, Croatia sets one of the lowest caps on fees on assets for mandatory pension funds (at 0.338% of assets under management), which is expected to continue to decline by 5.5% annually until it reaches 0.27% of assets under management.

Jurisdictions like Bulgaria, Costa Rica, Estonia, and Romania have also been lowering their cap on fees recently. Bulgaria progressively reduced the maximum fees that supplementary mandatory universal pension funds (UPF) and supplementary mandatory professional pension funds (PPF) could charge on contributions (from 5% to 3.75% between 2015 and 2019) and on assets (from 1% to 0.75%). Costa Rica has been reducing the maximum fees on assets for the mandatory ROP system, targeting 0.35% in 2020. In Estonia, the cap for management fees of mandatory pension funds dropped to 1.2% for all pension funds in September 2019 (the cap was previously 1.2% for conservative funds and 2% for other funds).²⁹ In the case of Romania, the government has reduced the 2.5% cap on fees on contributions to mandatory pension plans (before December 2018) to 0.5% (at the beginning of 2020), with 0.1% redirected to the centralised institution in charge of transferring contributions to pension fund management companies. Romania has also changed the cap on fees on assets, which was fixed at 0.05% of net assets monthly before but which is now determined depending on the investment rate of return of pension companies and the inflation rate.

Table 1.2. Fee structure and caps in selected OECD countries and other jurisdictions

	Fees on salaries	Fees on contributions	Fees on assets	Fees on returns / performance	Other fees (e.g. exit fees, entry fees, switching fees)
Selected OECD countries					
Australia (except MySuper)	No cap	No cap	No cap except for low balances (3% each year for balances below AUD 6 000)	No cap	No switching fee for asset transfer to another provider
Chile	No cap	x	No cap	x	x
Colombia	3% (including insurance)	x	x	x	No cap
Czech Republic - transformed funds	x	x	0.8% of the average annual value of the funds	10% of profit	CZK 800 per switch

²⁹ However, Estonia is also allowing fund managers for the first time to charge an additional performance fee, provided that the performance of the fund exceeds a benchmark index (i.e. the increase of social tax revenues).

	Fees on salaries	Fees on contributions	Fees on assets	Fees on returns / performance	Other fees (e.g. exit fees, entry fees, switching fees)
Czech Republic - participation funds	x	x	1% of the average annual value of the fund (0.4% for conservative funds)	15% (10% for conservative funds) of (average value of the pension unit in t – highest annual average value of the pension unit since t0) × the average number of pension units in t, where t is the current period and t0 is the time since the creation of the fund	CZK 800 per switch and CZK 500 per change of investment strategy
Denmark	No cap	No cap	No cap	No cap	No cap
Estonia - mandatory schemes	x	x	1.2%. Management fee must decline at least by 15% after each EUR 100 million of assets under management	the lower between: 2% of assets and 20% of the positive difference of the relative change of the value of the net value index and the positive difference of the relative change of the value of the reference index	Redemption fee: up to 0.1% of the net value of a unit (0.05% for conservative funds)
Estonia - voluntary schemes	x	x	No cap	x	No cap (redemption fee and unit issue fee)
Hungary - voluntary pension funds	x	6%	0.8%	x	Entry fee: HUF 4 000 Switching fee between portfolios: max. HUF 2000 Exit fee, Switching pension provider fee: HUF 3000
Ireland	No cap	No cap	No cap	No cap	No cap
Israel	x	6%	0.5%	x	x
Italy	x	No cap	No cap	Possible but rare	Not above the actual administration costs
Korea - occupational DC	x	x	No cap	x	x
Latvia - state funded scheme	x	2.5% (SSIA)	Up to 0.6% of average value of assets for assets up to EUR 300 million and 0.4% for the part of assets above EUR 300 million	Total fixed fee plus performance fee: Up to 1.1% of average value of assets for active and balanced plans and 0.85% for conservative plans.	x
Latvia - private pension funds	x	No cap	No cap	No cap	x
Lithuania - 2nd pillar	x	x	0.8% in 2019, to decline to 0.65% in 2020 and 0.5% in 2021 for life-cycle funds; 0.2% for asset preservation funds	x	Switching fee up to 0.05% of assets
Lithuania - 3rd pillar	x	No cap	No cap	x	Switching fee up to 0.5% of assets. No cap for other fees
Mexico	x	x	No cap	x	x
Poland - open pension funds	x	1.75%	0.54% of net assets annually (regressive fee algorithm, bigger funds charge smaller percentage), no more than PLN 186 million annually	0.06% of net assets annually multiplied by the percentage premium ratio = $(R_i - R_{min}) / (R_{max} - R_{min})$	x
Poland - PPK	x	x	0.5% of AUM annually, with assets capped at 15% of PPK market assets	0.1% of AUM when positive rate of return above the benchmark in secondary legislation	No cap
Portugal	No cap	No cap	No cap	No cap	Capped
Slovak Republic - 2nd pillar	x	0.25% (SIA) + 1% (maintaining the account)	0.3% annually of the average annual net asset value	10% of net asset value × (value of the pension point/highest value of the point - 1). The highest value of the point is calculated over a defined period.	x
Slovak Republic - 3rd pillar	x	x	Pay-out supplementary pension funds: up to 0.65% annually of the average annual net asset value	10% of net asset value × (value of the pension point/highest value of the point - 1). The highest value of	Switching fee: 5% of the member s account balance in the first year after concluding a contract. No switching

	Fees on salaries	Fees on contributions	Fees on assets	Fees on returns / performance	Other fees (e.g. exit fees, entry fees, switching fees)
			Contributory pension funds: up to 1.3% annually of the average annual net asset value	the point is calculated over a defined period.	fee after 1 year. Termination settlement fee: 20% of the member's account balance (only for old contracts)
Slovenia	x	3%	1% of average assets	x	Custody fee: no cap Switching fee: EUR 15 per switch Exit fee: 1% of assets
Spain	x	x	Cap on management fees varying by fund: 0.85% for fixed income funds, 1.3% for mixed funds, and 1.5% for other funds. Custodian fees: 0.20% (calculated daily)	No cap	x
Turkey - auto-enrolment plans	x	x	The annual fund management fee is capped at 0.85% of assets. All the fund expenses (including the management fee and other administrative expenses) are not allowed to exceed 1.09% of assets.	If the net return of the fund exceeds the performance threshold (determined by the regulation according to fund groups), a maximum 20% of the exceeding part can be deducted from the fund portfolio as additional administrative expense fee. The additional administrative expense fee cannot exceed 0.85% of the net asset value in any way	x
United Kingdom - default funds	x	x	0.75%	x	x
United States	No cap	No cap	No cap	No cap	No cap
Other jurisdictions					
Albania	x	x	3% of the net value of the pension fund annually	x	'Switching fee up to 0.5% of the amount transferred Early withdrawal fee from 2% to 20% of the net asset value withdrawn depending on the length of membership
Armenia - mandatory plans	x	x	1.5% of the average annual net asset value	x	Redemption fee up to 1% of NAV of redeemed units
Armenia - voluntary plans	x	No cap	5% of the average annual net asset value	x	No cap
Brazil - open pension entities	x	5%	No cap	No cap	Fee on transfers and withdrawals: up to 10% of the amount transferred or withdrawn
Bulgaria - VPFOS and VPF funds	x	7%	x	10% of the return (in any) accumulated from the start of the year, calculated daily	Entry fee: up to BGN 10 Other fees: up to BGN 20
Bulgaria - UPF and PPF	x	3.75%	0.75% of the net assets calculated daily	x	Up to BGN 10 when transferring funds from UPF/PPF to a pension scheme of the EU, ECB or EIB
Costa Rica - ROP	x	x	Up to 0.5% of assets (going down to 0.35% by 2020)	x	x
Croatia - mandatory pension funds	x	x	0.338%	x	Entry fee: up to 0.5% of contributions Switching fee, if membership lasts less than three years,: up to 0.8% of the member's assets in the 1 st , 0.4% in the 2 nd and 0.2% in the 3 rd year of membership
Croatia - voluntary pension funds	x	x	Up to 3%	x	Switching fee: up to 2.5% of the member's assets
Ghana	x	x	2.5%	x	x

	Fees on salaries	Fees on contributions	Fees on assets	Fees on returns / performance	Other fees (e.g. exit fees, entry fees, switching fees)
Kazakhstan - mandatory plans	x	x	0.025% per month in the law, lowered to 0.015% in the by-law of the National Bank of Kazakhstan	7.5% of investment income in the law, lowered to 5% in the by-law of the National Bank of Kazakhstan	x
Liechtenstein	x	No cap	No cap	x	No cap
Maldives	x	x	0.6%	x	x
Nigeria	x	NGN 100 monthly per contribution	2.025% for Fund I; 1.79% for Fund II and 1.65% for Fund III	7.5% on earned income for AES Fund and RSA Fund IV	x
North Macedonia - mandatory pension funds	x	2.25%	0.03% of assets monthly	x	Switching fee up to EUR 15 per member if membership is less than 720 days, otherwise no switching fee
North Macedonia - voluntary pension funds	x	7%	0.15% of assets monthly	x	Switching fee up to EUR 10 per member if membership is less than 360 days, otherwise no switching fee
Pakistan - voluntary pension funds	x	x	1.5%	x	3% of contribution
Peru	No cap	x	No cap	x	x
Romania - 2nd pillar	x	1%	Depends on rate on return: 0.02% of AUM per month if rate of return below inflation; 0.03% of AUM per month if rate of return is between 0 and 1 pp. above inflation; 1 additional basis point of fee on AUM per month for each additional pp. of the rate of return above inflation up to 0.07% of AUM per month if rate of return is over 4 pp. above inflation.	x	Switching fee: 5% of the amount transferred
Romania - 3rd pillar	x	5%	2.4%	x	Switching fee: 5% of the amount transferred
Serbia	x	No cap	1.25%	x	No cap (switching fee)
Thailand	x	x	No cap	No cap	x
Uruguay	x	1.5 times the lowest fee available in the market	x	x	x

Note: Please see the methodological notes at the end of the report.

Source: OECD Reviews of Pension Systems: Latvia; and OECD Global Pension Statistics.

The actual level of fees charged to members is difficult to compare across countries. Table 1.3 shows the heterogeneity of fees charged by pension providers in reporting countries in 2019. Some of the highest fees charged to members relative to the amount of assets under management were recorded in Albania (2.5%) and Turkey (1.8%). However, fees may vary for different levels of services across countries and should be examined in light of these services and of the value they generate for plan members. Some indirect charges that reduce the pension pot of plan members may also still need to be uncovered and disclosed, and would therefore not be accounted for in the current available data on fees.

Table 1.3. Annual fees charged to members, by type of fee, 2019 or latest year available

As a percentage of total assets

	Fees on salaries	Fees on contributions	Fees on assets	Fees on returns / performance	Other fees
Selected OECD countries					

	Fees on salaries	Fees on contributions	Fees on assets	Fees on returns / performance	Other fees
Australia (1)			0.4		
Chile	0.5	x	0.3	x	x
Colombia (2)	0.8	x	x	x	..
Czech Republic	x	x	0.7	0.1	0.0
Estonia (3)	x	x	0.8	0.0	..
Hungary (4)	x	0.3	0.4	x	..
Israel (5)	x	0.2	0.2	x	x
Korea (6)	x	x	0.6	x	x
Latvia (6,7)	x	..	0.6	..	x
Lithuania (8)	x	x	0.5	x	..
Mexico (9)	x	x	0.9	x	x
Poland (10)	x	0.0	0.5	0.0	x
Slovak Republic	x	0.1	0.4	0.4	0.0
Spain (9)	x	x	1.0	..	x
Turkey (9)	x	0.0	1.5	..	0.2
Selected other jurisdictions					
Albania	x	x	2.3	x	0.2
Bulgaria	x	0.4	0.6	0.0	0.0
Costa Rica (11)	x	x	0.4	x	x
Croatia	x	x	0.4	x	0.0
Kazakhstan	x	x	0.2	0.4	x
Liechtenstein	x	0.1	0.3	x	0.0
Maldives	x	x	0.6	x	x
North Macedonia	x	0.3	0.3	x	..
Pakistan (6)	x	x	1.3	x	0.1
Peru	0.6	x	0.1	x	x
Romania	x	0.2	0.4	x	..
Serbia	x	0.2	1.2	x	..
Thailand (12)	x	x	0.3	..	x
Uruguay (6)	x	0.6	x	x	x

Note: "x" means that the type of fee does not exist or is not allowed in the country. All the fees are expressed in this Table as a percentage of total assets, even when fees are levied on salaries, contributions or investment income. These percentages are therefore not comparable with the maximum set by law when the maximum is expressed as a percentage of salaries, contributions or investment income. Please see country-specific methodological notes at the end of the report.

Source: OECD Global Pension Statistics.

2 Assets in retirement savings plans in the time of COVID-19

The COVID-19 outbreak increased instability on financial markets, which have affected the value of assets in the portfolio of pension providers.

This special feature provides preliminary estimates of assets in retirement savings plans, up to end-Q3 2020. These estimates are based on GPS data and actual data that national authorities have already published. These estimates also draw on forecasts based on market developments. This section also examines the evolution of the funding position of DB plans in 2020. This assessment partly relies on official releases from national authorities, sometimes coming from exceptional new data collections that they launched to monitor the impact of the outbreak on the pension industry. Studies from private sector companies provide some additional insights on the solvency of DB plans in 2020.

2.1. Assets in retirement savings plans are forecast to exceed their pre-COVID-19 level by end-Q3 2020

Financial markets have been very volatile in 2020. Uncertainties around the spread of COVID-19 and its impacts on the economy have triggered large swings in financial markets. In March 2020, the average daily swing of the S&P 500 was 5%, beating the November 1929 record (3.9%).³⁰

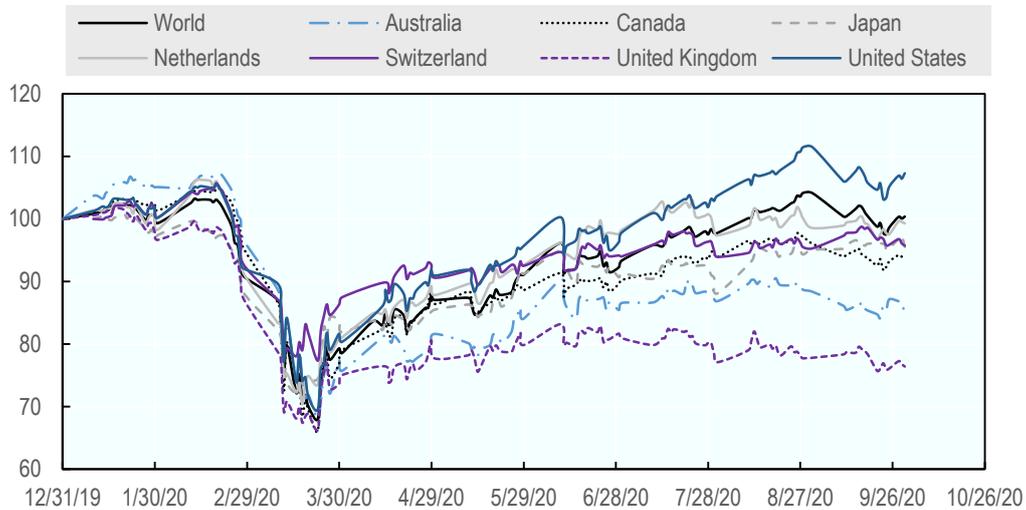
Overall, global stock prices declined sharply in the first quarter of 2020 but have rebounded since then. The MSCI indices show that stock prices fell between mid-February and end-March 2020 in Australia, Canada, Japan, the Netherlands, Switzerland, the United Kingdom and the United States (i.e. the countries where the amount of assets held in retirement savings plans are the largest). These indices were down by between 23% (in Switzerland) and 34% (in Canada and the United Kingdom) at their lowest level in March 2020 compared to end-2019 (Figure 2.1). Since then, stock markets have experienced a rebound. This upturn probably relates to the effects of precautionary measures to curb the spread of the virus and to the policy measures to support the economy, such as government stimulus and the announcement of the Federal Reserve in the United States to purchase a large amount of securities to restore economic stability.³¹ By the end of September, the MSCI World index was at the same level as at the end of 2019, although with disparities across countries. The MSCI index of the United States was above its level at end-2019, but the MSCI index of the other large pension markets was still below.

³⁰ <https://darrowwealthmanagement.com/blog/march-2020-is-about-to-become-the-most-volatile-month-in-stock-market-history/>

³¹ See <https://theconversation.com/why-stocks-are-soaring-even-as-coronavirus-cases-surge-at-least-20-million-remain-unemployed-and-the-us-sinks-into-recession-140395>

Figure 2.1. Evolution of the MSCI indices of the seven largest pension markets and the world, 2020

Base: 100 at end-2019



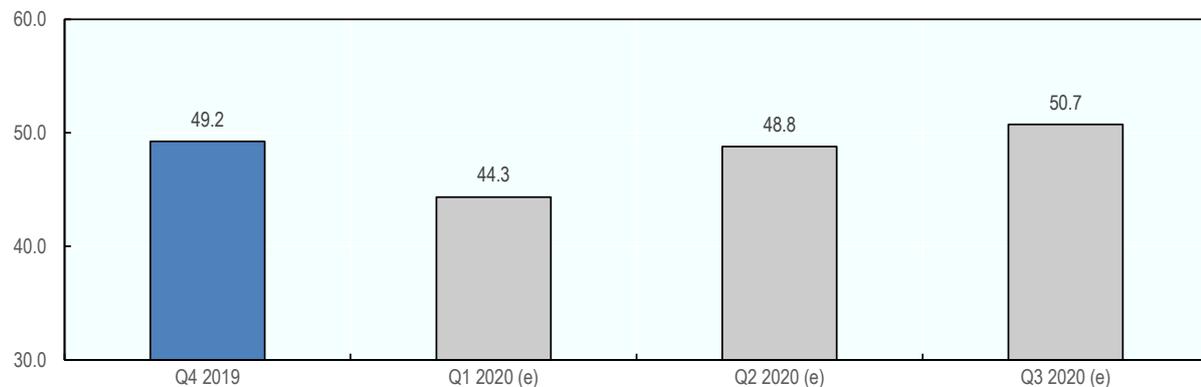
Source: Investing.com

Assets in retirement savings plans are forecast to follow the same trends as financial markets in 2020. Preliminary forecasts suggest that pension assets would have declined by 10% in the first quarter of 2020 in the OECD area, from USD 49.2 trillion at end-December 2019 to USD 44.3 trillion at end-March 2020 (Figure 2.2).³² Pension assets are then likely to have benefitted from the recovery of financial markets in the second and third quarters. Positive developments in financial markets are expected to enable pension providers to recoup investment losses and see the level of pension assets rise back to their pre-COVID-19 level between Q2 and Q3 2020. Pension assets are forecast to exceed their pre-COVID-19 level and amount to USD 50.7 trillion in the OECD area at the end of Q3 2020.

Figure 2.2. Preliminary forecasts of assets in retirement savings plans in the OECD, up to end Q3-2020

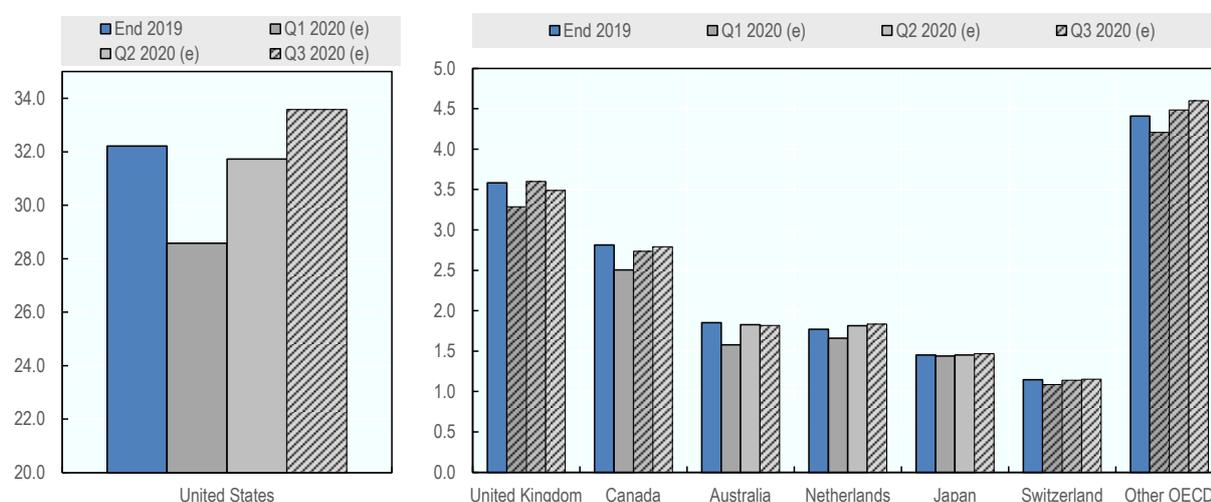
In USD trillion

A. Total OECD



³² The methodology for this forecast is presented in the notes of Figure 2.2 at the end of the report.

B. By country



Note: Please see the methodological notes at the end of the report. Upward diagonals show OECD own estimates.

Source: OECD Global Pension Statistics; APRA; Statistics Canada; Bank of Japan; DNB; FRB; MSCI; S&P Dow Jones Indices LLC.

The evolution of pension assets in the OECD area is largely driven by trends in the United States, as assets in retirement savings plans in the United States accounted for nearly two thirds of the OECD total at the end of 2019. The Federal Reserve recorded an 11% decrease of pension assets between the end of 2019 and the end of the first quarter of 2020, from USD 32.2 trillion to USD 28.6 trillion.³³ The decline was more pronounced for defined contribution (DC) funds (-13.3%) and individual retirement accounts (-13.3%) than for DB pension funds (-8.5%). Both DB and DC funds experienced a speedy recovery in the second quarter as their assets increased by almost as much as they had fallen in the first quarter: +9.6% for DB funds and +13% for DC funds.

Like in the United States, pension providers in other countries have also experienced a rapid growth in the value of assets earmarked for retirement, after the losses in Q1 2020. In Australia and the Netherlands, assets (in USD term) rose by 15.8% and 9.4% (respectively) in the second quarter, after a 14.8% and 6.2% fall (respectively) in the first quarter of 2020. Assets in pension funds in the Netherlands already exceeded their 2019 level at the end of Q2 2020 by USD 46 billion.

Available data confirm a growth in the value of assets earmarked for retirement after the initial decline in Q1 2020. The scale of the fall and subsequent increase varies across countries. Data from the ECB show that assets of pension funds in the euro area declined in EUR terms, in all reporting countries in the first quarter of 2020. The decline varies between 1.6% in Luxembourg and 12.4% in Lithuania. The value of assets earmarked for retirement in pension funds in the euro area partially recovered in the second quarter. The increase in the value of pension fund assets ranges from 0.5% in Luxembourg to 14.4% in Greece.³⁴

While the OECD (2020_[8]) projects the economy will continue to recover, uncertainty remains high for the fourth quarter of 2020. Many countries are already seeing a second wave of the COVID-19 outbreak and may re-establish some precautionary health measures to contain the virus. This second wave may create new swings in the financial markets. Financial markets may also be sensitive to other major events that

³³ <https://www.federalreserve.gov/releases/z1/20200921/z1.pdf>

³⁴ ECB's data are available at: <https://sdw.ecb.europa.eu/browse.do?node=9699887>

will take place in the last quarter of 2020, such as the US presidential election and Brexit negotiations for the preparation of a treaty.³⁵

2.2. The funding position of DB plans is less alarming than at end-Q1 2020

The change in the value of assets earmarked for retirement in 2020, following a fall in Q1 2020 and an increase afterwards, may have affected the solvency position of DB plans. National authorities and private companies monitored the evolution of the funding ratio of DB plans in 2020 in some countries. They usually found that funding ratios deteriorated in the first quarter of 2020 (Table 2.1). The funding ratio of DB plans in the Netherlands dropped below 100%, at 89.5% in March 2020. Likewise, while the funding ratio of DB plans in the United Kingdom was close to 100% at end-2019, this ratio went down to 92.5% in March 2020. The aggregate funding ratio also declined but remained above 100% in Finland and Switzerland.

Table 2.1. Evolution of the funding ratio of DB plans in selected OECD countries in 2020

Country	Trends
Canada	The solvency position of DB plans declined in Q1 but recovered in Q2 and continued its recovery in Q3.
Finland	Prepared an emergency legislation on pension solvency (that was not needed at the end). The risk-based solvency position declined at end-March 2020 (but was still around 1.5) and increased by end-April 2020. The FIN-FSA collects solvency data on pension companies in a condensed schedule. The amount of pension assets relative to technical provisions was below the level at end-2019 but was still above 120% at end-June 2020. The solvency improved further in August and the solvency position exceeded the level at end-2019.
Netherlands	While above 100% at end-2019 (at 104%), the average funding ratio deteriorated in the first quarter, down to 89.5% in March 2020. The average funding ratio has improved since then, reaching 92.9% in June 2020. The DNB published that the funding ratio would have climbed back to 95.4% in August 2020.
Switzerland	The Occupational Pension Supervisory Commission (OPSC) estimated that the funding ratio of pension funds declined to 102% on average (at end-March 2020) due to shocks on financial markets, before increasing to 107.9% at end-June 2020 and further to 110.2% at end-September 2020. The proportion of underfunded funds also improved at end-June (10.2%) and end-September (7.5%) compared to end-March 2020 (45.7%), but is still above the proportion at end-2019 (1.1%).
United Kingdom	The aggregate deficit of the 5 422 schemes that the PPF examines in its PPF 7 800 Index varied between end-2019 and end-August 2020 and were estimated to be: GBP 10.9 bn at end-December 2019, GBP 74.7 bn at end-January 2020, GBP 124.6 bn at end-February, GBP 135.9 bn at end-March, GBP 128.5 bn at end-April, GBP 176.3 bn at end-May, GBP 174.8 bn end-June, GBP 199.5 bn at end-July, GBP 140.5 bn by end-August 2020. The funding ratio varied in 2020: 99.4% at end-December 2019, 95.9% at end-January, 93.2% at end-February, 92.5% at end-March, 93.1% at end-April, 90.9% at end-May, 91% at end-June, 89.9% at end-July, 92.6% at end-August 2020. There were 55.3% of DB schemes in deficit among the schemes in the PPF Index at end-December 2019, 60.1% at end-January 2020, 64.4% at end-February, 66.5% at end-March, 64.6% at end-April, 66.8% at end-May, 66.7% at end-June, 68% at end-July, 64.7% at end-August 2020.
United States	FBR data suggest that the funding ratio of DB plans fell to 56.6% at end-Q1 2020, climbed back to 61.7% at end-Q2 2020 but was still below the level at end-2019. The Milliman 100 Pension Funding Index recorded a decline in the funding ratio of the 100 largest corporate DB plans between end-2019 (89.8%) and end Q1-2020 (86.2%), further declining by end Q2-2020 (83.5%) but this ratio has increased since then, reaching 85.1% at end-August 2020.

Source: Aon (for Canada); FIN-FSA (for Finland); DNB (for the Netherlands); the Occupational Pension Supervisory Commission of Switzerland; the Pension Protection Fund in the United Kingdom; and the FRB and Milliman in the United States

Following this decline in the funding ratio, policy makers swiftly prepared responses to support DB plans, their providers and sponsors. In the United Kingdom, the Pensions Regulator (TPR) announced that it would refrain from taking regulatory actions if employers failed to make deficit repair contributions to reduce the deficit of underfunded pension schemes according to the initial recovery plans. Finland also prepared an emergency legislation to strengthen the solvency of pension providers in case it declined further. This

³⁵

<https://www.theguardian.com/politics/2020/sep/11/brexit-can-the-uk-and-eu-reach-a-deal-before-the-end-of-october>

support in Finland and the United Kingdom aimed at limiting pro-cyclical effects that would put further strain on sponsors or providers at a time when their finances were deteriorating. In the Netherlands, the mechanism to restore the funding position of DB plans can involve a cut in benefits for current retirees. To avoid such cuts, the government has recently announced that it would extend the reprieve for the reduction of the minimum funding ratio of DB plans (from 100% to 90%, already in place for 2019) until 2021.³⁶

The funding ratio of DB plans has improved since the end of Q1 2020 in most reporting countries. The funding position of DB plans was even higher at end-August 2020 than at the end of 2019 in Finland. The recovery of financial markets probably contributed to the improvement of the funding ratio of DB plans in the second and third quarters of 2020. However, DB pension plans were still not as highly funded as at end-2019 in several countries, including the Netherlands, the United Kingdom and the United States. In Switzerland, the proportion of pension funds that were underfunded was still higher at the end of September 2020 (7.5%) than at the end of 2019 (1.1%). Likewise, the proportion of DB schemes that were underfunded in the United Kingdom (included in an index built by the Pension Protection Fund) was almost 10 percentage points higher at end-August 2020 (64.7%) than at the end of 2019 (55.3%).

The evolution of the funding position of DB plans is partly tied to the evolution of assets in DB plans and therefore also remains uncertain beyond Q3 2020. The actual amount of assets will also depend on the amount of contributions paid into retirement savings plans and outflows from these plans.

Finally, countries have introduced various policy measures with a potential effect on inflows and outflows from retirement savings plans, following the COVID-19 outbreak. Measures such as allowing premature access to retirement savings or stopping contributions would affect the final value of assets earmarked for retirement. The forthcoming (December 2020) OECD publication on retirement savings in the time of COVID-19 will provide a description of these measures and others, and an analysis of their implications.

³⁶ <https://www.ipe.com/news/dutch-minister-to-prevent-unnecessary-pension-cuts/10048108.article>

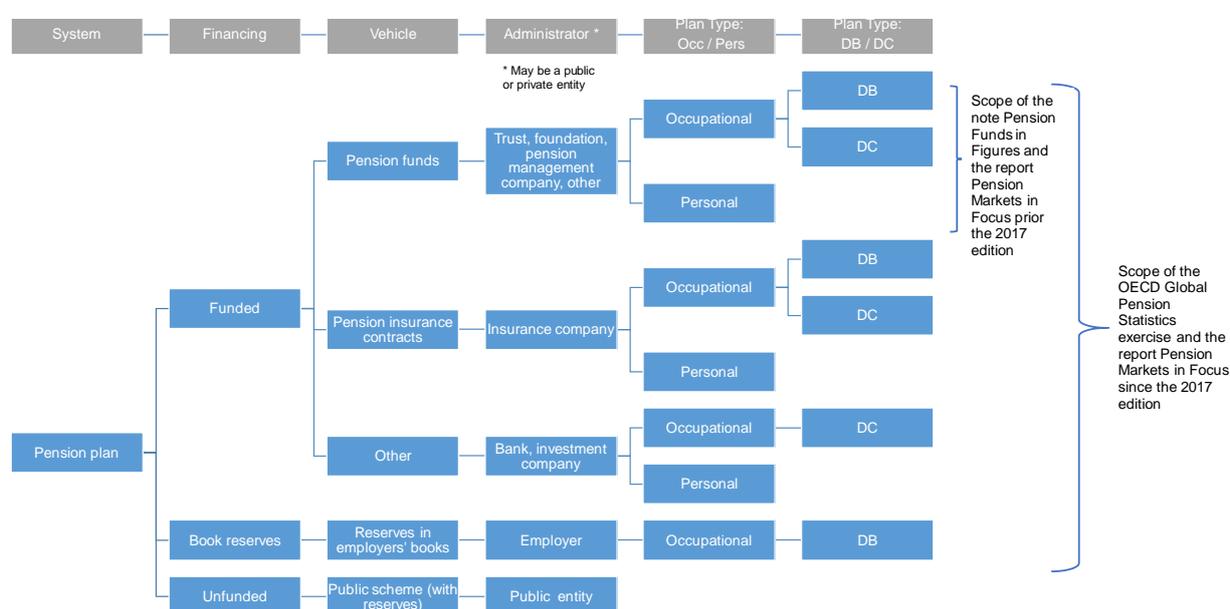
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Annex A. Features of retirement savings plans covered in this report

The pension landscape includes various types of plans around the world. These plans finance the pensions of retirees in different ways, through specific vehicles administered by different entities. The way individuals get access to these plans and the type of benefits that plans offer also vary across countries (Figure A A.1).

Figure A A.1. Features of pension plans



Pension plans are designed to provide benefits to individuals at retirement but finance these benefits in various ways. Benefits can be financed through assets accumulated in funded plans, through provisions in employers' books or from the contributions of current employees.

In funded plans, members accrue rights or accumulate assets for their retirement through their contributions or the contributions of their employers during their working lives. These assets are legally separated from the sponsors of the plans. Members have a legal or beneficial right or some other contractual claim on these assets.

By contrast, provisions in employers' books are not legally separated from the employers. The accrued pension rights of employees could potentially be at risk if the employers go bankrupt. Some countries where this financing method exists have set up insolvency guarantee schemes (e.g. Germany). Other countries encourage or require employers to purchase credit insurance or arrange equivalent guarantees (e.g. Sweden) to protect the pension rights of employees in the event of employer insolvency.

Pension plans are considered as unfunded when benefits of retirees are paid on a pay-as-you-go basis from the contributions of current workers. These unfunded plans may however build up reserves to cover

expenses and smooth benefit payments over time. These reserves may come from the excess of contributions over benefit payments in certain years. They may also be the result of fiscal transfers.

Some plans have both a funded and unfunded component, such as in Finland. The earning-related pensions paid by plans regulated by the Employees' Pension Act (TyEL) and the Seafarer's Pensions Act (MEL) are financed through a funded and a pay-as-you-go mechanism. The main part of the pensions in a given year is paid by the contributions received that year. The remaining part is financed by accumulated assets.

Pension plans may be funded through the establishment of pension funds, pension insurance contracts or the purchase of other authorised retirement savings products. Pension funds represent a pool of ring-fenced assets forming an independent legal entity. When pension insurance contracts are used for retirement saving, individuals or their employers pay premiums to insurance companies. Insurance companies manage the assets coming from these premiums (or contributions) together with those coming from their other insurance activities. While the amount of premiums paid for these policies is usually known, it is more difficult to assess the size of assets that insurance companies hold as a result of their pension activities. Individuals or their employers may also open or purchase other retirement savings products offered and administered by banks or investment companies (such as individual retirement accounts (IRAs) in the United States).

Pension funds take different forms around the world (Stewart and Yermo, 2008^[9]). Pension funds may have a legal personality and capacity in some countries (e.g. Pensionskassen in Austria and Germany, contractual pension funds in Italy, pension funds in the Netherlands and Switzerland). Pension funds in these countries have their own governing board. In some other countries, pension funds are a segregated pool of assets without legal personality and capacity. In this case, pension funds are governed and administered by a separate entity. This entity may be a pension fund management company (e.g. in the Czech Republic, Chile, Mexico, the Slovak Republic), a bank or an insurance company for instance. In some other countries (e.g. Ireland, the United Kingdom), the legal form of the pension fund is a trust. The trustees legally own and administer the assets of the trust in the interest of plan members. Irrespective of the legal form of the pension funds, some of the activities, such as those related to the investment of assets or the collection of contributions, may be outsourced to third parties (e.g. asset managers).

Employers (from the public or private sector) may set up funded plans on behalf of their employees. In such cases, the plans are considered as occupational in the OECD taxonomy.³⁷ Access to the plans is linked to employment. When individuals choose and set up plans themselves with a dedicated provider, the plans are personal. Access to certain plans may however be limited to individuals in a professional activity but open to both public and private sector workers (e.g. Mexico). These plans are still considered as personal as individuals independently select material aspects of the plan such as the investment strategy, the fund or the administrator of the fund.

Where the employer is responsible for guaranteeing a benefit or return promise to plan members, the OECD considers such occupational plans as defined benefit (DB) plans. The benefit promise may be a pension calculated on a number of parameters (e.g. salary, length of employment) or an investment rate of return. In the first case, the plans are considered as DB traditional, while the plans are considered as DB hybrid in the second case. When another party offers a guarantee (e.g. an insurance company), the plans are considered as DC protected. Otherwise, if there is no (fixed) guarantee, the plans are DC unprotected.

The Global Pension Statistics (GPS) that the OECD carries out in cooperation with the IOPS and the World Bank cover employers' book reserves (which are private pension plans) and all funded plans regardless

³⁷ The definitions of pension plans by the OECD's Working Party on Private Pensions are available in the publication *Private Pensions: OECD Classification and Glossary*, available at www.oecd.org/daf/pensions.

of the financing vehicle and its administrator (public or private institution), the type of plans (occupational, personal, DB or DC) and the type of people covered (public sector workers, private sector workers). Unfunded or pay-as-you-go schemes with their reserves are out of the scope of this exercise.

This publication relies on the data collected through this statistical exercise. While the previous issues of Pension Markets in Focus focused on pension funds only, since the 2017 edition the reports have tried to show data for all retirement savings plans, i.e. all plans where assets are accumulated to back future benefit payments and employers' book reserves. This change may account for the potential differences between the results in this report and results in editions prior to 2017.

Data in the GPS exercise - and therefore in this report – may not always cover all retirement savings plans that exist in each country due to data unavailability. Data are sometimes unavailable (“missing”) for a given type of plan in a country (e.g. book reserves in Austria). In other cases, data may be missing only for some plans in a given type of plan. In Ireland for example, two plans qualify as pension insurance contracts according to the OECD taxonomy: retirement annuity contracts and personal retirement savings accounts (PRSAs). Data in the GPS exercise only cover PRSAs. Table A A.1 shows the types of plans that exist in all countries participating in the OECD, IOPS and World Bank statistical exercise. The table also specifies the coverage of the OECD data by type of plan. More information on the different funded and private pension systems is available online.³⁸

³⁸ See <https://www.oecd.org/pensions/private-pensions/pensionmarketsinfoocus.htm>

Table A A.1. Existing types of retirement savings plans by country and data coverage

	Funded								Book reserves
	Pension funds			Pension insurance contracts			Other		
	Occupational		Personal	Occupational		Personal	Occupational	Personal	
	DB	DC		DB	DC				
OECD countries									
Australia	✓	✓	✓					Some	
Austria	Some	✓		✓	Some	Missing		Missing	
Belgium	✓	✓	Some	✓	✓			Some	
Canada	✓	✓	Some	✓	✓	✓		Some	
Chile		✓	✓		Missing	Missing	Missing	Missing	
Colombia			✓						
Czech Republic			✓						
Denmark	✓		✓		✓		✓	✓	
Estonia			✓			✓			
Finland	✓			✓		✓		Missing	
France		✓		✓		✓			
Germany	✓			Missing		Missing		Missing	
Greece		✓				Missing			
Hungary		Missing	✓			✓		✓	
Iceland	✓	✓	✓					✓	
Ireland	✓	✓				Some		✓	
Israel	✓		✓			Missing		Some	
Italy	✓	✓	✓						
Japan	✓	✓	✓			✓		✓	
Korea				✓	✓	✓	✓	✓	
Latvia		✓	✓					✓	
Lithuania			✓						
Luxembourg	✓	✓			Missing	Missing		Missing	
Mexico	✓	✓	Some	✓	✓	Missing	✓	Missing	
Netherlands	✓	✓		Missing	Missing	Missing			
New Zealand	✓	✓	✓					✓	
Norway	✓			✓	✓	✓			
Poland		✓	✓		✓	✓	✓	✓	
Portugal	✓	✓	✓	Missing	Missing	✓		✓	
Slovak Republic			✓						
Slovenia		✓	✓		✓	✓			
Spain	✓	✓	✓	✓	✓	✓		✓	
Sweden	✓	✓	✓	✓	✓	Some		Some	
Switzerland						✓		✓	
Turkey	Some	✓	✓					✓	
United Kingdom	✓	✓		Missing	Missing	Missing			
United States	✓	✓				✓		✓	
Other jurisdictions									
Albania		✓	✓						
Armenia			Some						
Brazil	✓	✓				✓			
Bulgaria		✓	✓						
Costa Rica	✓	✓	✓						
Croatia		✓	✓						
Dominican Republic	✓	Some	✓						
Egypt			✓						
Georgia			Some			Missing		Missing	
Ghana		✓	✓						
Gibraltar				✓	✓	Missing	✓		
Guernsey	Missing	Missing	Missing						
Guyana	✓	✓							
Hong Kong (China)	✓	✓		✓	✓				
India	Missing	✓	✓						
Indonesia	✓	✓	Some						
Isle of Man	✓	✓	✓						
Jamaica	✓	✓	✓						
Kazakhstan			✓						
Kenya	✓	✓	✓						
Kosovo		✓	✓						
Liechtenstein	✓	✓							
Malawi	✓	✓							
Malaysia		Missing	✓			✓			
Maldives			✓						
Malta		✓				✓			
Mauritius	✓	✓	Missing			Missing			
Mozambique	✓	✓							
Namibia	✓	✓	✓			✓			
Nigeria	✓		✓						
North Macedonia		✓	✓						
Pakistan	Missing	Missing	✓						
Peru			✓						
Romania			✓						
Russia	✓	✓	✓						
Serbia		✓	✓						
South Africa	✓	✓	✓				✓	✓	
Suriname	✓	✓			Missing	Missing			
Tanzania	Some		✓						
Thailand		Some	Missing						
Ukraine			✓						
Uruguay			✓						
Zambia	Some	✓	Missing			Missing			

Note: Please see the methodological notes at the end of the report.

Methodological notes

The primary source material for this report is provided by national pension authorities mainly as part of the framework of the OECD Global Pension Statistics (GPS). Data come from official national administrative sources and are revised on an on-going basis so as to better reflect the most recent figures for every past year. Caution should be exercised when interpreting some statistics given possible divergences with national reporting standards and different methods for compiling certain data for the GPS exercise. For this reason, countries are regularly requested to provide methodological information relevant for developing a thorough understanding of their submission under the GPS framework. The general and specific methodological notes below provide some explanations in this respect.

General notes

- Conventional signs: “..” means not available. “|” means methodological break in series.
- This report is mainly based on the answers of national authorities to an annual survey. Statistics for some jurisdictions come from publicly available reports, databases or websites of other national or international organisations: Japan (Bank of Japan) and Switzerland (Federal Social Insurance Office publication *Statistique des assurances sociales suisses* for personal plans) among OECD countries; and Bolivia (International Association of Pension Funds Supervision (AIOS)), China (People’s Republic of) (Ministry of Human Resources and Social Security (MOHRSS)), Croatia (website of the Croatian Financial Services Supervisory Agency (HANFA) before 2014), the Dominican Republic (AIOS before 2014), El Salvador (AIOS), Panama (AIOS), Singapore (CPF website) and Uruguay (AIOS before 2016) among non-OECD jurisdictions.
- The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of International law. Data for Israel refer to old, new and general pension funds only.
- The reference period is the calendar year, except for: Australia and Pakistan where the reference period is the financial year ending in June; and New Zealand (until 2014). Data for New Zealand up to 2013 are based on a 31 March balance date for most of the schemes. Data for 2019 for El Salvador and Panama refer to end-June 2019.
- Data on pension funds in Switzerland for 2019 refer to the first trend calculations and are therefore preliminary estimates.
- Estonia adopted the euro in 2011, Latvia in 2014 and Lithuania in 2015. The whole time series (in millions of national currency) are expressed in millions of euro for these countries (even before their adoption of the euro).
- This report uses five main additional reference series: exchange rates to convert values in US dollars, GDP, the variation of the consumer price index (CPI), population and average annual wages:

- This report uses end-of-period exchange rates for all variables valued at the end of the year, and period-average rates for variables representing a flow over the year. These rates come from the IMF International Financial Statistics database.
- GDP values for OECD countries are extracted from the OECD Annual National Accounts and Quarterly National Accounts databases. GDP values for non-OECD jurisdictions come from the IMF World Economic Outlook published in October 2019, except for Gibraltar (Abstract of Statistics 2015 of the Statistics Office of Gibraltar), Isle of Man (the National Income webpage of the Official Isle of Man Government website) and Liechtenstein (UN National Accounts Main Aggregates Database).
- Consumer price indices are from the OECD Main Economic Indicators database for OECD countries, and from the IMF International Financial Statistics database for non-OECD jurisdictions except for Angola, Kazakhstan, Papua New Guinea (World Bank database for these listed jurisdictions), Gibraltar (Abstract of Statistics 2015 of the Statistics Office of Gibraltar) and Maldives (Maldives National Bureau of Statistics).
- Data on population are from the OECD Labour Force Statistics database for OECD countries and from the World Bank World Development Indicators for all the other jurisdictions.
- Data on average annual wages come from the OECD Average Annual Wages database for OECD countries and from an ILO online database for other jurisdictions.

Specific notes

Figure 1.1:

The maps show the amount of assets in retirement savings plans in a selection of jurisdictions in 2019, except for: Bolivia (2010), Botswana (2018), Gibraltar (2013), Isle of Man (2017), Lesotho (2012), Liechtenstein (2018), Mauritius (2017), Mozambique (2018), Papua New Guinea (2018), South Africa (2016), Tanzania (2017), Trinidad and Tobago (2012), and Uganda (2016).

Figure 1.2:

The geographical distribution is calculated as the amount of total pension assets in a country relatively to the whole OECD area.

Figure 1.3:

The charts show the evolution of assets in retirement savings plans between 2009 and 2019, except for Finland (2011-2019), Lithuania (2010-2019) and Switzerland (2013-2019) among OECD countries; and Armenia (2014-2019), Botswana (2013-2018), Brazil (2014-2019), Dominican Republic (2014-2019), Egypt (2013-2019), Ghana (2014-2019), India (2010-2019), Kosovo (2012-2019), Liechtenstein (2009-2018), Malawi (2013-2019), Maldives (2011-2019), Malta (2011-2019), Mauritius (2012-2017), Namibia (2010-2019), Panama (2010-2019), Papua New Guinea (2013-2018), Russia (2013-2019), Singapore (2011-2019), South Africa (2009-2016) and Ukraine (2010-2019) outside the OECD area. Data refer to 2016 for Uganda, and 2017 for Isle of Man and Tanzania. The totals in and outside the OECD area are calculated as the sum of all pension assets (in USD) over the sum of all GDPs (in USD) of all reporting jurisdictions. The number of reporting countries differs between the beginning and the end of the period, but this has only a marginal effect on totals.

Figure 1.4:

The scatter plot shows the geometric average annual growth rate of assets in retirement savings plans between end-2018 and end-2019 (x-axis) and between end-2009 and end-2019 or over the longest time period available (y-axis) among reporting jurisdictions (labelled with their ISO code). ISO codes are available on the United Nation Statistics Division internet page, 'Countries and areas, codes and

abbreviations' at the following address: <http://unstats.un.org/unsd/methods/m49/m49alpha.htm>. Instead of being calculated between end-2009 and end-2019, the geometric average annual growth rate was calculated: between end-2010 and end-2019 for Lithuania, Namibia, Panama and Ukraine; between end-2011 and end-2019 for Finland, Maldives and Singapore; between end-2012 and end-2019 for Kosovo; between end-2013 and end-2019 for Switzerland, Egypt, Malawi and Russia; and between end-2014 and end-2019 for Armenia, Brazil, Dominican Republic and Ghana. To facilitate the reading, this chart does not show Armenia where assets in mandatory pension funds grew by 58% between end-2018 and end-2019, and by 83% per year on average between end-2014 and end-2019. Data refer to: pension funds and pension insurance contracts for Belgium; pension funds only for Hungary; closed and open pension funds and personal retirement saving funds (established as pension funds or as collective investment schemes managed by investment companies) for Portugal; and personal plans for Costa Rica.

Figure 1.5:

Totals in a given year are calculated on all the jurisdictions for which a value is available. The number of jurisdictions that the totals include may therefore vary over the years. Totals are expressed in current prices.

Figure 1.6:

Coverage rates are provided with respect to the total working-age population (i.e. individuals aged 15 to 64 years old), except for Germany (employees aged 25 to 64 subject to social insurance contributions), Iceland (Icelandic citizens and foreign workers in Iceland aged between 16 and 64) and Ireland (workers aged between 20 and 69). "QMO" = Quasi-mandatory.

Data refer to 2019 or to the latest year available. Data refer to 2018 for Belgium, Canada, Denmark (QMO and personal plans), Finland, France, Mexico (occupational plans) and Switzerland among OECD countries; and Brazil (closed pension funds) among other jurisdictions. Data refer to 2017 for Portugal, Spain and the United States (IRAs). Data refer to 2016 for Turkey (VASA + Oyak) among OECD countries; and Namibia among other jurisdictions. Data refer to 2015 for Germany and Sweden (private pension savings schemes). Data refer to 2014 for New Zealand (superannuation schemes). Data refer to 2010 for the Netherlands.

Data on personal plans for Austria refer to PZV contracts. For Italy, the coverage rate that is shown under voluntary occupational plans also covers individuals automatically enrolled in a plan. In Korea, the retirement benefit system is mandatory and can take two forms: a severance payment system and an occupational pension plan. The obligation of the employer in Korea is to provide a severance payment system, but, by labour agreement, the company can set up an occupational pension plan instead.

Figure 1.7:

The variation in the coverage of pension plans is calculated as the difference in the coverage rate in 2019 (or the latest year available) shown in Figure 1.6 and the coverage rate in the first year available. The first year available is 2009 for all countries except Australia (2010), Denmark (2013 for ATP), Finland (2013), Hungary (2010), New Zealand (2010 for KiwiSaver plans), Norway (2010) and Spain (2011) among OECD countries; and Armenia (2014), Croatia (2014), Jamaica (2012), Malawi (2014), Maldives (2011), Malta (2012) and Russia (2013) among other jurisdictions.

Figure 1.8:

The rate of contributors is calculated as the proportion of individuals who made a contribution to their individual accounts during the last month over the working-age population.

Figure 1.9:

This Figure shows the latest information available unless specified otherwise. The category "Total" shows the cases where the contribution rates cannot be split precisely between employer, employee (and state). (1)

Employers also contribute an additional 6% to provide severance insurance which, if used, reduces the pension at retirement. (2) Members get contribution credits that are expressed as a percentage of a so-called coordinated salary. Contribution credits vary across age groups, from 7% between 25 and 34 years old up to 18% beyond 55 years old. This chart shows an average of the age-specific rates (7% at ages 25-34, 10% at 35-44, 15% at 45-54 and 18% at 55-64). The employer must pay at least half of these credits, the employee the remainder. Contribution rates may differ from the minimum contribution credits. (3) Contribution rates are set by the collective agreement and are similar for all workers under the agreement. Contribution rates range between 10% and 18%. (4) The contribution rates are shown for private-sector workers. The contribution rates are higher for public sector workers. The government supplements the total contribution with a flat-rate amount (the social quota - cuota social). Its amount depends on the salary level for private sector employees. The state contribution here includes the social quota of a private sector worker earning 3 times the minimum wage. (5) The minimum contribution rate is 6% equally split between the employer and employee from 1 April 2013. Members can however select a higher personal contribution rate of 4%, 6%, 8% or 10% of salary. The government contributes 50 cents for every dollar of member contribution, up to NZD 521.43 annually. (6) Contribution rates to quasi-mandatory occupational (QMO) plans vary according to the income level: 4.5% for earnings under 7.5 income base amount (IBA) and 30% for earnings over 7.5 IBA for ITP1 and SAF-LO. Contribution rates are shown here for an average earner who has earnings below 7.5 IBA. (7) Data refer to voluntary employment-related plans. (8) Data do not include the one-time contribution of TRY 1 000 for those who do not opt out within the first two months, nor the additional government contribution (of 5% of the assets accumulated at retirement) if the individual chooses a minimum 10-year annuity at retirement. (9) The state contributes between 0% and 2% of the salary of individuals depending on their income bracket. (10) The information refers to 1 January 2018. (11) Workers in the construction sector are exempt from contributing to the private pension system in the period 2019-2028.

Figure 1.10:

* means 2019 or the latest year available; ** means 2009 or the earliest year available. The time series of total contributions as a % of GDP is available in the annex of this report. The category "Total" shows the cases where the contributions cannot be split precisely between employers, employees (and state). (1) In 2018, private sector pensions received approximately 49% of their contributions from employers and 51% of their contributions from employees. Source: Form 5500 Annual Reports for 2018 (forthcoming). (2) Source: CNB ARAD database.

Figure 1.11:

(1) Data refer to pension funds only. (2) Data refer to mandatory plans only. (3) Data refer to new and general pension funds only. (4) Data refer to KiwiSaver plans only. Members below 18 and those above 65 are excluded from the calculation. (5) Data refer to the 2nd pillar only. (6) Data refer to open pension funds only. (7) Data refer to occupational plans only. (8) Data refer to ROP only.

Figure 1.12:

This Figure shows the total amount of benefits paid by retirement savings plans as a percentage of GDP in 2019 (or the latest year available), also available in the annex of this report (please refer to the notes of this Table for more country-specific notes). This Figure shows the breakdown of benefits paid into lump sum payments and pensions when such information is available. This Figure also shows the amount of assets that may be transferred to an insurance company or any another entity (different from the ones in charge of the accumulation phase) which will be in charge of paying benefits to retirees.

Figure 1.13:

This Figure is based on the annual real net investment rates of return reported in the statistical annex of this publication. Please refer to the notes of this statistical annex for more country-specific notes. The annual returns are calculated over the period Dec 2018-Dec 2019 except for Australia and Pakistan (June

2018-June 2019). This chart does not include the return for Japan (0.8%), which is an average calculated for the fiscal year 2018 (ending in March 2019) over a sample of plans only.

Table 1.1:

This Table is based on the annual nominal and real net investment rates of return reported in the statistical annex of this publication. Please refer to the notes of this statistical annex for more country-specific notes. The 5, 10 and 15-year annual averages are calculated over the periods Dec 2014-Dec 2019, Dec 2009-Dec 2019 and Dec 2004-Dec 2019 respectively, except for Australia (June 2014-June 2019, June 2009-June 2019 and June 2004-June 2019). A geometric average annual return is also calculated over the longest time period possible (of at least 5 years), specified in the last column of the table. The result of this last calculation is not comparable across countries as the longest period of data availability varies by country.

Figure 1.14:

The "Other" category includes loans, land and buildings, unallocated insurance contracts, hedge funds, private equity funds, structured products, other mutual funds (i.e. not invested in equities, bills and bonds or cash and deposits) and other investments. Negative values (due to derivatives) have been excluded from the calculations of the allocation of pension assets. The GPS database gathers information on investments of pension plan assets in Collective Investment Schemes (CIS) and the look-through of these investments in equities, bills and bonds, cash and deposits and other. Data on asset allocation in this Figure include both direct investment in equities, bills and bonds, cash and deposits and indirect investment through CIS when the look-through of CIS investments is available. In such case, the Figure shows the overall exposure of pension assets in the selected asset classes. When the look-through is not available, the Figure only shows the direct investments of pension plan assets in equities, bills and bonds and cash and deposits and other assets, and investments in collective investment schemes are shown in a separate category. This Figure is based on the allocation of pension assets reported in the statistical annex of this report. Please refer to the notes of this statistical annex for more country-specific notes.

Figure 1.15:

This Figure is based on the allocation of pension assets reported in the statistical annex of this report. This Figure shows the variation in equity and bond investments between 2018 and 2019 (Panel A) and over the longest time period possible (at least over 5 years) (Panel B).

Figure 1.17:

This Figure is based on the share of pension assets invested abroad and in foreign currencies reported in the statistical annex of this report. Please refer to the notes of this statistical annex for more country-specific notes.

Figure 1.18:

Data in Panel A refer to 2009 for all countries except Finland (2011), Lithuania (2010), Poland (2013) and Switzerland (2013) among OECD countries; and Albania (2012), Armenia (2014), Croatia (2014), Dominican Republic (2014), Maldives (2011) and Namibia (2010) among other jurisdictions. Data in Panel B refer to 2019 for all countries except Canada (2015), France (2018), Korea (2018), Mexico (2018), Switzerland (2018) and Turkey (2016) among OECD countries; and Namibia (2016) among other jurisdictions. (1) There is one voluntary occupational DC pension fund, with a small amount of assets though. (2) Data about Collective Voluntary Pension Savings that are managed by the AFPs are classified together with personal plans, although these plans are occupational. (3) There is one institution for occupational retirement provision operating in Hungary. Its market share is negligible compared to other pension providers administering personal pension plans.

Figure 1.19:

LHS: left-hand side axis. RHS: right-hand side axis. The funding ratio has been calculated as the ratio of total investment and net technical provisions for occupational DB plans managed by pension funds using values

reported by national authorities in the OECD questionnaire. The ratios may differ from previous publications which included results calculated directly by national authorities or coming from publications.

Data for Finland refer to DB plans in pension funds only. Data for Luxembourg refer to DB traditional plans under the supervision of the CSSF. All liabilities of DB plans (instead of technical provisions only) are considered for Mexico (occupational DB plans in pension funds only) and the United States. Data for the Netherlands and Switzerland include all types of pension funds. Data for the United Kingdom come from the Purple Book 2019 published by the Pension Protection Fund and show assets, liabilities valued on an s179 basis (instead of net technical provisions) and the ratio of the two. Liabilities for Hong Kong, China refer to the amount of aggregated past service liability in DB ORSO schemes. Data for Indonesia refer to EPF DB funds and come from OJK Pension Fund Statistics reports before 2016.

Table 1.2:

"x" means that the type of fee does not exist or is not allowed in the country. In Portugal, in the specific case of personal retirement saving schemes, transfer fees are subject to a maximum of 0.5% of the transferred amount if there is a capital or return guarantee and cannot be charged otherwise.

Table 1.3:

"x" means that the type of fee does not exist or is not allowed in the country. (1) Data refer to fees paid by members of entities with more than four members in June 2019. Source: APRA Annual Superannuation Bulletin (June 2019). (2) This value for fees includes fees for managing mandatory pension assets, but also severance reserves and other fees. (3) Data refer to mandatory pension plans only. (4) Data refer to voluntary private pension funds only. (5) Data refer to new pension funds. (6) Data refer to 2018. (7) Data refer to the state funded pension scheme only. (8) Data refer to the second pension pillar only. (9) Data refer to personal plans only. (10) Data refer to open pension funds only. (11) Data refer to ROP only. (12) The reported value covers both fees on assets and fees on performance.

Figure 2.2:

"e": estimate. Totals for the end of Q1, Q2 and Q3 2020 are based on a combination of actual data, estimates from national authorities (when available) and OECD estimates of pension assets. OECD estimates (shown with upward diagonals) rely on: a) the actual amount of assets (in USD) at the latest date available; b) the proportion of assets invested (directly and indirectly through CIS) in "equities", "bills and bonds" and "cash and deposits", after excluding any other investments; and c) changes in indices during Q1, Q2 and Q3 2020. The calculations rely on the evolution of the MSCI index and an S&P bond index including government bonds (and when possible corporate bonds) for the seven largest markets in terms of pension assets. The MSCI World Index and the S&P Global Developed Sovereign Bond Index are used for the country group "Other OECD" (that includes 30 OECD countries), applied to their overall amount of assets at end-2019 according to the simple average asset allocation in these 30 countries (after excluding any investments other than equities, bills, bonds, cash and deposits). The rate of return of cash and deposits is assumed equal to zero during the first three quarters of 2020. OECD estimates do not take into account changes in contributions, benefit payments, or early withdrawals from retirement savings plans in 2020, which can all affect the amount of assets.

Table A A.1:

"DB": defined benefit; "DC": defined contribution. This Table gives the data coverage of this report, based on the OECD Global Pension Statistics exercise. When a cell is grey with a tick, this means that the OECD Global Pension Statistics exercise covers all the plans of this type for a given country. "Some" means that the Global Pension Statistics exercise only covers some plans of this type. "Missing" means that this type of plan exists but the OECD data do not cover it. Data for Germany refer to Pensionskassen and Pensionsfonds only. See the metadata file available on the OECD webpage for a full and detailed description of all types of retirement savings plans in the countries participating in the OECD/IOPS/World Bank Global Pension Statistics exercise. Any deviation to this data coverage in this report is reported to the specific notes of the related Table or Figure.

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