Pensions at a Glance 2021
OECD and G20 Indicators

Chapter 1

Recent pension reforms

This chapter looks into pension developments over the past two years, including both the effects of the COVID-19 crisis and pension reforms introduced in OECD and G20 countries between September 2019 and September 2021. In response to the COVID-19 crisis, measures were introduced to protect the income of workers and pensioners and to limit job losses, with limited impact on accruing pension entitlements. Moreover, recent pension reforms have focused on adjusting retirement ages, extending early retirement options, expanding first-tier pensions and adjusting benefits and contributions in earning-related schemes, including to encourage combining work and pensions. The chapter also summarises the extent to which ageing pressure affected pension spending since 2000 and assesses whether longevity gains had been slowing before the COVID-19 crisis.

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Introduction

All over the world, the COVID-19 crisis has left its deep traces. Since the previous edition of *Pensions at a Glance* in 2019, the virus has taken a heavy toll, especially among the older population. OECD countries took unprecedented and swift measures to address health challenges, limit the impact on labour markets, support incomes and adjust macroeconomic policies.

The income of current pensioners is generally well protected during economic downturns, as already retired persons usually do not depend on the labour market and continue to receive their pensions, unless ad hoc cuts are made for fiscal reasons. This has been the case over the past two years, and in many countries older people even benefited from additional targeted support measures. Moreover, the expanded use of job retention schemes and the extension of unemployment protection significantly limited the impact of the COVID-19 crisis on future pensions. Entering the labour market, however, has become much harder during the crisis and career prospects of younger generations have worsened. The impact of the pandemic-related labour market turbulences on future pensions of the current youth is expected to be small but it will be visible in four decades when the current youth have retired. Policy changes too will have an impact. A few countries, Chile in particular, have for example allowed exceptional withdrawals of assets from individual funded pension accounts during the pandemic, which weakens future pension prospects.

In response to the pandemic, OECD countries have put concerns about public finance – and pension financial sustainability – between parentheses in their response to the crisis. While excess mortality due to COVID-19 has generated some small savings for pension providers in terms of fewer pension payments, the main impact for pension finances results from lost contributions, which, however, were mostly covered by transfers from state budgets. The medium-term impact on pension finances is generally expected to be relatively modest, even if in some countries the crisis may have exacerbated existing imbalances. Persistently low interest rates certainly ease short-term pressure on public finance, including pension finance. However, financial sustainability challenges will not disappear. They might come back to the forefront once macroeconomic policies normalise.

Population ageing has been accelerating over the last decade and the pace of ageing is projected to be fast over the next two decades, with significant differences in the shift of population structures among OECD countries. Pension systems in Greece, Japan, Latvia, Lithuania and Poland will face substantial challenges as the working-age population is projected to shrink by at least one-third by 2060. Estonia, Korea, Portugal, the Slovak Republic, Slovenia and Spain will also face acute demographic challenges affecting retirement income adequacy, financial sustainability or both.

Between 2000 and 2017, total (public and private) pension expenditure increased by 1.5% of GDP on average among OECD countries. Demographic changes alone are estimated to have contributed to raising pension expenditure by 2.5% of GDP; this increase was partly offset by strong labour market performance in many countries, especially among older workers; there were no common trends across countries on changes in pension benefit ratios (average pensions relative to average wages). Ageing is expected to further raise spending pressure in the OECD on average by an additional 3.5% of GDP by 2035. In the absence of new resources for pension financing, it is crucial to continue increasing employment prospects for older workers, including through the design of pension policies, in order to preserve the level of old-age benefits while limiting spending increases.

Beyond responding to COVID-19, many countries had already taken important pension measures over the past two years. Mexico implemented the most comprehensive reform among OECD countries, raising earnings-related contributions, as well as current and future first-tier benefits. The increases in first-tier benefits imply higher public spending and will significantly weaken the relation between benefits and contributions. Among non-OECD G20 countries, Brazil took big steps to improve pension finances, including by introducing minimum retirement ages. Estonia made funded pensions voluntary and allowed the withdrawal of accumulated assets, which is likely to negatively affect future pensions; one-quarter of pension assets were withdrawn so far. Greece created a new funded defined contribution (FDC) scheme to gradually replace the existing notional defined contribution (NDC) mandatory auxiliary pensions. Significant measures boosting earnings-related pension benefits also were implemented in Hungary and Slovenia as well as in Poland, which will further deteriorate future financial balances of the pension systems in the first two countries. Belgium has also boosted future pension entitlements among the self-employed without raising their contributions. The Netherlands is in the process of completing the transition of the quasi-mandatory occupational pensions from defined benefit into collective defined contribution schemes, which are FDC schemes in which individual choices are more limited in terms of both investment and asset withdrawals as the accumulated assets are only paid out as annuities.

One clear trend observed over the last two years has been to increase income protection for low or no pensions. Chile, Germany, Latvia and Mexico in particular, as well as the Slovak Republic and Slovenia raised the benefits of individuals who have recorded low earnings during their career.

Action on retirement ages, by contrast, was limited. Sweden started to raise retirement ages and plans to link them to life expectancy from 2026, while Ireland and the Netherlands postponed previously planned increases. In addition, the pace of the link between retirement age and life expectancy has been reduced in the Netherlands: from 2025, two-thirds of longevity gains will be passed into retirement-age increases; initially the plan had been to increase the pension age by all of the life expectancy increase. Early retirement options have been extended in Denmark, Ireland, Italy and Lithuania. Based on legislated measures, the normal retirement age will increase in the OECD on average by about two years in the next four decades during which life expectancy in old age is projected to increase by about four years. Colombia, Luxembourg, the Slovak Republic and Slovenia will be the only OECD countries with normal retirement ages of 64 years or less. Switzerland is making a new attempt to equalise retirement ages between men and women at age 65.

Different strategies are also being put in place to promote longer working lives. Canada, Greece, Japan and Slovenia have eased combining work and pensions. With the objective of making work at older ages more attractive, Hungary has exempted workers claiming old-age pension from paying pension contributions, while Spain considers the possibility to pay out the yearly bonus for deferring retirement as a lump-sum payment. In Sweden, a new “target retirement age” to be set at 67 in 2027, will be introduced to nudge retirement decisions in its flexible system, by providing a clear suggestion of what the adequate age to retire should be.

Key findings

Main findings related to how the COVID-19 crisis has affected pensions:

- For current pensioners, pension benefits have been safeguarded, and many countries introduced temporary and targeted income support measures.
- The impact of the crisis on future pensions has been limited thanks to the expanded use of job retention schemes – in which generally pension entitlements accrued -, subsidised pension contributions, the extension of unemployment protection, specific measures benefiting the self-employed and strong financial markets performance.

- Exceptional withdrawals of pension assets from individual funded pension accounts were allowed in a few countries to attenuate the impact of COVID-19; among them, Chile is the country where future pensions might be most affected.
- Pension finances deteriorated due to lost contributions, and shortfalls have been mainly covered by state budgets. In the aftermath of the COIVD-19 crisis, ageing pressure might come back to the forefront.
- Due to excess mortality, the number of people older than 65 has declined by about 0.8% in the OECD on average, which has slightly lowered pension spending.

Main recent pension policy measures in OECD and G20 countries:

- Mexico substantially increased mandatory contributions in their funded defined contribution (FDC) scheme, which will boost future pensions. Greece has created a new FDC scheme to replace mandatory NDC (notional defined contribution) auxiliary pensions over time. Estonia went the other way by making mandatory contributions to private pensions voluntary and allowing to withdraw pension assets.
- Brazil introduced minimum retirement ages, modified contribution rates and adjusted benefit calculation which should improve pension finances significantly.
- Hungary and Slovenia have increased earnings-related pensions, which will further deteriorate future pension financial balances; Poland also increased the benefits for current pensioners.
- Chile, Germany, Latvia, Mexico, Slovak Republic and Slovenia have significantly improved old-age safety nets or increased low pensions.
- Limited action took place on retirement ages: Sweden increased the minimum retirement age for public earnings-related pensions, and plans to link it to life expectancy from 2026 and to increase the eligibility age to the basic pension from 65 to 67 years; the Netherlands postponed the planned increase while loosening the future link to life expectancy; and Ireland repealed the planned increases from 66 to 68 years.
- Denmark, Ireland, Italy and Lithuania have extended early retirement options.
- Belgium substantially increased future pensions for the self-employed without adjusting their contributions while mandatory pension contributions of the self-employed in Greece has become flat-rate.
- Canada, Greece, Japan and Slovenia have eased combining work and pensions, and Hungary has exempted workers claiming old-age pension from paying pension contributions.

Current income of pensioners:

- On average in the OECD, people aged 65+ receive 88% of the income of the total population. Those aged over 65 currently receive about 70% or less of the economy-wide average disposable income in Estonia, Korea, Latvia and Lithuania, and about 100% or more in Costa Rica, France, Israel, Italy, Luxembourg and Portugal.

Retirement ages:

- For men retiring in 2020, the normal retirement age was the lowest at 52 years in Turkey and 62 years in Colombia, Costa Rica, Greece, Italy, Korea, Luxembourg and Slovenia, whereas it was 67 in Iceland and Norway, assuming labour market entry at age 22. In slightly less than half of OECD countries, the normal retirement age will not increase based on current legislation.
- The difference in the normal retirement age between men and women is being eliminated in Austria, Costa Rica, Lithuania and Turkey, but a gender gap will remain in the future for normal retirement ages in Colombia, Hungary, Israel, Poland and Switzerland.

- Based on current legislated measures, the normal retirement age will increase by about two years in the OECD on average, from 64.2 years in 2020 to 66.1 years in the mid-2060s for men. The future normal retirement age is 69 years or more in Denmark, Estonia, Italy and the Netherlands, which have all linked the retirement age to life expectancy, while it is 62 years in Colombia, Luxembourg and Slovenia.

Replacement rates:

- Future net replacement rates from mandatory schemes for full-career average-wage workers equal 62% in the OECD on average, ranging from less than 40% in Chile, Estonia, Ireland, Japan, Korea, Lithuania and Poland to 90% or more in Hungary, Portugal and Turkey at the normal retirement age.
- In countries with significant coverage of voluntary pensions – Belgium, Canada, Germany, Ireland, Japan, New Zealand and the United States – contributing to a voluntary pension boosts future net replacement rates by 24 percentage points on average for average earners contributing during their whole career and by about 11 percentage points when contributing from age 45 only, based on OECD modelling assumptions.
- Average-wage workers who experience a 5-year unemployment spell during their career face a pension reduction of 6.4% on average in the OECD compared to the full-career scenario. The loss exceeds 10% in Australia, Chile, Hungary, Iceland, Latvia, Korea, Mexico, Poland, the Slovak Republic and Turkey.
- For low-wage earners (at half the average wage), the net replacement rate from mandatory schemes is equal to 74% on average after a full career, hence 12 percentage points higher than for the average-wage worker, mainly due to redistributive mechanisms included in pension rules. The Czech Republic and Denmark record the largest difference in the replacement rates when comparing low-wage and average-wage workers.

Other findings:

- Between 2008 and 2018, the number of pensioners increased by 20% in the OECD on average, much less that the 27% increase in the number of people aged 65 or more, consistent with the increase in the effective age of claiming pensions.
- Between 2000 and 2017, total – public and private – pension expenditure increased by 1.5% of GDP on average among OECD countries. Population ageing alone would have triggered an increase in pension expenditure of 2.5% of GDP on average. This was offset by higher employment, which lowered pension expenditure by 1.1% of GDP on average.
- Even before COVID-19, old-age life expectancy has been growing less rapidly than between the mid-1990s and around 2010. There is strong evidence of a slowdown in old-age life expectancy in many countries from about 2010. For women, this slowdown brings the pace back to levels observed between 1970 and the mid-1990s, while for men the pace remains relatively fast.

This chapter is structured as follows. The next section discusses how the COVID-19 crisis affects pensions. The third section assesses changes in the pace of population ageing and the generated pension pressure. The last section focuses on the most recent pension reforms.

COVID-19 and pensions

Various policies greatly reduced the labour market impact of the COVID-19 crisis

The recession triggered by the COVID-19 outbreak was exceptionally large. Unusual macroeconomic policies succeeded in avoiding much sharper repercussions on individual incomes than feared. In particular, employment dropped much less than GDP, even though the labour market was severely affected in most countries.

The fall in employment was limited because a large share of the decrease in hours worked was absorbed by those who remained employed. The preservation of jobs combined with reduced hours was possible through job-retention schemes (JRS), which have been used at a much larger scale than in past downturns. Indeed, 19 of the 23 OECD countries that had such schemes before 2020 extended their coverage, simplified their access or increased their generosity. Moreover, 15 countries introduced new JRS in 2020 (OECD, 2021[1]).[1] Job-retention subsidies were claimed for more than one-fifth of dependent employees in many European countries, Australia and New Zealand. OECD (2021[1]) provides details about the unprecedented use of JRS among OECD countries during the COVID-19 crisis.

The exceptional labour-market policy response during the COVID-19 crisis has not been limited to JRS. Two-thirds of OECD countries eased or broadened the access to unemployment benefits. Sixteen countries reduced or entirely waived minimum contribution requirements to unemployment insurance, or granted unemployment insurance to new groups of workers (OECD, 2020[2]). In particular, the United States has expanded the coverage of unemployment benefits to the self-employed and Finland has broadened the coverage of the already existing scheme for the self-employed. Canada introduced a more generous (emergency response) benefit, which was not subject to social security contributions, for all who lost their income due to COVID-19 between March and September 2020. Chile permanently expanded the coverage of unemployment insurance to workers. New Zealand introduced a temporary benefit paid for up to three months to employees who lost their jobs and to the self-employed who stopped their activity. In addition, 12 countries extended the duration of unemployment benefits and ten raised benefit amounts.

Pension benefits were safeguarded and exceptional payments were made

Retirees generally suffer lower income losses during economic downturns than the working population. As a result of indexation rules, the exceptional measures discussed below and the income drop of the working-age population, the relative income situation of retirees is likely to have temporarily improved.[2]

When employment drops and wages are negatively affected, pensions in payment are usually more protected for two reasons. First, they are often linked only partially (or not at all) to wages. Second, floors to indexation may prevent reductions of benefits, which is the case for example in Australia (Age Pension), Austria, the Czech Republic, Germany, Latvia, Poland and the United States. The United Kingdom is an outlier in that respect as the currently used so-called triple lock guarantees that pensions increase with the highest of average wage growth, price growth and 2.5%. Thus, the benefits increased by 2.5% in April 2021 while average earnings decreased by more than 2%. As for 2022, the government announced that, upon parliamentary approval, the triple lock will be suspended and pensions will adjust to the higher of 2.5% and inflation to avoid that the catch-up in wages in 2021 causes an 8% hike in pension levels. In some countries, indexation also smooths abrupt changes by using averages over a longer period; e.g. Lithuania uses averages over the last three years, the current year and projections of the next three years.

Pensioners have also benefited from income support measures, population-wide in particular in the United States or towards low-income populations as in Spain. Additionally, some countries have targeted support for retirees or the older population: Australia, Belgium, Canada, Colombia, the Czech Republic, Denmark, Israel, Korea, Lithuania, Latvia, Hungary, New Zealand, Poland, Slovenia and Turkey.[3] In some specific circumstances, the cost of living of retirees might have increased due to limited opportunities for affordable shopping during the confinement. Some of them might have also lost earnings opportunities, for example when combining part-time or casual work with retirement.

However, those retiring during or shortly after a crisis might face a permanent benefit reduction. In earnings-related schemes, the calculation of the initial public pension is often linked to the labour market situation at the time of retirement through the valorisation of past wages, point values or notional accounts, depending on the scheme design. In particular, when average-wage growth is exceptionally weak, this affects the valorisation of all past wages, which reduces pension entitlements accrued in the past. When pension payments are indexed to wages, initially lower benefit levels would catch up during the economic recovery. However, a majority of OECD countries do not fully index pensions to wages (as discussed in greater detail in the next section), and short-term negative real-wage shocks can durably lower the benefits of those who are unlucky to retire in bad times. Symmetrically, short-term positive real-wage shocks can durably boost the pensions of those who are lucky to retire in good times. The magnitude of these effects is proportional to wage variations in the economic cycle, which have been exceptionally large in the COVID-19 crisis. Indeed, the real average-wage growth was negative at -0.1% in 2020 compared to 1.5% per year in the OECD on average over 2000-19. For example, it was almost -10% in Chile and -6% in Italy in 2020 and around -3% or less in Belgium, France, Iceland, Mexico and Spain.[4] Among those countries, Belgium, France, Italy and Spain include price indexation of pensions in payments.

Before the COVID-19 crisis, some schemes had included mechanisms to smooth the valorisation or prevent the reductions in entitlements. For example, after the global financial crisis, Latvia and Sweden provided an additional mechanism to their NDC schemes to cushion the fall in notional account values when labour and capital markets deteriorate abruptly. In Poland, the valorisation of notional accounts cannot be lower than inflation whereas in Austria, the Czech Republic, Italy, Latvia and Lithuania the uprating of past wages or the valorisation of notional accounts cannot be negative. Furthermore, Canada and Italy use a five-year average of the growth of the average wage and GDP, respectively, and Lithuania a seven-year average of the growth of the wage bill.

Impact of the COVID-19 crisis on future pensions

Job retention schemes and pensions

Workers enrolled in JRS accrue pension entitlements based on their subsidised wages depending on specific pension arrangements. In all minimum and contribution-based basic pension schemes in OECD countries, JRS accrued full pension rights by fully validating the corresponding periods. For example, periods of reduced hours accrued full eligibility to minimum pensions in Latvia and Poland.

In mandatory earnings-related pension schemes, pension rights generally continued to accrue on the subsidised part of wages. For example, in Chile, to qualify for JRS, the employers were required to pay pension contributions based on wages prior to the suspension of the employment contract. There have been, however, a few exceptions. In Korea and Turkey as well as in Japan, Latvia and Poland, wages paid in JRS have accrued no entitlements in mandatory earnings-related schemes but in the latter three countries the covered periods were fully validated as contribution periods fully counted towards eligibility conditions, e.g. for minimum pensions.[5] In Denmark, Iceland, the Netherlands, New Zealand and the United Kingdom, JRS covered at least some contributions to occupational schemes, which was not the case in Australia, Norway, Sweden and the United States.

In most countries, the state budget or other public funds subsidised mandatory pension contributions on subsidised wages. For example, Germany has reimbursed employers who have used JRS including for total social security contributions related to the lost worked hours, resulting in accruing full pension entitlements; during the global financial crisis, workers also accrued full pension rights but only half of contributions were subsidised. In Italy, the subsidised part, up to 80% of wages, has not been subject to pension contributions, but pension entitlements accrued on full wages. In France, after changes in the legislation in June 2020, contributions on subsidised wages have been paid by the newly created “solidarity fund”, mostly financed by both the state budget and local governments, which is supposed to expire by end-2021.[6] Only in the United States were pension contributions not subsidised while being fully due.

Measures affecting pension contributions beyond job retention schemes

Beyond subsidising wages and pension entitlements through JRS, some countries reduced or subsidised pension contributions for hours worked. For example, France has subsidised employers' contributions in selected sectors without lowering individual accruals, and Greece has fully subsidised pension contributions for workers who stopped their activity due to the pandemic. Hungary has suspended pension contributions in sectors affected by the lockdown while entitlements kept accruing fully. Norway temporarily reduced social security contributions by 4 percentage points without affecting NDC entitlements. However, in Korea, all workers whose income was reduced due to the pandemic have been exempted from contributions on their remaining earnings; but there were no pension rights accruing for these workers. Finland lowered the mandatory pension contributions from May to December 2020 by 2.6 percentage points, without lowering future pension. The reduction will be covered by the buffer fund, which is supposed to be replenished by 2025 through higher contributions after 2021.

Many countries allowed for deferring pension contributions for a few months, and temporarily lowered or removed the penalties for delays in paying contributions, including Belgium, the Czech Republic, Estonia, Finland, France, Greece, Italy, Japan, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Spain, Switzerland, Turkey and the United States. For example, in selected sectors, Italy allowed to defer pension contributions to the NDC scheme that were due between February and May 2020; the contributions are to be repaid by the end of 2022. The United States allowed to defer contributions between March and September 2020, to be repaid gradually by the end of 2022. Deferring contributions by a few months has no effect on entitlements in DB schemes and a very limited one in DC schemes, both funded and notional.

In Japan, individuals, such as some part-time workers, who are not covered by mandatory earnings-related pensions and have low household income can apply for a partial or full contribution exemption to the National Pension (contribution-based basic pension), which resulted in acquiring half of accruals on the non-paid contributions; however, it is possible for people to complement these retroactively by paying the missing contributions.

Unemployment benefits, late labour-market entry and pensions

The impact of career breaks on pension entitlements is cushioned by various mechanisms (Chapter 4). On average across OECD countries, those mechanisms offset about half of the impact of unemployment-related career breaks on pension (see last section of this chapter). The expansion of both labour income protection from JRS and unemployment benefits, as a response to the COVID-19 crisis, has provided significant additional pension protection against the labour market shocks in 2020 and 2021.

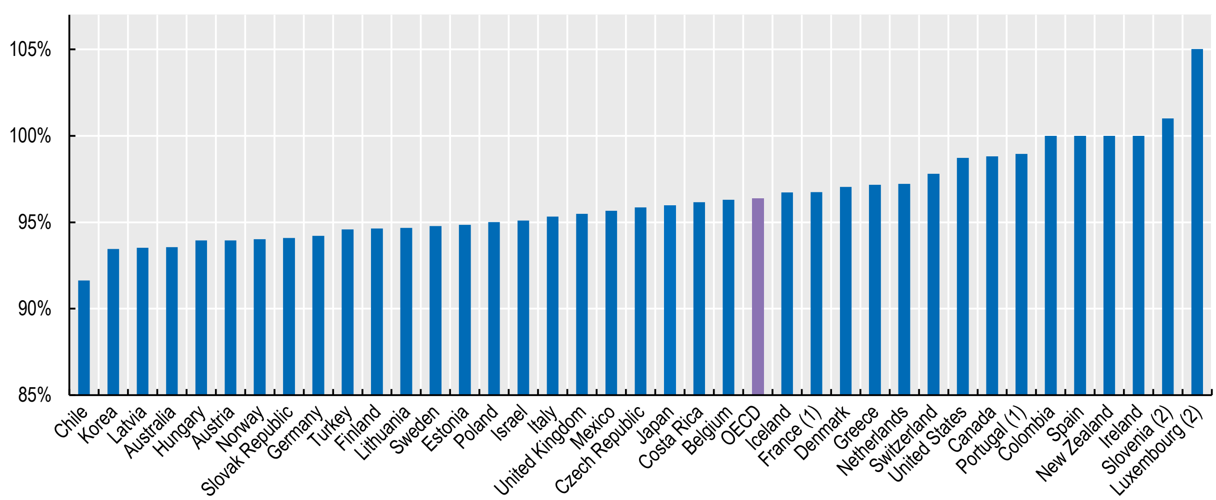
By contrast to dependent employees, non-standard workers have limited access to unemployment benefits when losing their job. Both the duration and the level of unemployment benefits often depend on tenure, thus providing better effective protection to older workers in stable jobs. Generally, many OECD countries eased the access to unemployment benefits, including for temporary employees, informal workers or the self-employed, increased their level and/or provided them for longer periods.

Youth employment has been severely hit (OECD, 2021[1]). Many young people work in the most affected sectors, such as accommodation and food services, and their employment opportunities were sharply reduced as the creation of new jobs dried up. Even in the fourth quarter of 2020 when total employment had largely recovered, the number of workers aged 15-24 was 10% lower than one year before. Due to short tenure and working in non-standard jobs, younger workers typically have a limited access to unemployment benefits.

Labour market difficulties during an economic crisis translate into delayed career starts and low earnings for young workers. Earnings losses related to graduating during a recession might be durable and visible even 10 years into the career (Oreopoulos, von Wachter and Heisz, 2012[3]). In addition to immediate effects, delayed career start and lower earnings will also have repercussion for future pensions. Compared with a full-career average-wage worker entering the labour market at age 22, individuals starting their career two years later at age 24 and earning successively 30%, 20%, and 10% less in the first three years of their career will receive 96% of pension benefits from mandatory schemes during the whole retirement period (Figure 1.1). That ratio is below 94% in Australia, Austria, Chile, Hungary, Latvia and Korea, while there is no pension impact in Colombia, Ireland, New Zealand and Spain. A lagged career start will result in retiring one year later in France and Portugal, and two years later in Luxembourg and Slovenia to avoid penalties. Hence, the impact of the COVID-19 crisis is strongly felt by many young workers who struggle to afford a decent living and the effect – albeit small in proportion – will be felt also several decades later when they retire.

Figure 1.1. **Difficulties in entering the labour market will lower future pensions**

Pensions from mandatory schemes of people facing difficulties in entering labour markets compared to full-career average earners



Note: People facing difficulties in entering labour market are assumed to start career at age 24 (in 2022) instead of 22 (in 2020) and earn 30%, 20%, and 10% less than the average earnings in the first three years of their career. Numbers in brackets indicate increases of normal retirement age (in years) due to delayed entering labour market, where relevant.

StatLink https://stat.link/nulh26

Pension entitlements of the self-employed

In normal times already, the self-employed tend to be less protected against old-age risks and pay fewer pension contributions than employees. After a full career, self-employed workers can expect pensions from mandatory schemes to be about one-fifth lower than those of employees with similar earnings, on average across the OECD (Chapter 5).[7]

The COVID-19 crisis hit especially strongly sectors such as culture, event management, personal services and tourism, where many workers are self-employed. Some countries have provided temporary and targeted cash transfers to the self-employed.[8] Pension entitlements accrued on income support measures for the self-employed in Canada, Estonia, Finland, Ireland, Lithuania, New Zealand, Norway and Spain. Moreover, in Belgium, pension entitlements accrued on some special benefits for the self-employed whose activity was interrupted between March 2020 and September 2021 (bridging benefits), similar to regular unemployment benefits. Ireland introduced a special unemployment benefit giving rights to public pension entitlements in March 2020, which also covered the self-employed.

Some countries deferred, subsidised or suspended social security contributions for the self-employed while pension entitlements kept accruing. This was important because mandatory pension contributions for the self-employed are set based on their income in the previous year (e.g. Austria, Slovenia, the United States) or at the minimum required amount (e.g. Poland, Spain). In addition, Estonia, France, Hungary, Italy, Poland, the Slovak Republic, Slovenia and Spain granted subsidised social security contributions and thereby pension entitlements to the self-employed whereas Portugal reduced pension contributions of the self-employed without harming their entitlements.[9]

Other countries provided temporary relief from pension contributions to the self-employed without subsidising their entitlements. For example, Austria allowed the self-employed to reduce their contributions to the required minimum, similarly reducing pension entitlements. Belgium, the Czech Republic, Finland, Greece and Switzerland allowed the self-employed to defer pension contributions which, however, are required to accrue entitlements.

Extraordinary measures in funded schemes

Australia and Chile provided financial relief to workers by allowing some exceptional withdrawals from the mandatory funded pension schemes. From 2020 up to early 2021, the exceptional withdrawals from individual accounts amounted to 1.4% of the 2019 value of assets in Australia, but reached a staggering 25% of assets in Chile where around 35% of participants withdrew all of their pension savings (Fuentes, Mitchell and Villatoro, 2021[4]). For voluntary schemes, Costa Rica, France, Iceland, Portugal, Spain and the United States lifted penalties or broadened the conditions to access pension assets. Early access to savings in retirement plans should be only a measure of last resort. There can be some flexibility, and many jurisdictions already include provisions allowing for partial withdrawals in some specific exceptional circumstances: hardship situations like unemployment accompanied by protracted and large losses of income, or terminal illnesses (OECD, 2020[5]). In some voluntary schemes, for examples in DC schemes in the United States, such extraordinary pay-outs are treated as loans which need to be repaid. Some COVID-19-related measures affecting funded pension schemes will thus have effects that will be felt over a long period in some countries.

Australia, Canada and the Netherlands also took measures in funded occupational schemes to cushion the impact of the crisis on pensioners. To prevent cashing in losses in the funded schemes, Australia and Canada relaxed the minimum withdrawal requirements for pensioners. In the Netherlands, to avoid benefit cuts, the required value of assets compared to pension liabilities in defined benefit pension funds, i.e. the funding ratio, was temporarily, before the crisis in 2019 and 2020, lowered from 104.2% to 90%. During the COVID-19 crisis, the reduction of the required funding ratio was prolonged until 2027 (Chapter 2).

In Estonia, a legislative process to make the mandatory funded DC scheme voluntary started before the outbreak of the COVID-19 pandemic and was finalised in 2020 (see the last section of the chapter). During this process, temporary COVID-19-related measures were introduced. The mandatory employer's contributions of 4% financing the private funded DC scheme were temporarily retained in the public scheme from July 2020 to August 2021 and the employees were given the option to suspend their DC contributions of 2% for the same period. The value of missing contributions, uprated by the average return of all DC funds between 1 July 2020 and 31 December 2022, will be transferred to the DC individual accounts in 2023-24 except for employees who use the newly introduced possibility to opt out of the DC scheme or suspended their DC contributions in 2020.

COVID-19 and demographics

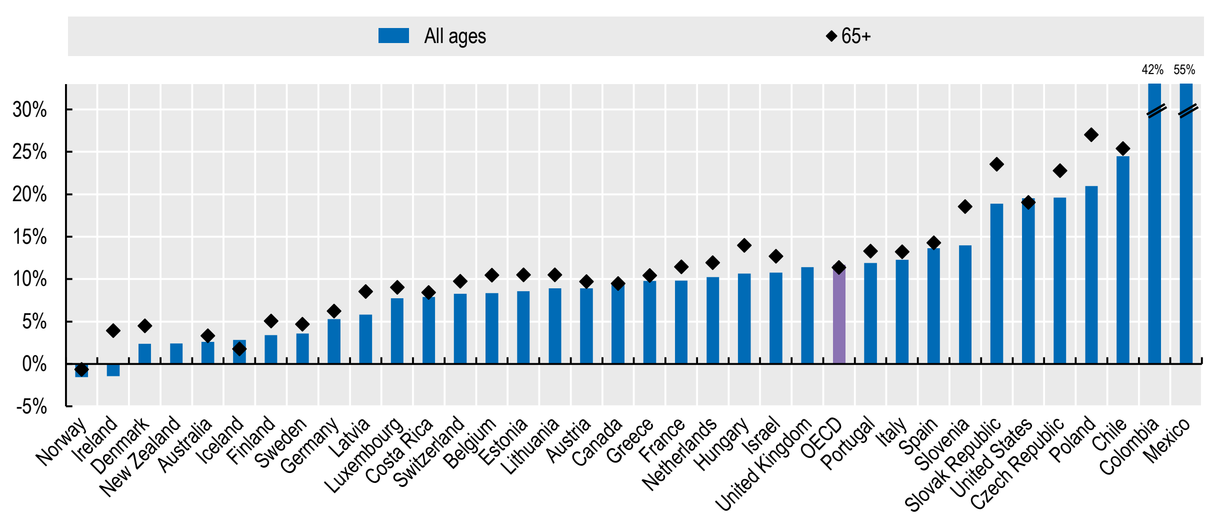
Excess mortality

The pandemic has been causing enormous human suffering and the number of COVID-19 deaths exceeded 2.5 million in OECD countries by mid-2021 (OECD, 2021[6]). As older populations have been particularly affected, this unexpected crisis also implies that, on average, fewer pensions will be paid, temporarily lowering annual pension spending and generating savings for pension providers. The ultimate impact on the number of deaths and on shortening the longevity of the different cohorts still remains subject to a large uncertainty.

Although governments have tracked the number of deaths due to COVID-19, the reporting of deaths differed across countries depending on whether deaths took place in hospitals, whether the presence of the virus was confirmed by a medical test and whether the COVID-19 was acknowledged as the main cause of death. Additionally, this measure does not account for the deaths indirectly caused by the virus though e.g. less resources serving other diseases. Excess mortality – the actual number of deaths divided by the expected number of deaths based on data from previous years minus one – allows to better measure the total impact of the virus on the number of deaths across countries (Morgan et al., 2020[7]).[10]

Excess mortality totalled 12% on average among OECD countries between January 2020 and August 2021, which means that 12% more people died in this period than would have been expected based on data from previous years (Figure 1.2). In Australia, Denmark, Iceland, Ireland, New Zealand and Norway excess deaths did not exceed 3% while they reached 15% or more in Chile, Colombia, the Czech Republic, Mexico, Poland, the Slovak Republic and the United States. As a result of excess mortality, life expectancy (at birth) declined in 24 out of 30 OECD countries in 2020, and by one year or more in Belgium, Italy, Lithuania, Poland, Slovenia, Spain, the United Kingdom and the United States (OECD, 2021[6]).

Figure 1.2. **Excess mortality between January 2020 and August 2021**



Note: Excess mortality is calculated for most countries through dividing actual number of deaths by the average number of deaths over 2015-19 for most countries, and by 2019 number of deaths due to data availability for Costa Rica for all ages, and for Costa Rica and Ireland for the 65+ age group, based on data provided by these countries. For most countries data include deaths recorded until week 36 of 2021, except for: Australia (week 25), Canada (26), Colombia (23), the Czech Republic (34), Greece (35), Iceland (32), Italy (30), Luxembourg (35), Mexico (35), the Netherlands (35) and the Slovak Republic (34). For Costa Rica and for people aged 65 or more in Ireland, data cover only 2020.

Source: OECD Excess Deaths database (*https://stats.oecd.org/index.aspx?queryid=104676#*) and data provided by countries.

StatLink *https://stat.link/rdnehm*

Due to excess mortality, the number of people over 65 declined by 0.8% on average in OECD countries between January 2020 and August 2021.[11] Pension spending is expected to fall temporarily in similar proportions. The higher mortality is having a direct impact on pensions in schemes that link retirement ages or benefits to life expectancy. For example, in the Polish NDC scheme, lower period life expectancy observed in 2020 has raised the value of newly granted pensions by 6%,[12] while the Swedish Pension Agency expects a much smaller immediate impact, because, for pension calculations, mortality data are averaged over the five previous years, which smooths the impact of the abrupt mortality increase. In private DC schemes, higher mortality improves the finances of annuity providers given that this excess mortality was not expected in the mortality tables used to compute annuities. The impact of COVID-19 on future mortality is highly uncertain as those who died tended to have had other health risks before the COVID-19 (Pifarré i Arolas et al., 2021[8]; Cairns et al., 2020[9]), while, on the other hand, there might be negative longer term effects on the health of the surviving population (Lopez-Leon et al., 2021[10]). The Belgian Federal Planning Bureau estimates that after a short disruption mortality rates will be back to the long-term trend from 2022 (Duyck, Paul and Vandresse, 2020[11]).

Fertility

The COVID-19 crisis might have affected fertility due to higher economic and health uncertainty. Aassve et al. (2021[12]) compare the observed birth rates from November 2020 through February 2021 against past trends in 22 countries and found a statistically significant declines in Austria, Belgium, Hungary,[13] Italy, Portugal, and Spain and no significant changes in other countries. Similarly, in the United States the actual number of births declined by 6% in November and 8% in December 2020, compared to the same months in 2019.[14] Other countries also reported a substantial decline in births in December 2020 or January 2021 (depending on data availability): Poland by 25%, Estonia, France, Latvia and Lithuania by more than 10%, England and Wales, and Israel by around 10%.[15] McDonald (2020[13]) estimates for Australia that a large part of the decline in the fertility rate will likely be offset by higher fertility over the next decade. It is too early to assess whether the current crisis could have a substantial impact on total fertility that would affect the pace of population ageing.

COVID-19 and pension finances

The COVID-19 crisis temporarily reduced contributions to pay-as-you-go pension schemes while benefits in payment have generally been protected. On average across OECD countries, total social contributions were at the same level in nominal terms in 2020 as in 2019, while they increased by 5% annually on average between 2000 and 2019.[16] Moreover, in most OECD countries, job retention schemes and the extension of unemployment protection have mitigated the impact of the crisis on future pensions as explained above; the missing pension contributions have mainly been financed through public debt. In several countries, some accrued entitlements have not been covered by full contributions, as in Ireland and Portugal; in Latvia and Poland periods have been validated for minimum pensions even though no contributions were collected.

The updated financial projections from a few countries suggest that the impact of the COVID-19 crisis on pension finances might not be particularly large, even if in some countries the crisis may have exacerbated existing imbalances. As explained above, a reasonable order of magnitude is that the COVID-19-related excess mortality would slightly limit pension expenditure, by about 0.8% in the OECD in 2021, but less so in the following years. An estimate by the Pensions Advisory Agency (COR) for France implies a similar decrease in pension spending due to increased mortality.

However, given that GDP fell with the economic slump, pension spending as a share of GDP increased in most countries. This temporarily weakens pension finances even though subsidies have helped contributions fall less or increase more than GDP, transferring some of the costs to state budgets. Overall, as this effect might be offset in the recovery phase, the total medium-term impact on pension finances would be modest, although some cost might still be covered by public finances in some countries. In Finland, ETK (2021[14]) estimated in March 2021 that lower pension contributions will be offset by the increase in contribution rates in 2022-25 and by around 2027 the ratio of pension liabilities to pension assets (the so-called solvency ratio) would be back to the pre-crisis trajectory. In France, due to the economic contraction (i.e. denominator effect) pension expenditure increased from 13.7% to 14.7% of GDP between 2019 and 2020. With the projected economic recovery, pension spending as a percentage of GDP is supposed to come back close to its pre-crisis level in 2022 (COR, 2021[15]). In the United States, there will be some impact in the medium term: based on the estimates of the Social Security and Medicare Boards of Trustees, the reserve pension fund (Trust Fund) is now expected to be depleted is 2033 instead of 2034 before the COVID-19 crisis (SSA, 2021[16]).

Pension finances have also been affected through the impact of COVID-19 on financial markets, and therefore on assets held in public reserve funds and funded DB schemes. However, those effects were temporary given that financial markets bounced backed strongly after the crash in the first half of 2020, in part thanks to new policies implemented by central banks. For example, rates of return of pension schemes in 2020 exceeded 10% in the Netherlands and Sweden (OECD, 2021[17]).[17] Likewise, within funded DC plans, pension assets have benefited from exceptionally high returns from mid-2020, also in relation to central banks' measures.

Ageing pressure and pensions – where do we stand?

Population ageing has been accelerating although paces vary strongly across countries

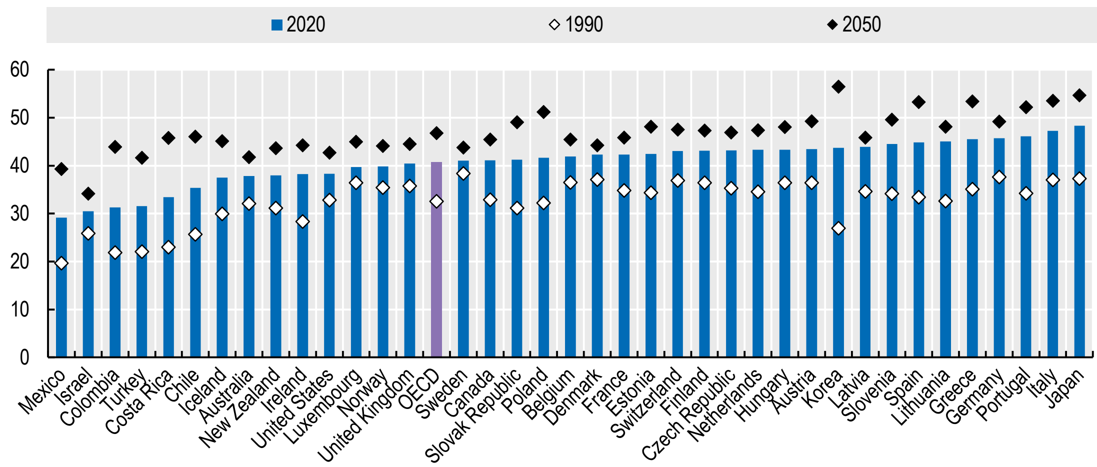
Populations have been ageing in all OECD countries. On average across OECD countries, the median age was 41 years in 2020, eight years higher than in 1990 and is expected to further increase by six years by 2050 (Figure 1.3) – meaning that half of the population will be younger than 47 and half older. This rapid rise results from people living longer on average and having fewer babies. The median age is expected to increase by more than 10 years in Chile, Colombia, Korea, Mexico and Turkey and by less than three years in Denmark and Sweden, where relatively high birth rates will increase the size of younger age groups, and in Latvia, where high past emigration would limit the growth in the number of older people. Populations started to age at a fast pace in the 1980s, but that pace is expected to slow down from the late-2030s (Figure 1.4). The fall in fertility rates has a direct impact on the median age but takes one generation to affect the demographic ratio that is more relevant for pensions, i.e. the old-age to working-age ratio – the number of people older than 65 years per 100 people of working age (20 to 64 years).

Population ageing has been accelerating in recent years based on this ratio. Over the last 30 years, the number of people older than 65 years per 100 people of working age (20 to 64 years) increased from 21 in 1990 to 31 in 2020 in the OECD on average (Figure 1.4). Over the next 30 years, it is expected to reach 53. Although ageing trends are largely common across countries, one striking feature of the below chart is the growing dispersion of projected old-age to working-age ratios among OECD countries during the first half of the 21st century.

The pace of ageing is projected to be fast until about 2060 on average, from when it would slow down substantially, but uncertainty is large when projecting so far in the future. However, that pace is already largely determined for the next 30 years. While in the baseline the old-age to working-age ratio is projected to increase by 23 points on average between 2020 and 2050 (from 30 to 53), a low-fertility scenario assuming that fertility ratios are 0.5 lower from 2020, which would be a big difference, would imply an increase of 24 points instead. If one assumes that there were no future mortality improvements, the increase in the average demographic ratio would be of 16 points.

Figure 1.3. **Median age is increasing fast**

OECD countries, in 1990, 2020, and 2050



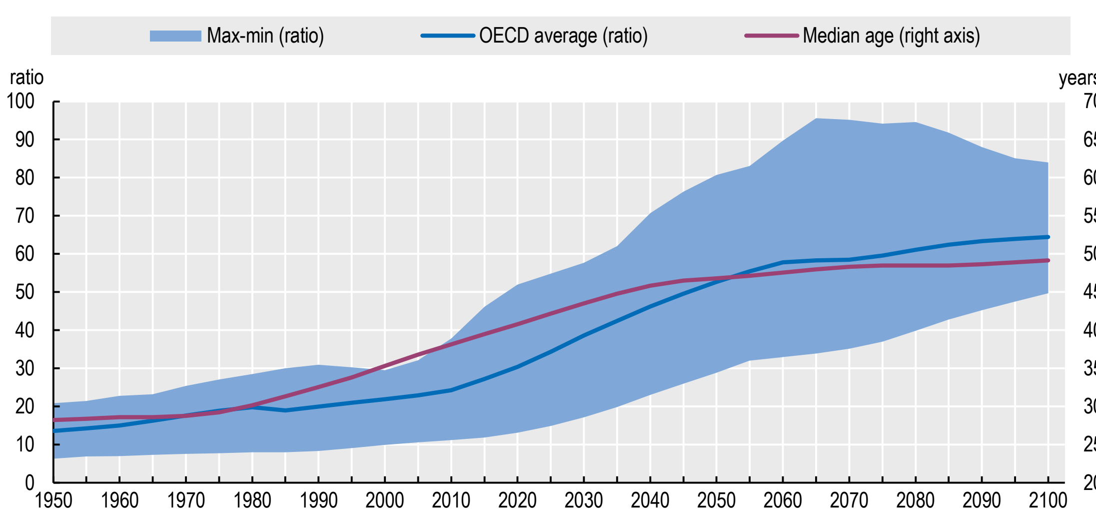
Source: United Nations World Population Prospects: The 2019 Revision.

StatLink https://stat.link/p0j2t3

Over the decade preceding the COVID-19 crisis, improvements in longevity have slowed in many countries (Box 1.1). For women, this slowdown brings the pace back to levels similar to those that prevailed between 1970 and the mid-1990s, while for men the pace remains relatively fast. This means that the acceleration of old-age life expectancy between the mid-1990s and around 2010 seems to have ended.

Figure 1.4. **The old-age to working-age ratio is accelerating**

Number of people older than 65 years per 100 people of working age (20-64), 1950-2100



Note: The centre line is the OECD average old-age to working-age ratio. The shaded area indicates the range between the country with the lowest old-age to working-age ratio and the country with the highest old-age to working-age ratio.

Source: United Nations World Population Prospects: The 2019 Revision.

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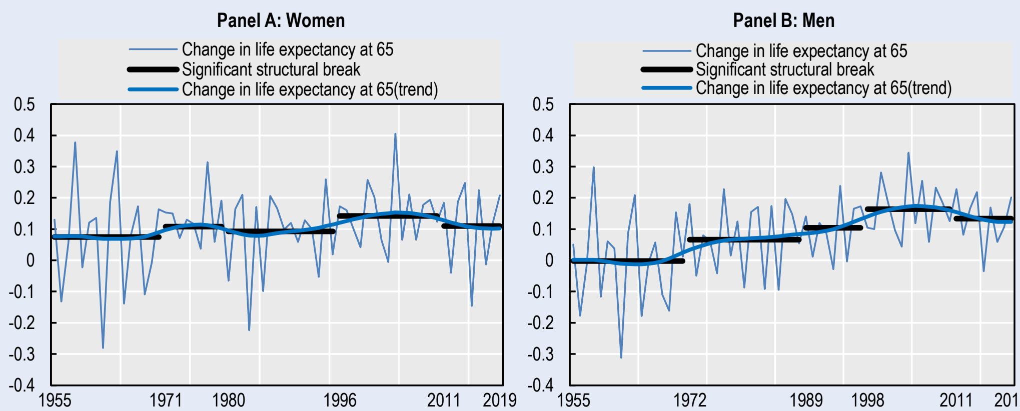
Box 1.1. **Has there been a slowdown in pre-COVID-19 old-age life expectancy?**

Recent OECD work has provided some evidence that there have been recent changes in the pace of life expectancy improvements (Raleigh, 2019[18]). This analysis aims to go one-step further and systematically test whether significant structural breaks in life-expectancy gains can be identified. This assessment is done based on the Bai-Perron test, which has been used in previous OECD work to identify structural breaks in labour productivity trends (Boulhol and Turner, 2011[19]). The focus is on remaining life expectancy at age 65 among women and among men by country until 2019, which is the last available data point, hence not accounting for the COVID-19 crisis.

For the OECD on average, the method identifies a significant structural break after 2010 for women, with the annual change being equal to 0.11 years on average (1.1-year gain per decade) compared with 0.14 years between 1996 and 2010 (1.4-year gain per decade) (Figure 1.5, Panel A). The slowdown brings the pace of life-expectancy improvements roughly back to where it was between the early 1970s and the mid-1990s. That is, long-term trends suggest that there has been a slowdown from a period of acceleration of longevity between the mid-1990s and around 2010. There are some exceptions within countries: no recent slowdown is found in the Baltic countries, the Czech Republic, Denmark, Iceland, New Zealand, Portugal, the Slovak Republic and the United States. The estimated reduction in the pace of improvements has been particularly strong, of more than 0.7 years per decade, in Australia, Finland, Ireland (from a high level), Italy, Japan, the Netherlands and the United Kingdom. Details by country are provided in Figure 1.5.

Figure 1.5. **Structural breaks in life-expectancy gains in the OECD on average**

Yearly change in life expectancy at age 65, in years, OECD average



Note: The breaks are significant at the 99% confidence level. To limit interferences from short-term fluctuations in change in period life expectancy, the breaks are estimated on the Hodrick-Prescott filtered trend series (lambda=100). The OECD average does not include Colombia, Costa Rica, Mexico and Turkey due to data missing in the in the Human Mortality Database (2020).

Source: Human Mortality Database (2020), https://www.mortality.org/.

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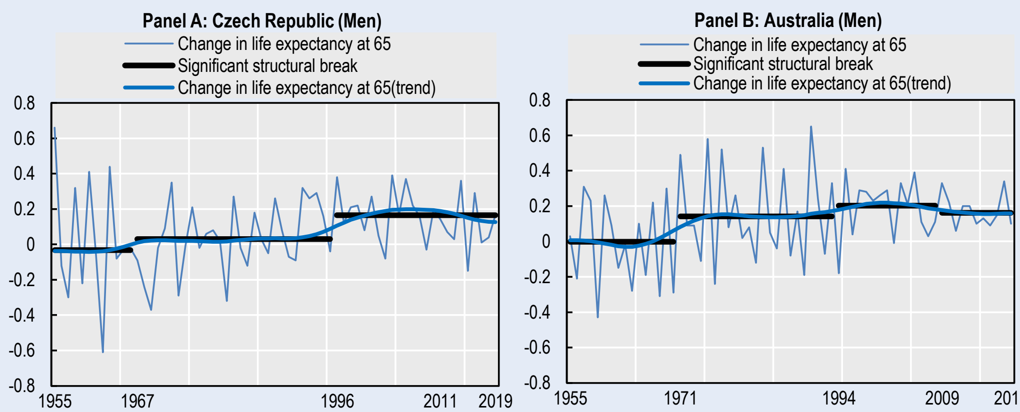
For men, there is a similar pattern on average, from a gain of 1.6 years per decade to 1.3 years (Figure 1.5, Panel B), which implies that the current pace remains faster that what prevailed until the mid-1990s. However, this masks a stronger heterogeneity across countries than among women. In more than one-third of countries – Belgium, the Czech Republic, Denmark, Hungary, Iceland, Italy, Korea, Latvia, Lithuania, the Netherlands, Norway, Poland, the Slovak Republic and Sweden – there is no recent slowdown. The case of the Czech Republic is illustrated in Figure 1.6, Panel A. Chile and France are the only two OECD countries in which there has been no structural break for males even since 1980.[1] For the remaining countries, there has been a recent slowdown around 2010 among males. The slowdown is between 2009 and 2013 in all of these countries except in Japan where it was in 1986. Panel B illustrates the case of Australia (see Annex 1.B for more details).

Overall, there is strong evidence that many countries have experienced a slowdown in old-age life expectancy improvements from about 2010. For women, this slowdown brings the pace back to similar levels as those that prevailed between 1970 and the mid-1990s, while for men the pace remains relatively fast. This means that the acceleration of old-age life expectancy between the mid-1990s and around 2010 seems to have ended. In the future, this period of about

Box 1.1. **Has there been a slowdown in pre-COVID-19 old-age life expectancy?** *(cont.)*

Figure 1.6. **Structural breaks in life-expectancy gains in the Czech Republic and Australia**

Yearly change in remaining life expectancy at age 65, in years, men, the Czech Republic and Australia



Note: The breaks are significant at the 99% confidence level. To limit interferences from short-term fluctuations in change in life expectancy, the breaks are estimated on the Hodrick-Prescott filtered trend series (lambda=100).
Source: Human Mortality Database (2020), https://www.mortality.org/.

StatLink https://stat.link/40d3n6

15 years might look as exceptional. Another assessment will of course be needed once the long-term impact of the COVID-19 crisis materialises in the data.

Labour market improvements offset half of pension spending pressure from ageing

Countries tend to address population ageing pressure by raising pension expenditure, extending working lives and/or lowering pension benefits. Over the last 20 years, higher pension spending and longer working lives have indeed been recorded, but evidence about lower benefits relative to wages is mixed.

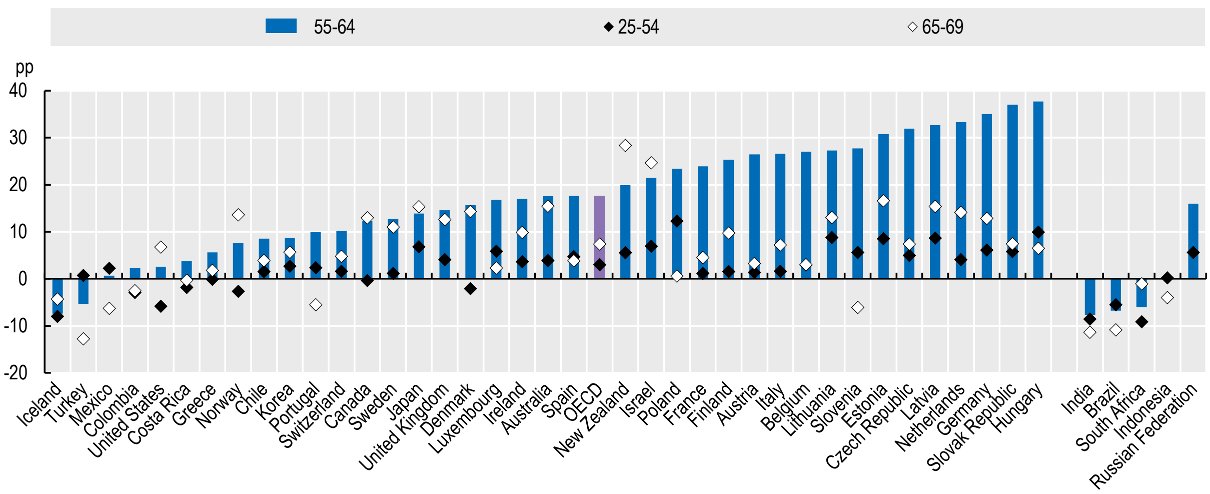
Pre-COVID-19 employment increased among older workers and people worked longer

Since 2000, employment rates of older individuals have increased substantially. This is a major achievement. Among individuals aged between 55 to 64 years, the employment rate grew from 44% in 2000 to 62% in 2020 in the OECD on average (Figure 1.7); the increase was also large in the Russian Federation, but not in other non-OECD G20 countries. The increase exceeded 30 percentage points in the Czech Republic, Estonia, Germany, Hungary, Latvia, the Netherlands and the Slovak Republic. During the same period, the employment rate among people aged between 25 and 54 years increased much less – from 76.5% to 79.5% on average. Improvements in employment have benefited the 55-59 and 60-64 age groups in similar proportions. But, employment still falls abruptly in most countries after around age 60, with average employment rates being equal to 72% among the 55-59 in 2020 and 51% among the 60-64 (Chapter 5).

Higher employment rates at older ages have been driving up the average age when people leave the labour market which increased by 2.2 and 2.8 years between 2000 and 2020 for men and women, respectively, on average across OECD countries (Chapter 6). Over the past decade, ages of labour market exit on average increased faster than life expectancy in EU countries (EC, 2021[20]). On top of the increasing female employment and the effects of higher levels of education (Geppert et al.,

Figure 1.7. **Employment rates of older workers have grown strongly**

Change in employment rates, 2000-20, percentage points



Source: OECD Labour Force Statistics (*https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R*).

StatLink *https://stat.link/nkom8e*

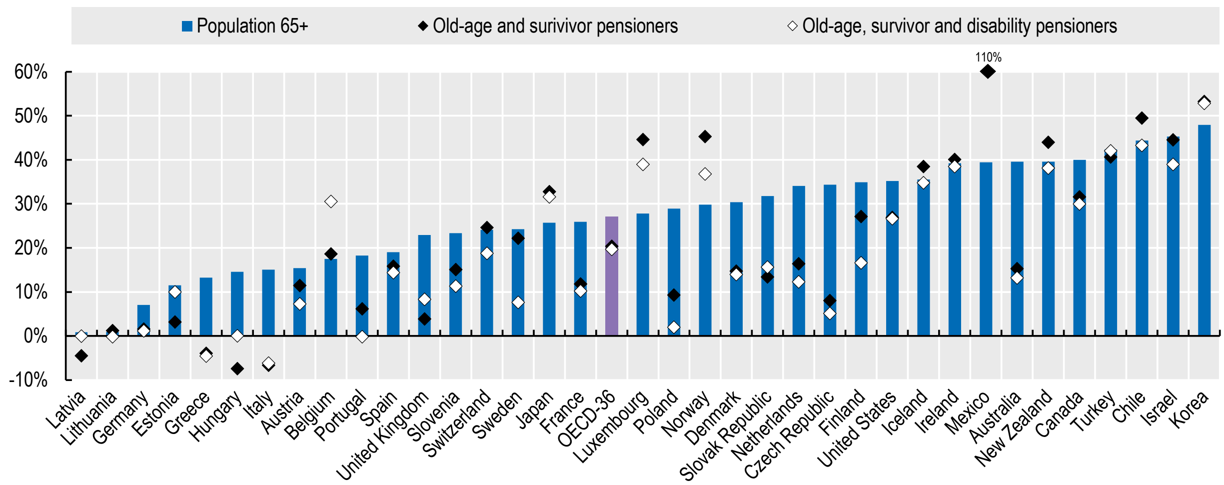
2019[21]), pension policies have played a crucial role, for example through the tightening of early retirement options and the increase in statutory retirement ages.

Pension rules changed for cohorts born in 1940 and 1956, retiring around 2005 and 2020, respectively, depending on countries. On average across OECD countries, men born in 1940 or 1956 with an uninterrupted career from age 20 could have retired without penalty at ages 62.9 or 64.2 years, respectively, hence an average increase of 1.3 years (OECD, 2019[22]). Italy and Japan had the largest increase, while the normal retirement age did not change in slightly more than half of OECD countries for these cohorts. The average increase in the normal retirement age thus represents about half of the average increase in the labour market exit age.

The increase in retirement ages has helped limit the impact of population ageing on pension systems. Between 2008 and 2018, the number of pensioners increased by 20% – whether or not disability pensioners are accounted for -, much less than the 27% increase in the number of people aged 65 or more on average in the OECD (Figure 1.8). The tightening of pension eligibility conditions contributed to the slower increase in the number of pensioners, particularly in the Czech Republic, Denmark, France, Greece, Hungary, Italy, the Netherlands, Poland, Portugal, the Slovak Republic and the United Kingdom. In Finland and Sweden, there was a sharp decrease in the number of disability pensioners; by contrast, in Belgium, Estonia and Hungary, the increase in the number of disability pensions had a big impact on the change in the total number of pensioners. Mexico is an outlier with the introduction of a nationwide non-contributory scheme (*Pensión para Adultos Mayores*) for people aged 70 or more in 2007 while the contributory funded scheme is still maturing.[18]

Figure 1.8. **The number of pensioners increased less than the number of older people**

Change in the number of pensioners and the number of people aged 65 or older, 2008-18



Source: OECD Social Benefit Recipients (SOCR) Database (https://www.oecd.org/social/social-benefit-recipients-database.htm) and ESSPROS (https://ec.europa.eu/eurostat/web/social-protection).

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Pension expenditure

Total (private and public) pension expenditure increased by 1.5% of GDP between 2000 and 2017, from 7.9% to 9.4%, on average in the OECD. The increase was larger than 4% of GDP in Finland, Greece and Portugal, while Chile, Germany, Ireland, Latvia and Lithuania recorded a decrease in the spending ratio (Table 1.1).

The increase in pension expenditure as a share of GDP can be decomposed into changes in four contributing factors: the demographic structure; employment; the average benefit ratio; and, the labour share in GDP (Box 1.2). It is estimated that population ageing captured by the shift in demographic structures alone would have triggered an increase in pension expenditure of 2.5% of GDP on average, which is 1.0% of GDP more than the actual increase. Germany, Italy, Japan, the Netherlands and Slovenia faced the largest ageing pressure on spending over this period, of more than 4% of GDP.

Higher employment lowered total pension expenditure by 1.1% of GDP on average, absorbing about 40% of the demographic pressure. Higher employment reduces the pension spending ratio through two channels: through stronger productive capacity (denominator or GDP effect) and more specifically at older ages as it implies fewer pension beneficiaries. Improved labour market outcomes have substantially limited the growth of pension expenditure as a share of GDP in Estonia, Germany, Hungary and Latvia. By contrast, lower employment rates generated additional pension spending pressure in several countries, including Greece, Portugal and Turkey. Given available data, changes in the average benefit ratio, i.e. the average pension divided by the average wage, cannot be distinguished from changes in the pension coverage, e.g. through expanding pensions to previously uncovered population or higher prevalence of combining work and pensions. Based on the best proxy, the average benefit ratio increased over the period, leading to higher pension spending of 0.4% of GDP on average in the OECD between 2000 and 2017. This is consistent with the fact that economic replacement rates – defined as pension spending per old-age population over GDP per working-age population – in European countries have been higher than before the Global Financial Crisis (Fouejieu et al., 2021[23]).

Given demographic projections, the increase in the old-age to working-age ratio is estimated to generate an additional pressure on pension spending, by around 3.5% of GDP between 2017 and 2035. In the absence of new resources that would be available to finance pensions, continuing to raise employment prospects, including through pension policies, is therefore crucial to preserve the level of old-age benefits while limiting the increase in pension expenditure.

Table 1.1. **Higher employment offset almost half of the demographic pressure on pension expenditure over 2000-17**

Change in pension expenditure in GDP between 2000 and 2017 and contribution from different factors, in percentage points

Country	Pension exp./GDP	Contribution from				Residual
		Demography	Labour market	Benefit ratio	Labour share	
Latvia	**-1.9**	2.9	-2.8	-2.2	1.4	-1.2
Chile	**-1.7**	2.2	-1.3	-1.6	-0.5	-0.5
Ireland	**-1.0**	1.7	-0.5	-0.3	-1.5	-0.4
Lithuania	**-0.9**	2.6	-1.9	-0.8	-0.1	-0.7
Germany	**-0.6**	4.1	-3.7	-0.1	0.5	-1.4
New Zealand	**0.0**	1.6	-1.5	0.7	-0.2	-0.5
Slovenia	**0.1**	4.3	-1.1	-2.1	-0.1	-1.0
Poland	**0.1**	3.8	-1.7	-1.0	-0.2	-0.8
United Kingdom	**0.3**	1.7	-1.2	0.3	-0.3	-0.2
Estonia	**0.5**	1.9	-2.6	1.8	0.6	-1.3
Israel	**0.7**	1.0	-1.3	1.3	0.1	-0.4
Czech Republic	**1.0**	3.0	-1.7	-0.6	1.1	-0.8
Hungary	**1.1**	1.8	-2.6	0.5	2.4	-1.1
Slovak Republic	**1.2**	1.9	-1.4	1.0	0.0	-0.4
Austria	**1.2**	3.0	-1.8	0.2	0.3	-0.4
Luxembourg	**1.4**	-0.2	-0.1	1.8	0.0	-0.1
Australia	**1.5**	2.1	-1.2	0.4	0.4	-0.2
Belgium	**1.5**	1.3	-0.9	1.3	-0.1	-0.1
Netherlands	**1.6**	4.3	-2.1	-0.4	0.6	-1.0
Denmark	**1.6**	3.5	-1.1	0.7	-0.9	-0.6
Korea	**1.6**	1.7	-0.2	0.4	-0.1	-0.1
Japan	**1.7**	8.2	-2.4	-1.7	0.2	-2.5
Sweden	**1.8**	1.5	-1.4	1.9	0.1	-0.3
Switzerland	**1.9**	2.2	-0.5	0.1	0.1	-0.1
Mexico	**1.9**	0.2	0.1	1.0	0.0	0.5
France	**2.2**	3.3	-1.1	0.0	0.2	-0.3
Italy	**2.2**	4.3	-2.5	-0.6	1.8	-0.7
Canada	**2.2**	2.9	-0.9	1.0	-0.5	-0.3
Iceland	**2.3**	1.0	0.7	0.4	0.0	0.3
Norway	**2.6**	0.5	1.1	0.4	0.2	0.3
Spain	**2.9**	1.5	-0.7	1.9	0.2	0.1
United States	**3.1**	2.5	0.3	0.7	-0.4	0.1
Turkey	**3.5**	1.0	0.6	4.7	-1.6	-1.3
Finland	**4.4**	3.9	-1.8	2.2	0.5	-0.4
Portugal	**5.4**	3.0	0.5	1.1	0.1	0.7
Greece	**5.4**	3.7	0.9	1.4	-1.0	0.3
OECD	***1.5***	***2.5***	***-1.1***	***0.4***	***0.1***	***-0.5***

Note: Details are described in Box 1.2.

Box 1.2. **Decomposition of the change in pension expenditure as a share in GDP**

Pension spending in GDP evolves in response to changes in the demographic structure, changes in employment – which also affect the number of retirees -, changes in the average wage and pension, coverage of pensions and the labour share:

$$\frac{Pension\ spend.}{GDP} = \frac{\frac{Pension\ spend.}{Pensioners}}{\frac{Wage\ bill}{Employment}} \frac{Pensioners}{Retirees} \frac{Retirees}{Pop65} \frac{1}{\frac{Employment}{Pop2064}} \frac{Pop65}{Pop2064} \frac{Wage\ bill}{GDP}$$

The equation could be equivalently written as:

$$\underbrace{\frac{Pension\ spend.}{GDP}}_{e} = \underbrace{\underbrace{\left(\frac{AvP}{AvW}\right)}_{b-benefit\ ratio} \underbrace{\left(\frac{Pensioners}{Retirees}\right)}_{c-coverage\ ratio}}_{ab-approximated\ benefit\ ratio} \left(\underbrace{\frac{Retirees}{Pop65}\frac{1}{ER}}_{l-labour\ market}\right) \underbrace{\left(\frac{Pop65}{Pop2064}\right)}_{d-demographics} \underbrace{(LS)}_{ls-labour\ share}$$

Where: *AvP* – average pension spending per retiree; *AvW* – average wage; *ER* – employment rate (total employment / population aged 20-64); *P65* – number of people 65 or older, *P20-64* – number of people aged 20-64, *LS* – labour income share (wage bill / GDP).

Private and public expenditure on old-age and survivor pensions is described in Chapter 7. Demographic pressure is measured by the size of the population 65 or older divided by the population aged 20-64, called the “old-age to working-age demographic ratio”. The labour market affects the share of pension expenditure in GDP through the total employment rate and the number of retirees divided by the number of people 65 or older. The number of retirees is proxied as the number of people at 55 or older being economically inactive. While the average pension and the coverage ratio cannot be calculated separately because data about the number of pensioners are not available in cross-country comparison, the approximated benefit ratio combines both and is simply equal to the ratio of pension spending per retiree divided by the average wage.

Relative old-age income

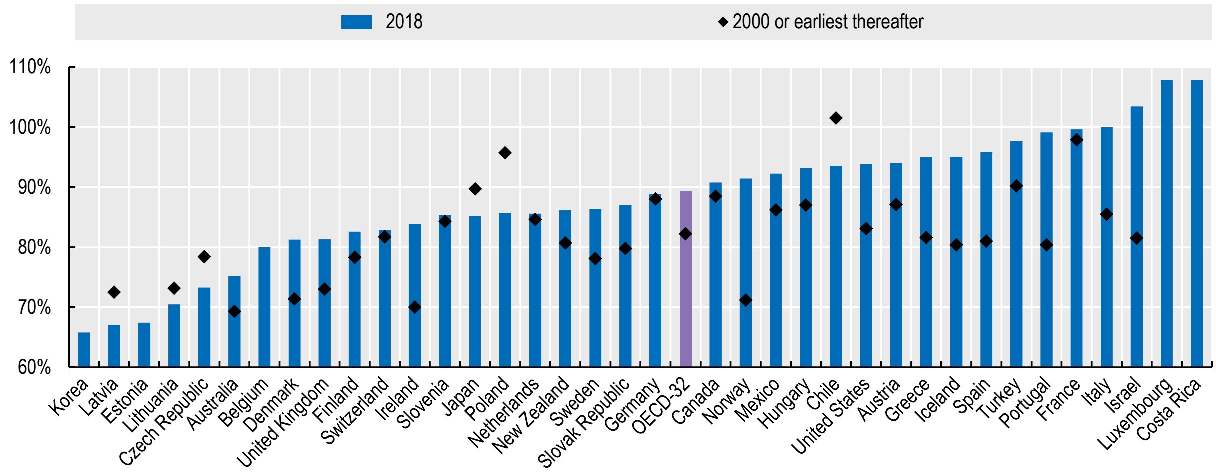
The increase in the old-age relative income over the last two decades is consistent with the estimation that ageing pressures have not yet affected benefit ratios. On average among OECD countries, people older than 65 had an average disposable income equal to 88% of the total population in 2018. It was about 70% or less in Estonia, Korea, Latvia and Lithuania, but about 100% or more in Costa Rica, France, Italy, Israel, Luxembourg and Portugal (Figure 1.9). Since around 2000 the average relative old-age income increased by 6 percentage points in the OECD across the 32 countries for which data are available. It increased by more than 10 points in Denmark, Hungary, Greece, Iceland, Ireland, Israel, Italy, Norway, Portugal, and Spain and the United States, while it decreased by 10 points in Poland, 8 points in Chile, and by about 3-5 points in the Czech Republic, Japan, Latvia and Lithuania.

Pension indexation

One way to contain rising spending while preserving pension replacement rates at retirement is to reduce pension indexation. Many countries have already reduced indexation. In 17 OECD countries, the rules for pension indexation were the same in 2020 as in 2000 and, among them, 11 countries indexed benefits to prices throughout the whole period (Table 1.2). In some countries the shift from wage to price indexation took place earlier, e.g. in Italy in 1992. Over the last 20 years, 11 countries made pension indexation less favourable through linking it only to prices, or through increasing the weight of prices in the total indices, or as in the case of Germany, Japan and Sweden through introducing automatic adjustment mechanisms (Chapter 2). In the Netherlands, earnings-related occupational pensions are indexed fully to prices only if the value of asset compared to liabilities (the so-called funding ratio) is high enough (Chapter 2). After the global financial crisis the average funding ratio of Dutch pension funds declined and stabilised at a low level, leading to benefit

Figure 1.9. **Relative income of older population increased**

The average disposable income of people aged over 65, percentage of average disposable income of total population



Note: 2018 or latest available year. All income from employment, self-employment, capital and public transfers are included. Incomes are measured on a household basis and equivalised with the square root equivalence scale to adjust for differences in household size.
Source: Chapter 7.

StatLink https://stat.link/1vms8c

indexation below prices, even though some supervisory rules were relaxed (Gerard, 2019[24]) By contrast, five countries made pension indexation more generous. Among them, the United Kingdom is an outlier with the triple-lock rule. In Austria, Latvia, Italy and Portugal higher indexation has applied to low pensions.

Actual indexation sometimes deviates from what the rules imply. Upward discretionary adjustments have been frequent for example in Mexico and Turkey, whereas some countries have applied a lower pension indexation than implied by the rule during and after the global financial crisis to reduce fiscal pressure.

Table 1.2. **Pension indexation rules have remained stable in most OECD countries since 2000**

Pension indexation rules in OECD countries in 2000 and 2020

Country	Indexation rule around 2000	Indexation rule in 2020	Change in the rule
Belgium	p	p	0
Canada	p	p	0
Chile	p	p	0
Costa Rica	p	p	0
France	p	p	0
Korea	p	p	0
Mexico	p	p	0
Spain	p	p	0
Turkey	p	p	0
United States	p	p	0
Italy	p (less for higher pensions)	p (less for higher pensions)	0
Finland	80%p + 20%w	80%p + 20%w	0
Ireland	w, d	w, d	0
Poland	80%p + 20%w	80%p + 20%w	0
Switzerland	50%p + 50% w	50%p + 50%w	0

Table 1.2. **Pension indexation rules have remained stable in most OECD countries since 2000** *(cont.)*

Pension indexation rules in OECD countries in 2000 and 2020

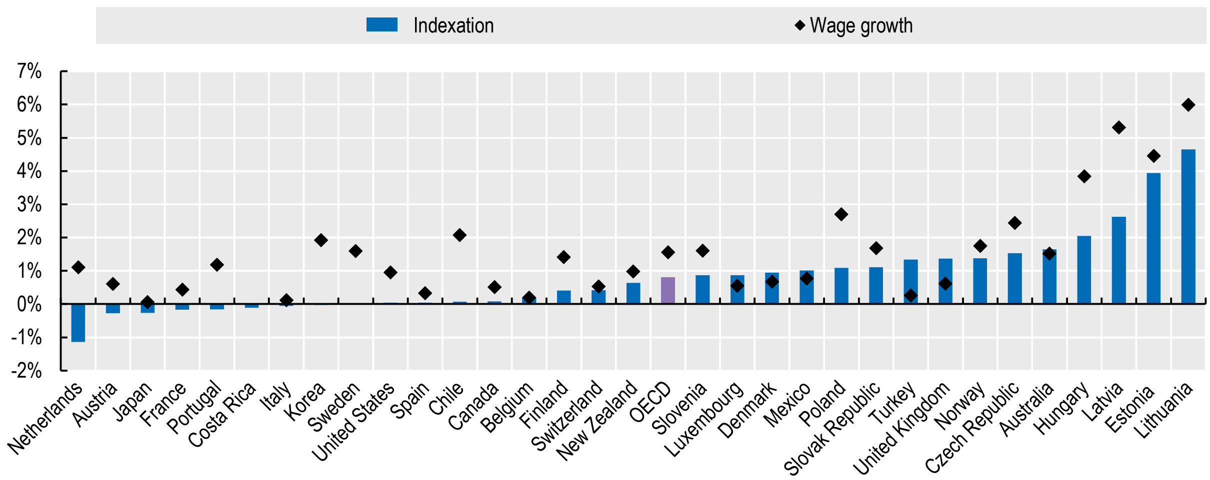
Country	Indexation rule around 2000	Indexation rule in 2020	Change in the rule
Australia	w	w	0
New Zealand	w	w	0
Austria	w	d: p (more for lower pensions)	-
Germany	w	w – sustainability factor	-
Greece	p	p or lower, but 0 between 2009 and 2022	-
Hungary	30%p + 70% w	p	-
Luxembourg	w	w, subject to fiscal space	-
Netherlands	p (funding ratio)	p (funding ratio)	-
Norway	w	w-0.75%	-
Japan	p+ d: w	p from age 68 (and automatic adjustment mechanism) w until age 68 (and automatic adjustment mechanism)	-
Slovak Republic	50%p + 50%w	p (with a minimum fixed amount adjustment guaranteed)	-
Slovenia	w	40%p+60%w	-
Sweden	p	w-1.6%, (and automatic adjustment mechanism)	-
Czech Republic	67%p+33%w	50%p+50%w	+
Denmark	w with constraints	w	+
Estonia	50%p + 50% wb	20% p + 80% wb	+
Latvia	p	70%wb (less for higher pensions)	+
United Kingdom	p	triple lock: max(p, w, 2.5%)	+
Lithuania	d	wb	x
Portugal	d: p, GDP	Between p-0.75 percentage points. and 120%*GDP growth, depending on the GDP growth and individual pension amount	x

Note: p – prices, w – wages, wb – wage bill, d – discretionary, "-" – indexation became less favourable, "+" –indexation became more favourable, "x" – the impact of reforms is not obvious. For Australia (Age pension), Denmark, New Zealand and the United Kingdom, the rules concern basic pensions while for other countries earnings-related schemes. Exceptional measures stopped any pension indexation in Greece between 2009 and 2022. Hungary indexed pension to wages up to 1998, when it was reduced to 50% of the real wage growth, and since 2012, pensions have been indexed only to prices. The Norwegian Parliament is likely to approve the shift of the indexation rule from the wage growth minus 0.75 point to the average of the price and wage growth by the end of 2021. In Sweden, a discount factor of 1.6% increases initial pension amounts, which is offset by indexation of pensions in payment being lowered by 1.6 points, resulting in that pensions in payment were indexed effectively to inflation over the last 20 years. Additionally, an automatic adjustment mechanism.

Over 2000-20, the real annual indexation of pensions is equal to 0.8% on average among OECD countries, half of the average real wage growth of 1.6% (Figure 1.10). In 15 countries indexation did not differ significantly from inflation, whereas in 12 countries pensions in payment increased by at least 1 percentage point faster than prices. Countries with the strongest real wage growth, Estonia, Hungary, Latvia and Lithuania, indexed pensions in payment by more than 2 points on top of prices. Indexation was larger than the average wage growth in the United Kingdom through the effect of the triple lock.[19] The Netherlands is the only country where the indexation of contributory occupational pensions was substantially less than price inflation: -1.1% in real terms per year on average because the solvency rule links indexation to funding ratios (Chapter 2). The funding ratio reflects what part of pension liabilities are backed by assets.[20]

Figure 1.10. **Pension indexation was above inflation in most OECD countries**

Average annual real indexation of pensions in payments and real-wage growth, 2000-20



Note: The growth of the gross average wage in Lithuania was inflated by lowering employer's social contributions by 28.9 points in 2019.
Source: OECD Taxing Wages (*https://stats.oecd.org/Index.aspx?DataSetCode=AWCOMP*) and information provided by countries.

StatLink *https://stat.link/akptzn*

Recent pension reforms

This section summarises pension reforms introduced in OECD and G20 countries between September 2019 and September 2021. Several countries implemented substantial pension reforms. Overall, there was limited action on retirement ages while several countries extended early retirement options. Pension benefits in earning-related schemes have been increased in a few countries and there has been a trend towards expanding old-age safety nets or to increase low pensions.

Mixed changes in retirement ages over the last two years

Recent retirement age measures

Over the past two years, limited policy action took place to directly change retirement ages; exceptions are the increase in Sweden, cancellation in Ireland and postponement in the Netherlands. Other retirement-age measures were taken in the Slovak Republic and Slovenia, and among non-OECD G20 countries Brazil introduced minimum retirement ages.

In 2020, Sweden increased the earliest age to draw public contributory pensions from 61 to 62 years.[21] There is an official plan to increase it further to 63 years in 2023 and 64 in 2026. In parallel, the eligibility age for the residency-based basic pension (so-called guarantee pension)[22] is planned to be raised from 65 years today to 66 in 2024 and 67 years in 2027.[23] In 2021, the "target retirement age", introduced in 2019, was set at 67, to be effective from 2027. The "target retirement age" aims to nudge retirement decisions, by providing a clear suggestion of what the adequate age to retire should be.[24] Finland first introduced a "target retirement age" in 2017 to indicate the age until which consecutive cohorts need to work to offset the impact of the life expectancy coefficient on replacement rates.

Provided that these plans, which are based on a 2019 agreement of most political parties present in the Swedish Parliament, are implemented, the earliest age to draw public contributory pensions and the "target retirement age" would be indexed to life expectancy at 65 years, transmitting two-thirds of changes in life expectancy into retirement ages, from 2026 onwards upon governmental approvals. However, it has not yet been decided whether the link will apply also to the eligibility age to access the basic pension and to the mandatory retirement age, at 68 currently and 69 from 2024. As these likely changes in future retirement ages have not yet been legislated, *Pensions at a Glance* indicators do not take them into account. Based on national Swedish demographic projections, the minimum eligibility age to contributory pensions and the “target retirement age” would increase by one and two years around 2035 and 2050, respectively.

By contrast, in Ireland, the government repealed the planned increases in the statutory retirement age. Following a 2011 reform, the statutory retirement age was set to increase from 66 to 67 in 2021 and to 68 in 2028, and the option to retire at age 65 under some additional eligibility conditions to be abolished in 2014. Assuming that the statutory retirement age remains at 66 years, EC (2021) projects public pension expenditures to increase from 4.6% of GDP in 2019 to 7.6% in 2070. The government has committed to follow the recommendations by the Commission on Pensions, published in October 2021. Among others, the Commission recommended to increase the statutory retirement age by three months per year starting from 2028 to reach 67 years in 2031, and, by half that slower pace thereafter to reach 68 in 2039 (Pension Commission, 2021[25]). The government intends make a proposal in March 2022.

The Netherlands modified the link between retirement age and life expectancy (Chapter 2 provides details about automatic adjustment mechanisms). For each year of life expectancy gains at age 65, the pace of the increase in the retirement age applying to the basic pension will be eight months in 2025 rather than the initially foreseen one year increase. The one-to-one link was fast, implying that all longevity improvements were passed into the retirement age, hence steadily reducing the share of adult life spent in retirement. At the same time, the increase of the retirement age from 66 and 4 months to 67 was postponed from 2021 to 2024. As a result, based on current life-expectancy projections, the retirement age for someone entering the labour market at age 22 now will reach 69 against 71 years in the previous edition of *Pensions at a Glance*.[25]

In the Slovak Republic, while the retirement age is increasing by two months per year to reach 64 years in 2030, the retirement-age cap of 64 years – introduced in 2019 along with the cancellation of the link between the retirement age and life expectancy – was abolished from the Constitution in 2020. In 2021, the government prepared a proposal to re-establish a link between the retirement age and life expectancy. Additionally, the retirement age of mothers was lowered by six months for each child up to three children. This right is, under certain conditions, transferable to fathers. Apart from the Slovak Republic, only the Czech Republic, Italy and Slovenia in the OECD allow mothers to retire earlier without penalties than single women.

Against the general trend among OECD countries, Slovenia introduced in December 2020 a mandatory retirement age – i.e. an option for employers to terminate the employment contract above a certain age. The reform removed the requirement to provide a justified reason when dismissing an employee who has met eligibility conditions to the old-age pension (OECD, 2022[26]). Thus, the mandatory retirement age would apply in Slovenia as early as age 60 for people who worked for at least 40 years. Only in Japan and Korea does the mandatory retirement age apply to private-sector workers from age 60, while in nine other countries it applies only from age 65 or higher (OECD, 2022[26]).[26] However, the implementation of this amendment is uncertain as it has been appealed in the Constitutional Court on the ground of discrimination.[27]

Among G20 countries, Brazil took significant steps to improve pension finances in 2019, which required amending the constitution and included introducing minimum retirement ages. The option to retire after a career of 35 and 30 years for men and women, respectively, without any age restriction, was eliminated. These loose conditions had led to the average effective age of labour market exit of 56 years for men and 53 years for women. From 2020, men and women can retire when older than 65 and 60 (being gradually increased to 62 by 2024), respectively, after a 15-year long career, which will increase to 20 years for men who will start to contribute after the reform. Some exceptions were made for rural workers and those working in arduous occupations. Those who had qualified for pensions before the legislation are not affected, with a transition for those who are close to retirement. Other measures affecting the pension replacement rate are discussed in the corresponding section below.

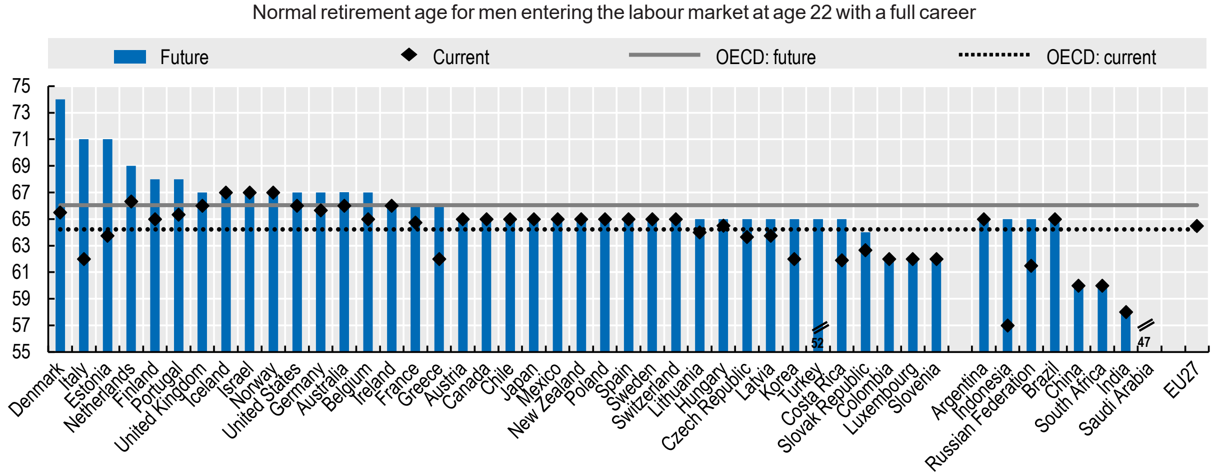
Implications for normal retirement ages

Normal retirement ages – the age at which individuals are eligible for retirement benefits from all pension components without penalties, assuming a full career from age 22 – differ significantly among OECD countries. For men retiring in 2020, the normal retirement age was the lowest at 62 years (except for Turkey) in Colombia, Costa Rica, Greece, Italy, Korea, Luxembourg and Slovenia, whereas it was 67 in Iceland and Norway. Turkey is currently an outlier at 52 years. Given current legislation, the future normal retirement age – i.e. after having entered the labour market in 2020 and therefore retiring after 2060 – will range from 62 years in Colombia, Luxembourg and Slovenia and 64 years in the Slovak Republic to 74 years in Denmark. On average across OECD countries, it will increase by about two years, from 64.2 in 2020 to 66.1 in the future. Over the same period, life expectancy at age 65 is expected to grow by 4.1 years on average. The current normal retirement age is lower for women than for men in Austria, Colombia, Costa Rica, Hungary, Israel, Lithuania, Poland, Switzerland, and Turkey, on average by 2.8 years in these countries (Chapter 3). Austria, Costa Rica, Lithuania and Turkey will eliminate the gender gap in normal retirement ages.

Over this period, the normal retirement age is set to increase by more than five years in Denmark, Estonia and Italy through links with life expectancy, which are discussed in detail in Chapter 2, as well as in Turkey but there from a low level (Figure 1.11). Meanwhile, 17 OECD countries have not passed any legislation that will increase the normal retirement age. In Luxembourg, the Slovak Republic and Slovenia where future retirement ages are comparatively low, pension spending is projected to increase by more than 5% of GDP between 2019 and 2070, the highest increases in the European Union (EC, 2021). Moreover, all non-OECD G20 countries will have retirement ages of 65 years or below, and even lower than 60 years in India and Saudi Arabia.

Figure 1.11. **The normal retirement age is rising in many OECD countries**

Normal retirement age for men entering the labour market at age 22 with a full career



Note: The normal retirement age is calculated for an individual with a full career from age 22. “Current” refers to people retiring in 2020. “Future” refers to the age from which someone is eligible to full retirement benefits from all mandatory components (without any reduction), assuming a full career from age 22 in 2020. Educational credits are not included. The current normal retirement age for Italy is based on a temporary measure “quota 100” which was introduced for 2019-21 and allows to retire below the statutory retirement age.
Source: Chapter 3.

StatLink https://stat.link/fprg42

Expanding early retirement

Early retirement options have been expanded in Denmark, Ireland, Italy and Lithuania. In Denmark, from January 2022, those who have been insured for at least 42 years before the age of 61 will be able to receive a benefit equal to the basic pension amount up to three years before the normal retirement age of 67.[28] Other countries allow early retirement without penalty for individuals with a long career from an early start, including Austria, France, Germany, Greece, Luxembourg, Portugal, Slovenia and Spain. In Denmark, another new option to retire early was introduced: it allows individuals who have at least 20 to 25 years (depending on occupations) of full-time employment and are unable to work more than 15 hours a week (18 hours from 2024) in their most recent jobs to receive a pension up to six years before the normal retirement age. These new early retirement options were introduced within the context of Denmark's previously legislated increase of the retirement age from 65 to 67 years between 2019 and 2022, and to 68 in 2030. Related to early retirement for long careers, Austria legislated a new pension top-up (*Early Starter Bonus*) in 2020, which will come into force for people retiring from 2022.[29] People who have worked for at least 25 years in total will receive a monthly top-up of EUR 12 for each year of work between ages 15 to 20.

Ireland introduced a benefit for those who: are at least 65, which is one year before the statutory retirement age; have ceased either regular employment or self-employment; and, meet the eligibility conditions to unemployment benefits.[30] The benefit replaces, at the same amount of EUR 203 per week, the unemployment benefits for those older than 65, but it does not require any job-search effort, hence potentially generating disincentives to work longer.

Italy extended some early retirement options which were supposed to be temporary and to expire in 2020. The so-called women's option, initially introduced for a year in 2017, was extended again by one year, until the end of 2021. This option allows women to retire at age 58 (or 59 if self-employed) after a 35-year career, but it requires that pensions are fully calculated based on the notional defined contributions (NDC) rules while pensions from defined benefit (DB) and NDC schemes are prorated when retiring at the statutory retirement age. In Italy, NDC rules generally result in benefits being lower than those based on the DB scheme, due to the automatic actuarial adjustments in NDC and low penalties in DB. Additionally, the government prolonged the options to retire at age 63 with 30 years of contributions for people who are unemployed, disabled or giving care, or after 36 years for people in arduous occupations. A similar extension to retire up to seven years before the statutory retirement age of 67 was granted to workers in companies undergoing restructuring. All these extensions come in addition to the so-called "quota 100", which has been applying from 2019, allowing all private-sector employees to retire without penalty at age 62 with 38 years of contributions. According to government plans announced in October 2021, "quota 100" would be replaced by "quota 102", which would increase the minimum retirement age from 62 to 64, only for 2022.

In 2021, Lithuania modified the early-retirement scheme. Retiring early remains possible up to five years before reaching the statutory retirement age of 64 years and 2 months for men and 63 years and 4 months for women, and the associated penalty was reduced from 0.40% to 0.32% for each month of early claiming, and made temporary for some workers.[31] This increases the incentives to retire early with a negative impact on pension finances and pension levels. For public pensions, apart from Lithuania, only Korea, Turkey and Colombia (for women) allow early retirement for private-sector workers before the age of 60.

Expanding first-tier pensions

Over the past two years, several countries made substantial efforts to improve the minimum standards of living of retirees. Social protection at the lower end of the old-age income distribution was substantially improved in Chile, Latvia, Mexico and the Slovak Republic. Moreover, the minimum pension was raised in Slovenia and Germany introduced an individual supplementary benefit to contributory pensions.[32] Australia, Canada, Norway and Sweden also took some measures to improve old-age safety nets.

Chile legislated a large increase in the levels of both the basic (solidarity) pension (*Pensión Básica Solidaria – PBS*) and the publicly financed pension supplement (*El Aporte Previsional Solidario – APS*) in 2019, by 50% each by 2022. The basic pension is granted to individuals not receiving any pension from the earnings-related DC scheme and the supplement tops up the individual DC pension, with a 67% withdrawal rate. As a result, based on OECD modelling assumptions, the future pension of full-career low-wage earners will be increased by one-third. Additionally, the government expanded the pension supplement by subsidising programmed withdrawals at very old ages to those with low pensions.[33] This is meant to avoid that those opting for programmed withdrawals face drops in payments at older ages.

Both Latvia and Mexico substantially increased the old-age safety-net benefit and reformed their minimum (contributory) pensions. In Latvia, both the minimum pension and the non-contributory old-age benefits were increased by 25% in 2020, from a low level. In 2021, the non-contributory old-age benefit was set at 25% of the median disposable income, which meant an additional increase by 70% of both benefits as the minimum pension that is accessible after 15 years of contributions is set at 110% of the non-contributory old-age benefit. The level of these benefits had been frozen in nominal terms for 13 years, so linking them to the median disposable income is an important innovation. Additionally, the design of the minimum pension changed and the benefit levels now increase by 2% for every year of contribution beyond 15 years while before the benefit increased only stepwise at 20, 30 and 40 years of contributions. This reform is fully consistent with recommendations made in the *OECD Pension System Review of Latvia* to address the high level of old-age poverty.

In Mexico, the non-contributory residency-based basic pension (*Programa Pensión para el Bienestar de las Personas Adultas Mayores*), introduced in 2019, is paid to all eligible citizens from age 65 since July 2021, against 68 before. On top of the nominal increase of 120% documented in the previous edition of *Pensions at a Glance*, the amount of this benefit will increase gradually by 75% in real terms by 2024. After these increases, the basic pension will be around 25% of the gross average wage. Moreover, in December 2020, the government increased substantially the amount of the minimum pension (*Pensión Mínima Garantizada*) and changed it from a flat-rate benefit to a benefit, the level of which increases with career length up to 24 years, with the individuals' average wage and with the effective retirement age. Penalties of around 1.3% for each year of claiming the minimum pension before the statutory retirement age are far from actuarial neutrality; they may encourage early labour market exit and create a net cost for public finances. The minimum pension reform will be gradually implemented between 2023 and 2030. Accessing the minimum pension before the statutory retirement age with no or limited penalty is unusual among OECD countries.

Concretely, for a person aged 65 who earned the average wage and contributed for at least 24 years, the Mexican minimum pension amount has doubled from 30% to 63% of the gross average wage while the minimum pension does not exceed 40% of the average wage in any other OECD country. As the benefits are to be indexed to prices, the minimum pension is projected to fall back to about 37% of the average wage for those who will retire in the 2060s.This compares to future theoretical replacement rates from the DC scheme – i.e. without including a top-up from the minimum pension – at age 65 of an average-wage earner of 28% after 24 of contributions and 46% after 43 years, based on OECD modelling assumptions. Such a high level of the minimum pension has two main implications. First, it implies that for many pensioners the pension level will no longer depend on accumulated assets financed by past contributions, and that the state budget will provide a supplement. The lower the future financial returns, the larger the fiscal cost, which will be visible only over time because the state subsidies finance minimum pensions once DC assets are depleted. Second, as the minimum pension is likely to play a much larger role, future pensions will depend less on past earnings and differences in pension benefits across individuals will be lower. Overall, this reform has a systemic component: it increases future pension levels and tends to make the funded DC scheme at least in part more like a DB scheme partly funded by contribution assets and partly funded by the state budget.

In 2020, the Slovak Republic shifted the calculation of the minimum pension accessible after 30 years of contributions from 136% of the minimum subsistence level to 33% of the gross average wage, implying an immediate increase of 17% and steadily more as the average wage tends to grow faster than the minimum subsistence level. However, just one year later and effective from January 2021, the minimum pension was permanently delinked from the average wage.[34] In 2019, as part of the reform to the contributory pension (see below), Slovenia gradually increased the minimum pension, available after 15 years of contributions, by 11% for men such as to equalise benefit levels between men and women by 2025; in 2021 the measure was moved forward and became effective in May 2021.

In 2021, Germany introduced an individual pension supplementary benefit (*Grundrente*) to those who contributed for at least 33 years on the basis of low income. Both the eligibility conditions and the benefit calculation are complex (Börsch-Supan et al., 2021[27]). The full amount of the supplement is paid to pensioners with monthly income[35] of up to EUR 1 250 (29% of the gross average wage) for a single person or EUR 1950 for a couple. For higher income, up to EUR 1 600 and EUR 2 300, respectively, the supplementary benefit is withdrawn at a 60% rate, and at a 100% rate for income above these thresholds. Overall, the supplement may raise contributory pensions by as much as around 90% for retirees who worked for at least 35 years at low wages. However, the impact of the supplement on total individual income is expected to be much lower given that it reduces the amount of safety-net benefits.[36] The German Pension Insurance Agency (*Deutsche Rententversicherung*) estimated that 1.3 million pensioners (7% of population aged 65 or more) would receive the new supplement, at EUR 75 per month on average (about 4% of median disposable income of population aged 65 or older).[37] The new benefit is financed from the state budget and is estimated by the Federal Ministry of Labour and Social Affairs to generate an additional cost of around 0.04% of GDP per year.in 2021-25., which suggests it will have a small impact.

Australia eased the asset condition used in the income test when calculating the old-age safety-net benefit (Age Pension) in 2020 to reflect the potential impact of low interest rates on the future income from accumulated assets. Part of Australia's age pension income test assumes that individual financial assets will generate a fixed rate of return, regardless of actual returns. The assumed rates of return are called the deeming rates. In 2020, the deeming rates were substantially reduced from 1% to 0.25% for yearly income below AUD 53 600 for singles (89 000 for couples) and from 3% to 2.25% above that threshold. The reduction was implemented to reflect the low interest rate environment leading to lower income earned on savings. These changes reduce income support recipients' deemed income, resulting in higher Age Pension payments for many recipients.

In 2021, Canada passed a legislation to increase the basic pension (Old Age Security) for seniors aged 75 and over by 10% from July 2022. In 2021, Sweden introduced a new pension supplement to increase monthly pensions between SEK 9 000 and SEK 17 000 (between 23% and 44% of gross average wage, respectively) by up to 6.7%. This benefit will be paid to people who receive none or a small amount of the basic pension, which is fully withdrawn when monthly earnings-related pension exceeds SEK 12 529 (in 2020). The supplement is financed by the central government budget and is estimated to cost 0.1% of GDP annually. Norway discretionarily increased the minimum pension benefit for single pensioners in the old DB scheme by 6.5% on top of regular indexation over 2019-21.

Adjusting benefits and contributions in earning-related pensions

Changes in pay-as-you-go pensions

Several countries decided to increase earnings-related pensions over these last two years. Hungary and Slovenia took the measures with the biggest impact, which will affect future pension financial balances in these two countries. Greece, Poland and the Slovak Republic also took action in this area, and Japan broadened the pension coverage of part-time workers. Among non-OECD G20 countries, the 2019 pension reform in Brazil will affect future benefits substantially.

In Hungary, an additional pension benefit, the so-called 13th-month pension, was introduced in January 2021, at the amount of 25% of the monthly pension and gradually increasing to 100% in 2024, hence representing eventually an increase of 8.5% in pensions.[38] The employer's social contribution rate, which finances both pensions and health care, was reduced from 17.5% to 15.5%, following previous reductions from 27% in 2016. The immediate impact of the lower contribution rate on the pension balance has been partly offset by a strong labour market performance in recent years. However, the current financing gap is likely to widen in the future given population ageing; EC (2021) projects that pension expenditure will increase from 8.3% to 11.2% of GDP between 2019 to in 2050.

In December 2019, Slovenia cancelled the planned decrease of accrual rates for women and instead gradually increased those for men so that men's net replacement rates after 40 years at the average-wage level will be converging from 57.25% in 2019 to women's levels of 63.50% in 2025. The 2021 reform accelerated this transition which will be fully effective in 2023.

In 2020, Poland turned the thirteenth month pension payment, initially introduced as a one-off benefit in 2019, into a permanent annual benefit, paid to all pensioners at the level of the minimum pension, which is equal to 24% of the monthly average wage. Additionally in 2021, a one-off benefit called fourteenth month pension was paid to pensioners with low pensions. These new tax-financed benefits are expected to increase old-age pension spending by 9.5% in 2021.[39] The new measures will help address the challenge of very low future replacement rates to a small extent (see further in this section) while both the average relative income of older people and relative old-age income poverty rates are around the OECD averages (Chapter 6).

In 2020, following a ruling of the Supreme Court, the Greek Government cancelled the recalculation of pensions (both accruing and being paid) introduced in 2016, that had led to benefit cuts. In 2016, all auxiliary pension entitlements – mandatory PAYG occupational pensions which are part of public pensions on top of the general DB scheme – that accrued before 2014 had been fully recalculated based on NDC rules for pensioners whose total pension was higher than EUR 1 300. This generally meant benefit cuts of up to 40% for the auxiliary component for 200 000 pensioners (OECD, 2017[28]).[40] The reversal of previous benefit cuts is expected to increase pension expenditure by around 1% of GDP (Fouejieu et al., 2021[23]). Additionally, a 13th pension payment, introduced in 2019 was abolished after only one payment was made in May 2019. Moreover, Greece changed the annual accrual rates in the public DB scheme, which have increased by 0.5-0.9 points between 30 and 39 years of contributions and decreased by 1.5 points for more than 40years.

In the Slovak Republic, the Christmas bonus – a targeted pension payment equal to EUR 200 and decreasing to zero for pensions higher than EUR 658.50 – was replaced in April 2020 by a more generous 13th monthly pension payment at a flat-rate amount equal to the average monthly pension of EUR 460.40 (in 2020), paid to all pensioners. Yet, in November, the level of the new benefit was cut substantially, especially for high pensions: at EUR 300 only for those with pension below EUR 214.83 and decreasing to EUR 50 for pensions higher than EUR 909.30.

In May 2020, Japan expanded the mandatory coverage of earnings-related pensions to more part-time workers, who represented 26% of total employment in 2020 compared to 20% in 2010. In Japan, all individuals working at least 30 hours a week are mandatorily covered by earnings-related pensions while those working less than 20 hours or earning less than JPY 88 000 (20% of the monthly average wage) are not covered by the earnings-related scheme. So far, those working between 20 and 30 hours and earning more than JPY 88 000 have been covered only if working in companies employing more than 500 full-time employees. The new law will expand this obligation to companies employing more than 100 and 50 full-time employees by 2022 and 2024, respectively. Furthermore, the mandatory coverage will be expanded to workers in unincorporated firms which provide professional attorney and advisory services.[41]

In January 2021, Italy reduced pension contributions for some groups, in order to lower labour costs and boost employment, which will not affect future pensions as the missing contributions will be covered by the central government budget. For example, for newly employed people who are younger than 35 and for unemployed women, pension contributions will be reduced by up to EUR 6 000 per year (20% of the gross annual average wage) in 2021 and 2022. Moreover, in seven economically depressed regions of Southern Italy (Abruzzo, Basilicata, Calabria, Campania, Molise, Puglia, Sardinia, and Sicily), the government reduced pension contributions by 30% between 2021 and 2025, by 20% in 2026 and 2027 and by 10% in 2028 and 2029.

Among G20 countries, beyond changing eligibility conditions to pensions, discussed above, Brazil modified employees' contribution rates from 8%-11% to 7.5%-14%, depending on income, and modified benefit calculation in the following way. The reference wage will be based on lifetime earnings uprated with prices while before one-fifth of the periods with the lowest earnings were excluded. Accrual rates are set at 60% for the first 20 years for men and 15 years for women. As a result, for men entering the labour market at age 22 in 2020 and working without any breaks at the average wage, the gross replacement rate is projected to be 88% at age 65 compared to 59% at age 57 before. Replacement rates for women will be 5 points higher and they will be able to retire three years earlier than men; before the reform the replacement rate was 13 points lower with retirement five years earlier. Additionally, survivor benefits were lowered to 50% of the deceased's benefit plus 10% for each additional dependant (up to 100%).

Changes in funded defined contribution schemes

Mexico substantially increased mandatory contribution rates in their funded DC (FDC) schemes, thus sharply increasing future replacement rates (Figure 1.12). Greece has created a new DC scheme to replace over time the existing NDC scheme for mandatory auxiliary pensions. Estonia went in the other direction.

As a result of the 2021 pension reform in Mexico, the employer's contribution rate in the mandatory FDC scheme will start to increase in 2023 from 5.15% to reach 13.875% in 2030, at the average-wage level, leading to an increase of the total contribution rate from 6.5% to 15%. Such an increase is consistent with recommendations in the 2016 *OECD Pension Review of Mexico* (OECD, 2016[29]). At the same time the contribution subsidies from the government (*social quota*) will be more targeted at low income workers.[42] In addition, the minimum contribution period required to qualify for an old-age pension was reduced from 1 250 weeks (around 24 years) to 750 weeks (around 15 years), but is set to reverse course and increase by 25 weeks per year to reach 1 000 weeks (around 20 years) in 2031.

In Estonia, the FDC scheme, which used to be mandatory for people born from 1982, has become voluntary since January 2021. Opting out requires taking action while remaining is the default. Re-joining is possible 10 years after having opted out. Before the reform, FDC complemented the basic pension and the mandatory PAYG points system, with a contribution rate of 6% on top of 16% for public pensions, so 22% in total. For individuals opting out from FDC, accumulated assets can be withdrawn. As of mid-2021, about one-fifth of members opted out and withdrew their money (representing 25% of total assets).[43] Moreover, when opting out the contribution rate to the PAYGO scheme is raised to 20% – hence a lower total contribution rate of 2 points in total – which leads to 25% more points being granted while the basic pension level has not changed.

Estonia has followed Hungary, Poland and the Slovak Republic in abolishing the obligation to participate in the funded schemes introduced in the early 2000s, which is expected to have a substantial impact on future benefits. Based on the assumptions in the OECD pension model, this will lead to much lower replacement rates for those opting out due to the unchanged basic pension amount, lower total contribution rates and low returns in the Estonian points scheme (see Figure 1.11). Lower replacement rates from the public pension scheme are due to the strong future decline in the working-age population (Chapter 5), which will severely weigh on the indexation of the points value, while financial returns in DC schemes remain constant in the OECD pension model despite ageing pressure.[44] Hence, this reform carries significant risks for the future pension adequacy of those opting out. At the same time, net wages might be slightly higher and the extra contributions financing the PAYG system generate additional revenues. The popularity of the opting out strategy might be surprising in this context and may have several explanations: a strong appetite for the cash being withdrawn; mistakes in the choice made by individuals; and/or low confidence in the future of FDC in Estonia, either due to very low expected returns or to the perception of high future political risks for FDC.

A new fund for auxiliary pensions, the “Hellenic Auxiliary Pensions Defined Contributions Fund”, was established in Greece in September 2021 and will be effective in January 2022. Auxiliary pensions, which used to be fragmented mandatory defined benefit schemes, differing by sector, have been largely unified over the last decade and transformed into an NDC scheme for entitlements accrued after 2014. With the creation of the new fund, auxiliary pensions will be gradually transformed from NDC to FDC. The new FDC scheme will cover new entrants to the labour market while workers younger than 35 would be able to join voluntarily. Other workers and pensioners will not be affected as the decrease in NDC contribution revenues will be covered by the state budget. The contribution rate will remain unchanged at 6.5% until mid-2022, and then be lowered to 6% for employees (equally divided between employees and employers) or a fixed amount for the self-employed.

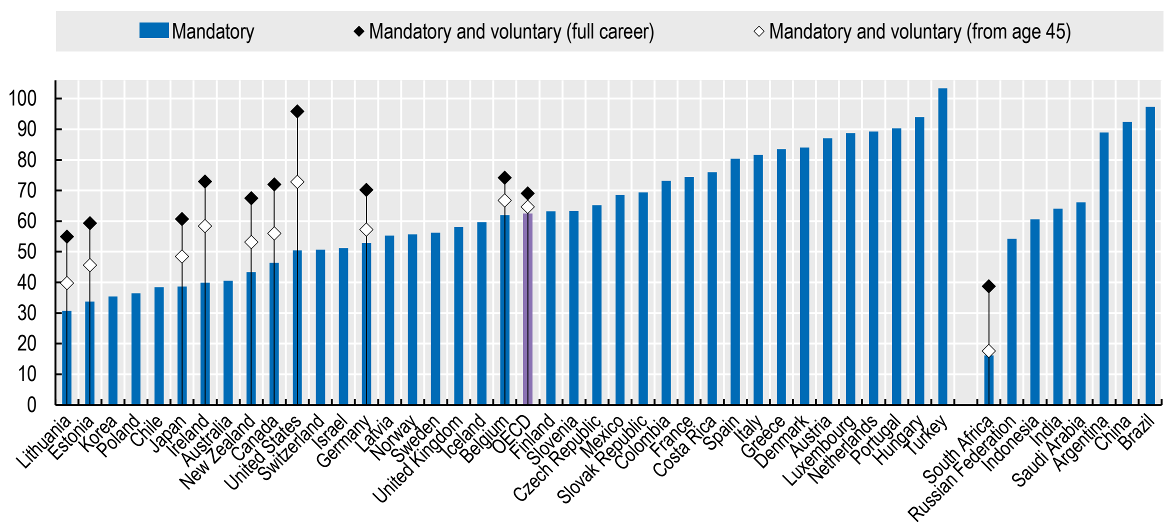
Future replacement rates

Future theoretical replacement rates are computed by the OECD in order to distinguish some key characteristics of pension systems that allow the comparison across countries. One main indicator is the net replacement rate for the best-case scenario, which assumes a full career in the private sector starting at age 22 in 2020 until reaching the country-specific normal retirement age. This theoretical replacement rate is equal in that case to the pension benefit at retirement as a percentage of the last earnings. The projections take into account all legislative measures adopted until September 2021.

Future pension replacement rates display a large dispersion across countries. Figure 1.12 shows theoretical net pension replacement rates across OECD and G20 countries for a full-career average-wage worker. Net replacement rates from mandatory schemes are equal to 62% on average in the OECD, ranging from less than 40% in Chile, Estonia, Ireland, Japan, Korea, Lithuania and Poland to 90% or more in Hungary, Portugal and Turkey at the normal retirement age. The measures taken over the past two years, which are described in this section, have the largest impact on this indicator in Brazil (G20), Hungary, Mexico and Slovenia (increase), and Estonia (decrease). Auto-enrolment in the United Kingdom has succeeded in generating broad coverage over recent years (Box 1.3), such that voluntary pensions are now classified in the indicators of *Pensions at a Glance* as quasi-mandatory as in Denmark, the Netherlands, Norway and Sweden, and therefore included in the “mandatory” series in Figure 1.12.

Among countries with significant coverage from voluntary private pensions – Belgium, Canada, Estonia, Germany, Ireland, Japan, Lithuania, New Zealand and the United States – contributing to a voluntary pension for the whole career would boost future replacement rates for average earners by 24% points on average in these countries based on the modelling assumptions used in the OECD projections (see Chapter 4 for more detail). The coverage of voluntary pensions is much lower for people at early stages of their careers and voluntarily contributing only from the age of 45 would raise future replacement rates by 11 points on average in the nine above listed countries compared to mandatory pensions.

Figure 1.12. **Future net replacement rates for full-career average-wage workers**



Note: OECD calculations based on the pension model. Pension entitlements are based on current legislation in OECD countries. The values of all pension system parameters reflect the situation in 2020 onwards. The calculations show the pension benefits of a worker who enters the system that year at age 22 and retires after a full career. The baseline results are shown for single individuals. See Chapter 4 for details.
Source: Chapter 4.

StatLink https://stat.link/05a4fe

Chapter 4 also includes replacement rates for a large range of career scenarios. For example, for low-wage earners (at 50% of the average wage), the net replacement rate from mandatory schemes is equal to 74% on average after a full career, hence 12 percentage points higher than for the average-wage worker mainly due to the impact of redistributive mechanisms included in pension rules. The Czech Republic and Denmark record the largest difference in replacement rates when comparing low-wage and average-wage workers. Measures taken over the past two years have the largest impact for the replacement rate of full-career low-wage workers in Chile, Germany, Mexico and Slovenia (increase in all countries) and Estonia (decrease).

Interrupted careers typically lead to lower pensions, but entitlements are not equally sensitive to career breaks across the OECD. Average-wage workers who experience a 5-year unemployment spell in the middle of the career face a pension reduction of 6.3% in mandatory schemes compared to the full-career scenario on average in the OECD (Figure 1.13). A one-to-one relation between earnings and entitlements would imply the impact to be around 13% (Chapter 4). This means that instruments such as pension credits for periods of unemployment cushion about half of the impact of the employment shock on pension benefits on average.

The loss exceeds 10% in Australia, Chile, Hungary, Iceland, Latvia, Korea, Mexico, Poland, the Slovak Republic and Turkey. Conversely, in Ireland and New Zealand there is no impact of such career breaks on pensions from mandatory schemes, which only include a basic pension. In Spain and the United States, a 5-year career break does not influence pension benefits either, as full

Box 1.3. **Auto-enrolment in occupational pensions in the United Kingdom**

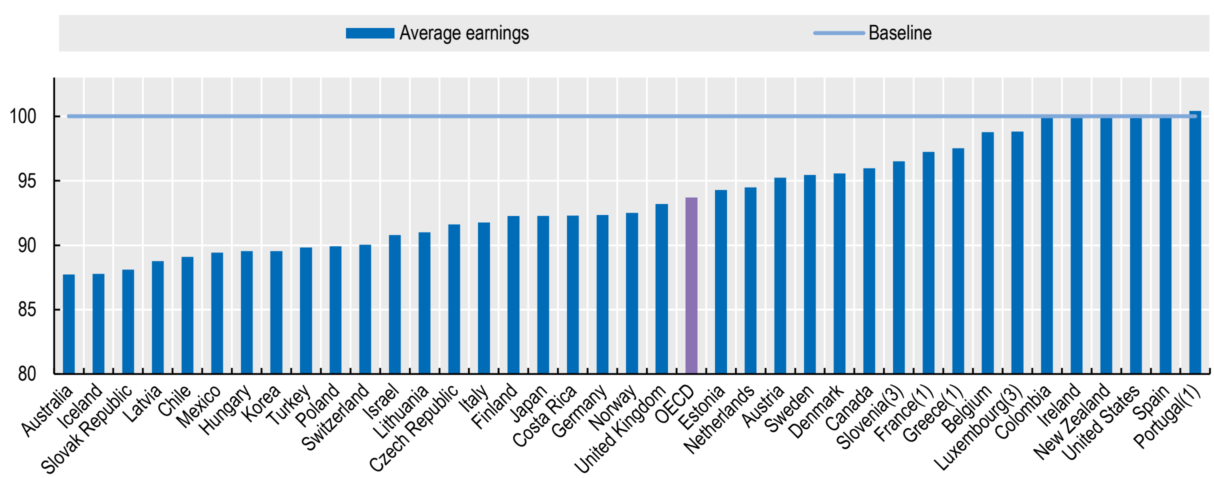
In the United Kingdom, the coverage of private-sector employees by occupational pensions increased gradually from about 40% in 2012 to 88% in 2019 (DWP, 2020[30]), following the implementation of the auto-enrolment, with the government established NEST scheme being the largest provider. In the public sector, the coverage by occupational pensions is even higher at 94%. However, the coverage among the self-employed decreased from 20% in 2012 to 16% in 2020. Thus, as the coverage exceeds the 85% threshold used by the OECD to qualify for quasi-mandatory (Chapter 3), the occupational pension scheme is now considered quasi-mandatory for future retirees in the United Kingdom as in Denmark, the Netherlands, Norway, and Sweden.

Minimum contribution rates have also increased. They started from 3% in 2012 and gradually increased to 8% in 2019, of which employers pay a 3% rate. Occupational schemes for new entrants are defined contribution, and the 8% contribution rate will add 27.4 points to the replacement rate of 21.6% from the basic pension for a person with a full career from age 22 in 2020 until the future normal retirement age of 67, earning the average wage and contributing throughout career. Hence, future pension adequacy will substantially improve.

benefits in the earnings-related scheme are reached after 38.5 and 35 years of contributions, respectively. In Colombia, a five-year career break has no impact on public pensions because the reference wage is based on earnings from the last 10 years of the career, the maximum accrual of 80% is reached after 35.5 years and unemployment benefits cover pension contribution for half a year.[45] To avoid penalties, workers experiencing such a break have to retire one year later than full-career workers in France, Greece and Portugal and three years later in Luxembourg and Slovenia.

Figure 1.13. **Career breaks significantly lower pension entitlements in most countries**

Gross pension entitlements from mandatory pensions of an average earner with 5-year unemployment break relative to a full-career worker, percentage



Note: Figure in brackets refers to increase in retirement age to get a full pension given the career break. See Chapter 4 for details.
Source: Chapter 4.

StatLink https://stat.link/n24vj1

Pensions of self-employed workers

Belgium and Greece took measures that will affect the future pensions of the self-employed. Belgium substantially increased their future pension levels without adjusting their contributions. So far, pension entitlements of the self-employed were set at 69% of those of dependent employees to reflect their lower contribution rate of 13.07%, compared to 20.5% for employees. For careers starting from 2022, the 69% coefficient will be removed, increasing new entitlements of the self-employed by

45% while keeping the contribution rate constant. While pension expenditure was already projected to increase by 3% of GDP between 2019 and 2070, the third highest increase in the EU (EC, 2021), this will create additional financing pressure and might unduly discourage dependent employment.

Greece also reformed the pension scheme for the self-employed. From 2021, the self-employed will be required to pay only flat-rate pension contributions while they can voluntarily contribute more. Previously, contributions were based on profits from the self-employed activity. Auxiliary pensions remain voluntary for the self-employed while they are mandatory for employees. Mandating only flat-rate contributions makes them independent from actual taxable earnings and thereby immune from any tax-evasion practices, but it implies that a self-employed worker having the same taxable earnings as an average-wage employee and not contributing more than what is mandatory can expect to receive a pension equal to less than half of the employee's pension (Chapter 4) compared to 12% lower before the change.

Family-related pension benefits

Lithuania, Norway, Slovenia and Spain took some measures affecting family-related pension benefits. From July 2021, Lithuania is gradually introducing a benefit for single pensioners not receiving survivor pensions, at a low flat rate of around 2% of the gross average wage, equal to the survivor pension. This benefit means to initially cover the poorest pensioners while in the future all single pensioners will receive the benefit.[46] Providing higher pensions to single pensioners aims at compensating them for not benefiting from economies of scale compared to couples for the consumption of basic goods such as accommodation. In Norway, from 2024, survivor pensions for spouses younger than the retirement age of 67 years will be granted for only up to three years whereas currently the benefit is paid until the spouse has reached the retirement age, and the benefit will no longer be based on the deceased's pensions but paid at a fixed rate. Additionally, survivor pensions in payment for people older than the retirement age will be frozen in nominal terms from 2024. These new measures follow the 2017 recommendations of an expert commission appointed by the government to examine survivor pensions. Following another recommendation of the commission, the government has not introduced survivor pensions for people older than the retirement age who will fully retire under NDC rules introduced in 2011 – those born in 1963 or later (Pedersen, 2017[31]). Limiting the access to survivor pensions of spouses younger than the retirement age is consistent with OECD recommendations (OECD, 2018[32]), while their full elimination for older individuals increases the risk of substantial income drop following a partner's death. Slovenia introduced in 2019 a pension bonus for having children to one of the parents (women by default). In February 2021, Spain introduced a new pension supplement for parents receiving old-age, disability and survivor pensions. The new supplement is set at EUR 378 per year (1.5% of the average annual gross wage) per child for up to four children.

Measures facilitating the combination of work and pensions

Canada, Greece, Japan and Slovenia have eased combining work and pensions, and Hungary has exempted workers claiming an old-age pension from paying pension contributions. Creating obstacles to retirees working while receiving their earned pension entitlements, such as earnings tests for benefits, effectively increases taxation of labour income. OECD (2017[28]) recommended removing such obstacles to make combining work and pensions more attractive. More generally, in order to efficiently promote more gradual forms of retirement, conditions to withdraw partial pensions should not depend on the amount of work or on labour income after the normal retirement age.

In July 2020, for both employees and the self-employed, Canada eased the earnings test that applies to the old-age targeted income supplement (GIS). The threshold to avoid the GIS benefit being reduced was raised from an annual earning of CAD 3 500 to CAD 5 000 (from 6 to 9% of the gross average wage) and an exemption of 50% on the next CAD 10 000 was introduced. Greece increased the part of pension that can be received while working from 40% to 70%.

Japan introduced a more beneficial recalculation of benefits for working pensioners. From April 2022, pension amounts will be recalculated once a year even when a beneficiary is still working. Before the amendment, if a beneficiary continued to work after the retirement age, the old-age pension amount was recalculated only at the time of termination of employment or on reaching the age of 70. Also the threshold of income (including both salaries and pensions) beyond which earnings-related pensions are reduced for people aged 60 to 64 will increase from JPY 280 000 to JPY 470 000, i.e. from 65% to 109% of the gross average wage.

Slovenia eased the restrictions on combining work and pensions (OECD, 2022[26]): when working full time after having met the eligibility conditions to pensions, 40% of the pension can be claimed for the first three years and 20% thereafter. Before, only 20% of pensions could be claimed.[47] Combining work with full time work was first allowed in 2012 and in 2019 almost 20% of new pensioners combined claiming pension with full-time work. Finally, in 2020, Hungary exempted those combining work with pensions from both employers' and employees' pension contributions, lowering labour costs and increasing their take-home pay, thereby potentially providing strong incentives to work longer for people who highly value current income.

Pension reforms in progress

The Netherlands is in the process of making a systemic reform to the quasi-mandatory occupational pension schemes by shifting members from defined benefit to defined contribution schemes in which individual choices are limited in terms of both investment and asset withdrawals, with the accumulated assets being only paid out as annuities. The latter are generally classified as collective defined contribution (CDC) schemes. Canada and the United Kingdom have also enacted a legal framework for occupational CDC schemes. Switzerland is finalising the law to increase women's retirement age and improve financial sustainability of the pension system. The comprehensive reform to introduce a universal points system in France was suspended, while Spain has not yet decided on measures to improve financial sustainability and Ireland postponed the introduction of auto-enrolment. Turkey is planning to introduce a mandatory FDC pension scheme.[48]

In July 2020, the Dutch Government reached an agreement on several major occupational pension reforms, which include transferring members of existing defined benefit (DB) plans to CDC plans, and eliminating age-based contribution rates. The main trigger for this reform moving away from DB plans is the persistent solvency issues encountered by funded DB pensions in the Netherlands, as in many countries, as well as the related opposition to the needed adjustments of DB benefits and pension promises to deal with ageing trends and pressures arising from persistently low interest rates. In CDC schemes, changes in the financial returns and in projected longevity directly affect newly granted benefits. The government aims to introduce the legislation by 2023, while the funds will be required to be transformed into CDC by 2027, after having reached a funding ratio of at least 95% (Chapter 2).[49]

In December 2020, to limit the shift from DB to pure DC schemes, the Quebec Government in Canada has approved legislation to introduce the Target Benefit Pension Plan (TBPP) within mandatory occupational schemes. The governing regulations have to be finalised, and employers and their employees must agree to form a TBPP and negotiate its core terms. The calculation of individual benefits in a TBPP plan will follow DC rules or DB rules based on career-long earnings but with possible adjustments to both entitlements and benefits in payment so that all the risks are borne collectively by employees while the contribution rate evolves over time – e.g. adjusting to changes in expected rates of return and longevity – to meet the initially set target replacement rate. A legal framework to create CDC pension schemes was enacted in the United Kingdom in 2021 and Royal

Mail is planning to be the first company to launch such a scheme in the United Kingdom in 2022.[50] In CDC schemes in the United Kingdom, benefits could be calculated with a DC formula or a DB formula but with potential collective adjustments to both entitlements and benefits, depending on funds' returns and longevity developments.

Switzerland is in the process of increasing the retirement age of women from 64 to 65, by three months a year from 2023 at the earliest, to equalise the retirement age between men and women around 2027. As an offsetting measure, women aged 58 or older when the law becomes effective would receive pension supplements when retiring at the new retirement age; the amounts and coverage of the compensation package are under debate and considered to be crucial to gather a broad support for the reform. If the change is implemented, the future normal retirement age will differ between men and women in only Hungary, Israel and Poland in the OECD. Final parliamentary approval is expected by the end of 2021, but this law is likely to be brought into a referendum; a similar reform was rejected by referendum in 2017. As a complementary measure, an increase of VAT to finance pensions is discussed, which would require an amendment of the constitution and therefore a referendum. A commission of the lower chamber of Swiss Parliament is also preparing a new proposal to address the impact of higher longevity on the finances of occupational pensions; the so-called conversion rate – used to convert pension assets into annual pensions – would be reduced from 6.8% to 6.0% which would lower future benefits by 12% all other things equal. To cushion the impact of the reform, a targeted benefit would be introduced for 15 years. Additionally, mandatory pension coverage would be expanded for low earners and young people. Indeed, the minimum earnings threshold to be mandatorily covered by occupational pensions would almost be halved, to around 12% of the average wage, and the obligation to contribute would start at age 20 against 25 now.[51]

France attempted to unify its pension system by adopting a universal points system covering private- and public-sector employees as well as the self-employed. The core of the proposal was to merge the 42 mandatory pension schemes, often based on very different rules. In January 2020, the pension reform bill was voted by parliament in the first phase of the legal process, but in March the process was suspended with the outbreak of the COVID-19 pandemic.

In Spain, the government and social partners reached a preliminary agreement in 2021 and the government presented a reform proposal in August as requested by the European Commission as part of the Resilience and Recovery plan. The proposal is expected to be implemented by the end of 2023. The proposal includes a change in the future penalties for early retirement from 6-8% to 4.75%-15.5% per year, depending on the contribution period and period missing to the statutory retirement age, which would generally lead to lower penalties but for the case of retiring 23 or 24 months before the statutory retirement age.[52] Moreover, incentives to defer pensions would be raised as benefits would be increased by 4% per year of deferral compared to 1.5%-4% today depending on the career length. Alternatively, it would be possible to pay out the yearly bonus for deferring retirement as a lump-sum payment ranging from around 30% to 50% of yearly benefits for those with high pensions and short careers, and low pensions and long careers, respectively.[53] To provide adequate incentives to work longer, those payments should be calibrated close to actuarial neutrality. However, the agreement does not include concrete measures to address the issue of financial sustainability. It includes the indexation of pensions fully to prices, and thereby the final elimination of the indexation adjustment (IRP), which resulted in the fall of pensions in real terms in 2017 and 2018. Additionally the suspended (and never applied) sustainability factor, which was supposed to lower initial pension amounts proportionally to improvements in life expectancy, would be fully removed. Instead, a new mechanism, called Intergenerational Equity Factor, is expected to improve the financial sustainability and become effective from 2027; so far this mechanism is still vague and no agreement has been made on its design. The agreement does acknowledge that tackling imbalances in pension finances will require additional financing from the state budget. State subsidies to the pension schemes increased in 2020 and 2021.

In Ireland, the introduction of auto-enrolment, announced by the government in 2019 and initially planned for 2022, is postponed to at least 2023. It is assumed that the minimum contribution rate would gradually reach 12%, equally shared between employers and employees. If this succeeds in generating a broad coverage, as in the United Kingdom (see above), future pensions will substantially increase. Currently, the contribution-based basic pension is the only widespread pension scheme in Ireland, providing a benefit equal to 28% of the gross average wage in 2020.

Turkey is planning to introduce a new private pension plans to be mandatory for those entering the labour market from 2022, while for the others it will remain optional. The scheme is to be FDC with contribution rates of 3% for employers and between 0.5% and 3% for employees; additional 5.33% contribution rate would finance an associated severance pay scheme. This reform follows the introduction of a subsidised auto-enrolment scheme (OKS) in 2017, which has had a disappointing coverage. Introducing an additional scheme and raising total pension contributions is useful to help Turkey prepare for an acceleration of population ageing from still an early phase. The current public DB pension is generous leading to a future net replacement rates of 101% at age 65.

Notes

1. Two crucial aspects of all job retention schemes are that employees keep their contracts with the employer even if their work is fully suspended and the labour costs are partially of fully subsidised by the government (OECD, 2021[1]). Most new JRS that were introduced in response to the crisis take the form of furlough schemes that only subsidise jobs whose hours are temporarily reduced to zero (e.g. Denmark, Slovenia, and the United Kingdom).
2. For example, in France, the relative income of retirees compared to that of the general population would have increased from 105% to 110% in 2020 (COR, 2020).
3. Australia provided up to four additional payments to eligible beneficiaries of the means-tested Age Pension: AUD 750 for the first two and AUD 250 for the other two, which in total amounts to around 5% of the maximal annual Age Pension benefit. Belgium temporarily (for 2020 and 2021) increased the minimum amount of the safety-net benefit by 6% (EUR 50 per month (as a reference, the safety-net benefit for someone living alone was EUR 1 131.78 in January 2020). Canada granted a one-off allowance of CAD 300 to pensioners receiving the basic pension (Old Age Security) and an additional CAD 200 to those with the lowest income who therefore receive the Guaranteed Income Supplement; the total allowance of CAD 500 is about 1% of the average annual disposable income among the 65+. Canada granted a further one-time payment of CAD 500 in 2021 to all Old Age Security pensioners age 75 and over, regardless of whether they received the Guaranteed Income Supplement. In Colombia, the old-age safety net benefit (so called Colombia Mayor), was increased by 87% as a response to the COVID-19 in 2020 and the increase is expected to remain permanent. In Denmark, all recipients of public benefits – including pensioners – received a lump-sum payment of DKK 1 000 (0.5% of the average annual disposable income among the 65+, free of income taxation) in the summer 2020. Israel granted up to NIS 4 000 for those aged 67+ who lost their job due to COVID-19, on top of their state pension. New Zealand doubled the Winter Energy Payment benefit paid to all pensioners between May and October 2020 at NZD 20.45 per week, representing 4% of the basic pension. Slovenia introduced a so-called solidarity bonus to temporarily increase the lowest pensions.
4. OECD Labour Market Statics: *https://stats.oecd.org/Index.aspx?DataSetCode=AV_AN_WAGE*.
5. In France, the criteria to validate one-quarter in the main DB scheme (*régime general*) combine both number of hours worked and earnings. Initially the quarters for those working very few hours were not fully validated, but legislation adopted at the end of 2020 retroactively granted full pension entitlements for these periods.
6. Under short-time work (STW) schemes, the subsidised income is largely exempt from social contributions in France and, before June 2020, workers did not accrue pension entitlements in the main public scheme for the part of wages that was subsidised. However, the impact on pension entitlements for those covered by STW schemes is probably small as the non-subsidised part (corresponding to the time spent working) is often enough to validate quarters of contributions while the reference wage for pension purposes is based on the best 25 years in the private sector. According to the June 2020 COVID-19 related law, the subsidised part of wages paid between March and December 2020 will also be accounted for to validate quarters for the computation of future pensions and the contributions are financed by the “solidarity fund”.

7. The self-employed are required to contribute to mandatory earnings-related pensions in a similar way as employees in only 9 OECD countries. In another 14 countries, self-employed workers are mandatorily covered by earnings-related schemes, but they are allowed to contribute less than employees through reduced contribution rates or discretion in setting their income base, or when they have low income. In Greece, Poland, Latvia and Turkey, only flat-rate contributions are require while contributions and entitlements are proportional to earnings for employees. In Australia, Denmark, Germany, Ireland, Japan, Mexico, the Netherlands and the United Kingdom the self-employed are not mandatorily covered by earnings-related scheme.
8. These transfers often depend on previous earnings or income losses during the crisis, as for example in Australia, Austria, Chile, Denmark, Ireland, Iceland, Latvia, Norway, Portugal, the Slovak Republic, Switzerland and the United Kingdom. In Chile for example, the self-employed have received income benefits amounting up to 70% of the drop in their monthly income for up to 3 months. In Denmark, self-employed workers experiencing an income loss of more than 30% have received a cash support amounting to 75% of the loss for up to 3 months. Iceland introduced a subsidy of 80% of average earnings benefiting the self-employed for 3 months. In Portugal, the self-employed who suspended their business activity or experienced an income loss of more than 40% have received a subsidy compensating their income loss. In the Slovak Republic, the allowance depended on the income loss and ranged from EUR 330 and 879 a month. Belgium, Canada, Colombia, the Czech Republic, France, Greece, Italy, Israel, Korea, Lithuania, the Netherlands, Slovenia and Spain and introduced flat-rate payments or lump-sum transfers. For example, Italy provided compensation of EUR 600 in March and April, and of EUR 1 000 in May to the self-employed while the self-employed who earned less than EUR 50 000 in 2019 and who experienced at least a 33% decrease in income in 2020 compared to 2019 will be exempted from payment of their 2021 contributions. Lithuania has subsidised the self-employed through an allowance of EUR 257 a month. In Spain, half of the self-employed have been granted a new benefit at EUR 660 or more.
9. Greece, Hungary, Slovenia and Spain provided full exemptions from contributions for some of the self-employed. Greece has fully subsidised the pension contributions of the self-employed (as for employees) who stopped their activity due to the pandemic, while for others 25% of the contributions from February through May have been reduced by 25% without affecting pension entitlements provided they are paid by April 2021. In Hungary, employers, private entrepreneurs and business partnerships pursuing some activities were not be liable for paying pension contributions for the months of March, April, May and June 2020. In the Slovak Republic, the self-employed persons could request a deferral of the social insurance contributions in March, May-July and December 2020 and from January to May 2021; and a remission for April 2020. In Slovenia, the self-employed who have been affected by the crisis have been exempted from paying contributions while continuing to accrue pension entitlements. Spain exempted the self-employed whose revenues dropped by at least 75% from pension contributions, without harming their entitlements. France and Lithuania have subsidised pension contributions of the self-employed. In France, self-employed workers and non-salaried agricultural workers, who met certain conditions, received a bonus of EUR 600 per month in reduced social security, including pension, contributions. In Lithuania, a flat-rate benefit for the self-employed was included in their taxable income and thereby it raised pension entitlements and contributions. Portugal allowed the deferral of two-thirds of pension contributions due in April through June 2020 for up to six months without harming pension entitlements.
10. Morgan et al. (2020[7]) approximate the expected mortality by the average mortality rates from the previous five years and they show that adjusting the numbers for long-term trends in mortality have a minor effect on the final numbers.
11. Due to excess mortality, in Chile, Colombia, the Czech Republic, Hungary, Mexico, Poland, the Slovak Republic, Slovenia and the United States the number of people over 65 decreased by more than 1% between January 2020 and August 2021. The decline of population due to excess mortality is calculated by dividing the number of excess deaths by the population size.
12. *https://www.bankier.pl/wiadomosc/Prezes-ZUS-Wzrost-smiertelnosci-w-czasie-epidemii-wplynal-na-wysokosc-emerytur-8083969.html*.
13. The raw monthly numbers of birth rates until August 2021 in Hungary show that there were year-to-year declines in birth rates by 7.4% and 9.4% in December 2020 and January 2021, while no clear trend has been noted beyond these two months.
14. *https://www.cdc.gov/nchs/data/vsrr/vsrr014-508.pdf*.
15. Yet, in the Czech Republic, Germany and the Netherlands the birth rates dropped by less than 2%. Based on UN data: *https://unstats.un.org/unsd/mbs/app/DataSearchSeries.aspx*.
16. *https://stats.oecd.org/Index.aspx?DataSetCode=QNA*.
17. *https://www.ipe.com/news/dutch-pension-funds-return-an-average-102-for-2020/10051732.article* https://www.pionline.com/pension-funds/2-swedish-ap-funds-record-almost-10-returns-2020.

18. When ignoring Mexico, the number of pensioners increased by 18% on average (instead of 20% when including Mexico).
19. In Turkey data on the average wage might be underestimated as the real GDP per capita grew by 3.2% on average between 2000 and 2020 compared to the reported average annual wage growth of 0.3%.
20. Additionally, public basic pension in the Netherlands increased by 0.3% in real terms on average annually, which was not enough to offset the negative indexation of occupational pensions which are expected to deliver 58% of pension income for an average earner (Chapter 5).
21. This measure had been included in the reform proposals by the Parliamentary Pension Group in 2017.
22. This eligibility age applies also to Housing Benefit for Pensioners and the Pension Supplement. The age thresholds to which the sickness and unemployment insurance apply are expected to be adjusted accordingly.
23. At the guarantee pension age, it is also possible to receive the housing benefit for the elderly while other working age benefits (sick insurance, disability insurance, unemployment insurance etc.) cease.
24. The target retirement age will be set six years before it will actually be applied, i.e. 67 was set on 1 July 2021 and will be applicable from 2027. Any further increase will need to be approved by the parliament.
25. In Greece, the one-to-one link of retirement age to life expectancy, which was legislated in 2010, has become effective in 2021. Partly thanks to this link (EC, 2021[37]) projects public pension expenditure to decrease by 2% of GDP between 2019 and 2070, from the highest level among EU countries at 15.7% of GDP in 2019.
26. Mandatory retirement regulations could allow employers to change employment conditions unilaterally upon reaching the mandatory retirement age. This is for instance the case in the wage peak system in Korea allowing older workers to continue employment at a lower wage level, or the requirement in Japan to offer a new, typically less generous, employment contract to workers whose employment contracts are automatically terminated when they turn 60.
27. The Constitutional Court suspended the implementation of these statutory provisions until its final decision. Moreover, the Norwegian Parliament is debating on abolishing the mandatory retirement age for public-sector workers, which takes a strict form as civil servants are obliged to resign from their position when reaching 70 – it is lower for some arduous occupations (e.g. policemen, firemen). In addition, in 2020, Japan increased the maximum age until pensions could be deferred, both for the basic and earnings-related pension, from 70 to 75 years, effective from April 2022. Australia increased from 65 to 67 the age until which it is possible to make voluntary contributions to occupational pensions (Superannuation) without working.
28. More precisely, retiring one, two or three years earlier will be allowed after 42, 43 or 44 years of work between ages 16 and 61, respectively. The benefit is equal to the amount of the full basic pension received at the normal retirement age and is subject to means-, earnings- and asset-testing.
29. In 2019, Austria removed penalties for early retirement for those who have contributed for at least 45 years, being effective from January 2020. In 2020 the penalties were restored (to be effective from 2022).
30. Two or three years of contributions for employees or the self-employed, respectively.
31. The penalty applies also for pensions received after the retirement age only if the early pension had been claimed for more than three years and the insurance record is shorter than 40 years, which is set to increase by 3 months every year until having reached 42 years and six months in 2031.
32. The new individual pension supplement (*Grundrente*) is classified as neither a basic pension nor a minimum pension because its amount increases with the amount of individual lifetime earnings. According to OECD definitions (Chapter 3), the level of a basic pension is independent of the earnings' level during the career. Minimum pensions either define a minimum for total contributory lifetime entitlements, which may increase in level once the length of the contribution period exceeds certain thresholds, or are based on minimum pension credits that calculate year-by-year entitlements of low earners based on a higher earnings level.
33. In Chile, older individuals who receive DC pension payments from programmed withdrawals faced, before this new measure, sharp drops in their benefits as they aged. From now on, the supplement, in the case of beneficiaries of the solidarity pillar, will offset drops of payments in programmed withdrawal plans as beneficiaries age, operating as a subsidised annuity.
34. Additionally, in 2021, the eligibility requirements to the minimum pension were tightened: validating one year of contribution requires reporting earnings of at least 24.1% of the average wage while before there was no earnings-related condition.
35. The relevant income refers to the taxable income and tax-free pension components as well as certain investment income not included in taxable income.
36. Without the new supplement, a single person who earned 40% of the average wage throughout a 35-year career, would receive an earnings-related pension of EUR 479 and a safety-net benefit of EUR 359 in 2020.

The new supplement would be EUR 419 and, thus, the total benefit would exceed the maximum income, of EUR 838, to qualify for the safety-net benefit. Hence, in this case, the supplement would increase the earnings-related pension by 88% and the total benefit amount by 7%. In a similar case, but with average earnings equal to 70% of the average wage, the earnings-related pension is EUR 838 and the new supplement at EUR 105 would increase the total pension amount by 13%.

37. https://www.deutsche-rentenversicherung.de/SharedDocs/Downloads/DE/Broschueren/national/grundrente_zuschlag_zur_rente.pdf?__blob=publicationFile&v=20

38. Moreover, from July 2020, pension, health and unemployment contributions for employees were merged into a single contribution at the unchanged rate of 18.5%. This change will not affect pension finances in the short term, as 54% of the new contributions will flow into pensions, which is equal to the previous 10% pension contribution rate.

39. *https://dziennikustaw.gov.pl/D2021000019001.pdf*.

40. Understanding this changes requires coming back to pension reforms introduced during the global financial crisis. In 2011, some fragmented state-backed occupational (auxiliary) pension schemes were unified and transformed from defined-benefit (DB) into notional defined contribution (NDC) while others remained pure private pensions without any guarantees form the states. In 2016, this unification process covered almost all auxiliary schemes. Yet, until 2016, the NDC rules applied only to entitlements accrued after 2014 which made the transition to NDC very slow.

41. Additionally, in September 2020, the ceiling to pensionable earnings was discretionarily raised by 4.8%.

42. As for 2020, the government pension subsidies are twofold: a universal contribution top up of 0.225% to everyone and a redistributive one (*social quota*) that is paid to those earning less than 3.6 times the average wage. The 2021 law assumes that the universal top up to contributions will disappear in 2023, while the redistributive part will apply only to earnings up to 170% of the average wage in 2023 and up to the average wage from 2024. Employees' contribution rate will remain unchanged at 1.125%, which means that the total contribution rate will increase from 6.5% to 15%.

43. *https://news.err.ee/1608327707/pensionikeskus-has-transferred-99-percent-of-second-pillar-funds*.

44. A person entering the labour market today at age 22 and with a full career at the average wage and at half the average wage is projected to have a gross replacement rate of 52% and 71%, respectively, if remaining in the funded scheme against 28% and 48% when opting out. When assuming a real rate of return of 1% per year – which is the actual number for Estonia on average in 2015-19 – instead of 3% in the OECD baseline assumption, the gross replacement rate for people remaining in the FDC would be 41% for average earners and 59% for low earners.

45. The result would be different for a person covered by a DC scheme instead of a DB scheme, which is possible in Colombia within mandatory earning-related pensions.

46. The decision on the indexation mechanism of the benefit would be taken in autumn of 2021.

47. The accrual rate for working the 41st, 42nd and 43rd years was decreased from 4% to 3% compared to the regular accrual rate of 1.36% for 15th through 40th years. The combination of higher accrual rates and mandatory deferral of 60% of benefits is close to actuarially neutrality.

48. After this chapter was sent to publication, in Spain a draft law has been presented to the Parliament according to which pensions in payment will be indexed to price inflation. The proposal includes a so-called Intergenerational Equity Mechanism based on an increase in the contribution rate of 0.6 p.p. (0.5 p.p. for employers and 0.1 p.p. for employees) up to 2032. The additional contributions will be accumulated in the public pension reserve fund, which will help mitigate the financial impact of the retired baby-boom generations.

49. The required funding ratio is dependent on the decisions social partners make on how they transition to a new contract. The 95% is a temporary (minimum) benchmark for as long as these decisions are not made.

50. *https://www.ipe.com/news/royal-mail-could-launch-first-uk-cdc-scheme-in-2022/10055078.article*.

51. *https://www.ipe.com/news/swiss-parliamentary-committee-shifts-to-alternative-reform-proposal/10054585.article?utm_campaign=468714_23.8.21%20ipe%20daily%20news&utm_medium=email&utm_source=IPE&dm_i=5KVE,A1NU,C5BZU,17DW3,1*.

52. *https://www.elcorreo.com/economia/tu-economia/nuevas-penalizaciones-jubilacion-anticipada-cantidades-aprobadas-gobierno-20210825195306-nt.html?ref=https%3A%2F%2Fwww.elcorreo.com%2Feconomia%2Ftu-economia%2Fbanco-espana-pensiones-clave-20210912135841-nt.html*.

53. *https://cincodias.elpais.com/cincodias/2021/08/24/economia/1629801448_838275.html*.

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ANNEX 1.A

Recent pension reform overview

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
Australia				July 2020, People aged 65 and 66 are no longer required to meet the 'work test' in order to make voluntary concessional (before tax) and non-concessional (after tax) contributions to their superannuation. To satisfy the work test, an individual must work at least 40 hours during a consecutive 30 day period in the financial year they make or receive the contributions. It continues to apply for individuals aged 67 to 74 years. May 2021 Accounts from Eligible Rollover Funds to be transferred to the ATO for consolidation with members' active accounts starting 30 June 2021 and finishing 31 January 2022.	May 2020 The asset condition used in the income test when calculating the old-age safety-net benefit (Age Pension) was reduced. Australia's deeming rules assume that a person will generate a fixed return from their financial assets, regardless of actual returns. This process forms part of Australia's income test, which is used to determine the rate of social security payments paid to recipients, including the Age Pension. The lower deeming rate was reduced from 1.0% to 0.25%, and the upper deeming rate was reduced from 3.0%to 2.25%. In 2021, the lower deeming rate applies to amounts up to AUD USD 53 600 for singles, and USD 89 000 for couples combined. The upper deeming rate applies to amounts above the aforementioned thresholds. These changes reduced income support recipients' deemed income, resulting in higher income support payments for many recipients.		2020 Pension Loans Scheme (PLS, similar to a reverse mortgage scheme).On 1 January 2020, the compound interest rate was reduced from 5.25% to 4.50% per annum. The reduced interest rate eases borrowing costs which are realised when the balance of the loan is repaid. 2021 In the 2021-22 Budget, the Australian Government announced changes to the PLS which will increase the flexibility of the scheme for recipients. From 1 July 2022, pending passage of legislation, the government will introduce a No Negative Equity Guarantee to the PLS, which means recipients will never have to repay more than the equity in the property used to secure the PLS loan. PLS recipients will also be able to access a portion of their annual PLS payment as an advance, capped at 50%of the annual maximum rate of Age Pension. The government will also raise awareness of the PLS to inform older Australians of how accessing the equity in their home can improve their living standards in retirement.

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
Austria	2020 As of January 2020, people with at least 45 years of (employment) contributions face no penalty when claiming a pension (early old age or invalidity pension) before the statutory retirement age. This possibility will end with the beginning of 2022 as this law was revoked one year later in November 2020, the penalties of 4.2% were reintroduced along with introducing the Early Starter Bonus, to be effective from 1 January 2022. The Early Starter Bonus grands a bonus to the pension for those who have at least 25 years (300 months) of active contribution due to employment to the pension system, who have worked between the age of 15 and 20 and have earned at least 12 months of active contribution due to employment in that stage of life. The benefit for the individual pension equals EUR 1 per month for every month worked before age 20 and will be at least EUR 12 for the minimum of one year and a maximum of EUR 60 for the maximum of 5 years. The Early Starter Bonus will be paid out monthly (14/year) with the pension benefit.		January 2021 Pension indexation in 2021 deviated from the rule (price indexation) for low and high pensions (CPI would be 1.5%): - Up to EUR 1 000: 3.5% EUR 1 000-1 400: linear decline from 3.5% to 1.5% EUR 1 400-2 333: 1.5% Above EUR 2 333: fixed increase of EUR 35				

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
Belgium			2021 Pension entitlements of the self-employed were increased without adjusting their contributions. So far, the pensions of the self-employed were set at 69% of those of employees to reflect the lower contribution rate paid by the self-employed compared employees. For periods of work starting from 2022 the 69% coefficient will be removed. The wage ceiling for the calculation of pensions of employees is increased by 2.38% as of the career year 2021.		2021 The minimum pension after a full career (45 years worked or credited) is gradually increased to EUR 1 500 net per month between 2021 and 2024. In 2021, social assistance benefits for older people were also increased by 2.58%.		
Canada			December 2020 The Quebec Government has approved legislation to introduce the Target Benefit Pension Plan (TBPP), an occupational pension plan that combines the specific features of an existing Defined Contribution (DC) and Defined Benefit (DB) plan. Employers and their employees must agree to form a TBPP and negotiate its core terms (Multi-employer TBPP is also available). As part of the negotiation, employers and employees must set target benefit levels for the plan.		July 2020 The government enhanced the GIS earnings exemption so that low-income seniors who work are able to keep more of what they earn. The enhanced exemption applies to both employment and self-employment income, and provides a full exemption on up to USD 5 000 of annual earnings, as well as a 50% exemption on the next USD 10 000 of earnings. 2021 The government introduced an increase to the regular Old Age Security (OAS) pension for seniors age 75 and older. This measure will be implemented in two steps: a one-time payment of USD 500 in 2021 and a permanent increase to the OAS pension for seniors 75 and over		

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
					by 10%, beginning in July 2022.		
Chile					Solidarity Pillar law was approved in December 2019: Starting in January 2020, new recipients of solidarity pension benefits under programmed withdrawals have full longevity risk coverage, so their total pension will not decrease over time. The formula that applied before only to pensioners with self-financed pension below the basic pension now applies to all new recipients. In these cases, the total pension amount is financed initially through the pensioners' remaining balance and later through public spending, when the retirement capital is exhausted. Additionally, the law established a 50% increase in the parameters PBS (basic solidarity pension) and PMAS (maximum pension with solidarity complement), over the following years, starting in December 2019. This increase will benefit both old and new PBS and APS (solidarity pillar top-up benefit) recipients. After the 50% increase, the PBS will be near the poverty line.		
Colombia	2020 The old-age safety net benefit (so called Colombia Mayor), was increased by 87% as a response to the COVID-19 and the increase is expected to remain permanent.						

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
Costa Rica			October 2020 Lump sum pay-outs of pensions are forbidden in the mandatory DC scheme (called ROP, Law 9 906)				October 2020 1.5% of contribution for mandatory DC scheme (ROP) are transferred directly to pension provider (OPC). Before this contributions transfer was deferred for up to 1 year (Law 9 906).
Czech Republic							
Denmark	December 2020 The parliament approved legislation for the introduction of a new early pension (tidlig pension) starting in 2022. From January 2022, those who have been employed for at least 42 years before the age of 61 will be able to receive a pension starting three years before the normal retirement age of 67. Early retirement is allowed up to one year after 42 years of service between the ages of 16 and 61, two years after 43 years of service, and three years after 44 years of service, with a benefit reduction of 4.2% per year. January 2020 An early retirement pension, known as the Senior Pension, was introduced for individuals who have lost the ability to work after a long career. The senior pension allows individuals who have at least 20 to 25 years of full-time employment (depending on						

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
	the occupations worked) and are unable to work more than 15 hours a week in their most recent jobs to receive a pension up to 6 years before the normal retirement age (currently age 65 and 6 months and gradually rising to age 67 by 2022 and to age 68 by 2030).						
Estonia				January 2020 (approved by the Constitutional Court in October 2020, coming into force in January 2021). The membership in the funded defined-contribution scheme (FDC), which used to be mandatory for people born in 1982 or later, became voluntary. Opting-out means that 4% out of 6% contribution rate to FDC remains in the public PAYGO scheme while the remaining 2% lowers the total mandatory pension contribution rate from 22% to 20%. Option-out allows withdrawing all assets from the scheme. Rejoing is possible 10 year after having opted out.			October 2020 (effective from September 2021) The participants of the second pillar will be able to manage their own investments. Currently, the second pillar of individual account savings are exclusively held in pension funds managed by professional fund managers.
Finland		2020 The right to pension assistance for the long-term	2020 Full national pensions are increased by EUR 34 and the guarantee pension by EUR 50				The act with the goal to promote the return to work of employees on disability pension, initially introduced

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
		unemployed is expanded on 1 October 2019 to persons born before 1 September 1958. Pension assistance is aimed at providing income security for elderly long-term unemployed persons living in Finland who have been unemployed for five years with no or few interruptions. The amount of the assistance is the same as guarantee pension.	per month as of the beginning of 2020.				in 2010 and extended a few times afterwards, was extended until the end of 2022. It is likely to be extended again until new rules are implemented in 2024.
France			October 2021 Social partners agreed to uprate the point value in the supplementary pensions AGIRC and ARRCO by 1% in November 2021, which is 0.5 percentage point below what the regular rule would imply.				
Germany			January 2021 Germany introduced an income-related pension supplement (Grundrente) as part of the first-tier old-age pension to those who have made compulsory contributions to the statutory pension insurance for at least 33 years on the basis of relatively low earnings throughout the whole working life. The number of points earned are doubled, but only to a maximum of 0.8 per year (corresponding to 80% of				

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
			the average income) for a maximum of 35 years. Only contribution periods with average earnings points of at least 0.025 per month (corresponding to 30% of the average income) are eligible. The specific provisions are complex. The full amount of the supplement is paid to pensioners with monthly relevant income (including salary, pensions, rental income, etc.) of up to EUR 1 250 for a single person or EUR 1 950 for a couple. With monthly relevant income above these amounts but not exceeding EUR 1 600 for a single person or EUR 2 300 for a couple, the supplement is reduced by 60% of monthly income above EUR 1 250 or EUR 1 950, respectively. No supplement is paid with monthly income greater than EUR 1 600 for a single person or EUR 2 300 for a couple.				
Greece		September 2021 A new fund for auxiliary pensions was established in Greece (Law 4826/2021). This new fund, called "Hellenic Auxiliary Pensions Defined Contributions Fund" will be effective on 1 January 2022 and will start replacing the existing mandatory NDC	2020 Law 4670/2020 modified annual accrual rates, being effective from 1.10.2019 onwards, as follows: from 30 to 32 years: 1.98% from 33 to 35 years: 2.50% from 36 to 39 years: 2.55% 40 onwards and every year: 0.50% Readjustment of auxiliary pensions introduced in May 2016 was abandoned and pension amounts were restored	January 2020, A new regime for the social security contributions is introduced for self–employed persons and farmers. Self–employed pay per month for the main insurance the fixed amount of the insurance category which choose, with minimum the amount of the 1st insurance category. Six insurance categories			March 2020 The Unified Agency for Auxiliary Social Insurance and Lump-sum Benefits (ETEAEP) were integrated as an Auxiliary insurance branch into the Unified Agency for Social Insurance (EFKA). The latter is renamed "digital National Agency for Social Insurance" (e-EFKA). All services provided by the e-EFKA are to be digitalised (L.4670/2020).

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
		scheme for auxiliary pensions. The new DC scheme will cover new entrants to the labour market while workers younger than 35 would be able to join voluntarily. Other workers and pensioners will not be affected as the decrease of contribution amounts paid to the NDC scheme will be covered by the state budget.	according to the 2014 rules (L.4670/2020 art.44). 2021 An advance payment of old-age pensions and temporary pensions were introduced for persons who applied for a pension: with 15 years and 67 years old, EUR 384; with 15 years and between 62 to 67 years old, EUR 360; with 20 years and age between 62 to 67, EUR 384; under 62 years old and with special pension requirements, EUR 360; Advanced payment for survivors and disability pensions is EUR 384. Survivors pensions for orphans changed: if a child has lost both parents the amount received is doubled (from 25% to 50%) and cannot fall short of the statutory minimum amount applied for survivors pension (EUR 345-384).	are available, and a special for new self – employed for the first 5 years of insurance. Farmers: pay per month for the main insurance the fixed amount of the insurance category which choose, with minimum the amount of the 1st insurance category. Six insurance categories are available. From 1 January 2020 the self – employed, free lancers, salaried engineers and the employed lawyers insured in the Unified Supplementary Insurance and Lump Sum Fund – ETEAEP (Auxiliary insurance branch of e-EFKA from 1-3-2020,-Law 4670/2020), pay per month for the supplementary insurance the fixed amount of the insurance category they choose, with minimum, the amount of the 1st insurance category. The employers of salaried engineers and employed lawyers, cover 50% of the monthly contribution (L. 4670/2020, art.45, L.4756/2020 art.35).			

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
Hungary			January 2021 The 13th month pension has gradually been introduced. Those persons are entitled who has been receiving for at least one day in the preceding year before the introduction (thus in 2020) and is receiving a pension benefits for January 2021. The amount of the extra one month pension equals to the amount of the benefit due for the month of January of the current year, paid at least for one day of the preceding year. The amount of the 13th month pension is gradually introduced, therefore in 2021 25% of the monthly amount, in 2022 50%, in 2023 75% and from 2024 onwards a full month extra pension is paid. The 13th month pension is paid to the entitled persons in February 2021 On the basis of the government decree No. 257/2021. (V. 19.) the minimum monthly amount of the orphan's allowance will be HUF 50 000 from 1 Jan 2022.	2020 The new Act CXXII of 2019 on Entitlements to Social Security Benefits and on funding these Services stipulates only one individual social security contribution (employees' contribution), aggregating the former individual contributions. The rate of the new, aggregated social security contribution is 18.5%. There are certain groups of people who pay 10% pension insurance contribution. Of the social security contribution received, the state tax authority shall allocate 54% (equals to the former rate cca. 10% out of 18.5%) to the Pension Insurance Fund as pension contributions, 37.9% to the Health Insurance Fund as health insurance contributions (equals to the former rate cca. 7% out of 18.5%), and 8.1% to the National Employment Fund as labour market contributions (equals to the former rate cca. 1.5%) on a daily basis. From 1st of July 2020 the social contribution tax (employers			

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
				contribution) was reduced from 17.5% to 15.5%. Due to the change in the legal background from 1 July 2020 all pensioners receiving a benefit on their own right and pursuing any kind of gainful activity are exempt from contribution payment obligation (and employers are exempt from the payment of social contribution tax as well), however they are still eligible for in-kind health care services.			
Iceland							
Ireland	December 2020 The Irish Government has suspended the planned increase in the State Pension Age (currently 66, scheduled to rise to 67 in 2021 and 68 in 2028), pending a report from the Commission on Pensions (published in October 2021) and consequent Government consideration.		February 2021 The government introduced a benefit payment for people aged 65 who have ceased regular employment or self-employment and satisfied the (PRSI) contribution conditions. The benefit stops when the State Pension Age (currently 66) is reached. The rate of payment is EUR 203 per week (same rate as Jobseeker's Benefit) with an increase for dependants.				A Commission on Pensions has been set up to examine sustainability and eligibility issues in respect of the State Pension and the Social Insurance Fund. The Pensions Commission's Report was published on 7 October 2021. The report has been referred to a Cabinet Committee, a Joint Oireachtas Committee and the Commission for Taxation and Welfare for consideration over the following six months. This is with a view to bringing a recommended response and implementation plan

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
							to Government by the end of March 2022.
Israel							2020 In January 2020, elderly disabled people received an additional NIS 190 to their monthly pension. As of January 2021, this amount was updated to NIS 379.
Italy	January 2021 The government extended an early retirement option for women: women who are 58 years of age or older by the end of 2020 (59 years or older if they are self-employed) and have at least 35 years of contributions may choose an early retirement option in 2021. The government extended the Early Retirement Allowance programme. Unemployed, disabled, a care-giver or a hardship worker who have contributed for more than 30 years (a hardship worker in 36 years) will receive an old-age pension from the age of 63. (until 2021) Extended an early retirement option for restructuring. Employees of overstaffed firms can retire up to 7 years before the normal retirement age if the firms have negotiated special agreements with their unions and the government to restructure (until 2023).			January 2021 The government waived employer contributions for certain younger hires, and certain women hires. Employers are exempt from paying a maximum annual contribution of EUR 6 000 per person if they hire a person under the age of 35 under an open-end employment contract in 2021 or 2022. Employers who hire unemployed women in 2021 and 2022 will be exempt from paying up to EUR 6 000 per person per year in contributions. The government temporarily reduced employer contributions in economically depressed regions.			

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
Japan	May 2020. From April 2022, it will be possible to defer the claim until 75 years old under the National Pension System, the Employees' Pension System (EPS) and defined contribution pension schemes. Before the amendment, receiving old-age pension benefits can be deferred until being 70 years old.	May 2020. From October 2022, the coverage of the Employees' Pension System (EPS) will be expanded to workers employed by unincorporated firms which provide professional attorney and advisory services such as legal or accounting firms. The coverage of Employees' Pension System (EPS) for part-time employees will be expanded to companies with more than 100 full-time employees in October 2022 and more than 50 full-time employees in October 2024. Before the amendment, part-time workers who meet the requirements such as working hours of 20 hours or more per week and earnings of JPY 88 000 or more per month are covered by the only employed by companies with more than 500 full-time employees. From May 2022, the age requirement for	May 2020. From April 2022, with regard to the employees' old-age pension paid to people aged 60 to 64, the threshold for the total amount of wages and monthly pension, over which the pension is reduced as income increases, will be raised from JPY 280 000 to JPY 470 000. From April 2022, the old-age employees' pension amount will be recalculated once a year, even while the beneficiary is still working. Before amendment, if a beneficiary continues to work after retirement age, the old-age employees' pension amount is recalculated only at the time of termination of employment or on reaching the age of 70, taking account of the insured period after the normal retirement age\	May 2020 From September 2020, the ceiling of wage on which the Employees' pension contributions are levied has been raised from JPY 620 000 to JPY 650 000 per month.			

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
		joining defined contribution pension plans will be extended as follows: corporate defined contribution: from under 65 to under 70; individual defined contribution: from under 60 to under 65.					
Korea				November 2020 The maximum number of years that could be contributed at a later date when paying contributions to the National Pension Plan was set at 10 years. Previously, there was no limit.			
Latvia					2020 The minimum old age pension calculating base was set at EUR 80 (for persons with disabilities since childhood – EUR 122.69). Previously minimum base was equal to state social security benefit (EUR 64.03, for persons with disability since childhood – EUR 106.72). The amount of the state social security benefit is used to calculate the minimum disability pension by applying a coefficient – 1.6 for persons with I disability group and 1.4 for persons with II disability group. From 2021, the minimum base for calculating old-age	Non-taxable minimum for pensioners is gradually increasing: from EUR 270 in 2019, to EUR 300 in 2020, and to EUR 330 in 2021. There is also an additional tax relief for persons with disability (EUR 154 for persons with I, II disability groups, EUR 120 for persons with III disability group), politically repressed persons (EUR 154) and for a dependent (EUR 230	

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
					pensions is set at EUR 136 (25% of median income), for persons with disabilities since childhood EUR 163 (30% of median income). The amount of the minimum old-age pension has changed: it is equal to 1.1 times the base for the first 15 years plus 2% of the base for each subsequent year. Therefore, the minimum monthly amounts vary from EUR 149.60 in case of 15 years of insurance to EUR 247.52 in case of 51 years of insurance. For those with disabilities since childhood, the minimum monthly amounts vary from EUR 179.30 in case of 15 years of insurance to EUR 296.66 in case of 51 years of insurance.	in 2019, EUR 250 in 2020/2021).	
Lithuania			January 2021 Pensions are subject to a reduction by 0.32% for each full month remaining until the date when the person reaches the old-age pension age. The amount of the old-age pension is not reduced if the person has received the early old-age pension for no more than 3 years and the record of pension insurance is at least 40 years when person applies for the early old-age pension (from 2022 the requirement of the record of pension insurance annually is increased by 3 months until it will reach 42 years 6 months in 2031). Since July 2021, a new benefit for single pensioners (old age and disabled) not receiving		January 2020 The social assistance pension base is calculated as 56% of minimum consumption needs in the previous year (EUR 140 in 2020 and EUR 143 in 2021). The minimum social assistance pension is set to 100% of social assistance pension base. This tying of the social assistance pension base with the amount of minimum consumption needs entails indexation to prices in the future. Recipients of statutory old-age pensions whose pensions are less than 100% of the amount of the minimum consumption needs (EUR 260 per month for 2021) are eligible to receive a pension supplement from the state budget. Supplements for		

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
			survivor pensions is gradually introduced. In 2021, the new benefit is covering only poorest pensioners: the receivers of social assistance pensions or pension supplements. Since 2022 the benefits will cover all lonely pensioners (old age and disabled). The system will function in parallel with the widows/ers pensions providing the same amount for both – widows/ers and lonely pensioners. The amount in 2021 will be EUR 28.63 and in 2022 – EUR 32. The decision on the indexation mechanism of the benefit will be taken in autumn of 2021.		small social insurance pensions – top up to the ceiling (100% of minimum consumption needs) depends on service years (full amount with obligatory service years requirement; minimum amount with 15 years minimum requirement).		
Luxembourg							
Mexico			January 2021 The minimum work period in regular employment to access pension was reduced from 1 250 to 750 weeks. However, 25 weeks will be added per year, and from 2031 the minimum work period will be 1 000 weeks.	January 2021 The employer contribution rate for contributions to individual pension investment accounts will be based on salary level, and will increase from the current level of 5.15% to 13.875% between 2023 and 2030. The workers' contribution will remain unchanged at 1.125%. The government contribution rate previous, and until year 2023 is 0.225% of the salary, plus the "social quota" which is a fixed amount depending on the salary level up to 15	December 2020 The guaranteed (minimum) fixed-rate pension was redefined to depend on past earnings, the number of weeks paying contributions, and the age upon retirement. There is a non-contributory and non-means testing pension paid for all Mexican people above 68 years old, and from 65 years old to the indigenous and African-Mexican people. The President announced in March of 2021 that since July 2021, the benefit will be paid to all Mexican people above 65 years old, and will have increase gradually by 75% in real terms by 2024, to be approved by the parliament.	December 2020 Fees of pension funds managers (AFORE) which used to be defined in terms of the market's conditions was changed. The new rule states the fees cannot be higher than the average of the fees from the 3 countries: United States, Colombia, and Chile.	

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
				UMA. The government's fixed rate will disappear in year 2023 and the "social quota" will be paid on salaries below 7.09 UMA, also a fixed amount depending on the salary level, and from year 2024 the "social quota" will be only for salaries below 4 UMA, also a fixed amount depending on the salary level. The fixed amounts are increased in March, June, September and December of each year, according to the quarterly inflation rate.			
Netherlands	December 2020 The retirement age was scheduled to increase from 66 to 67 in 2021, but the Dutch Parliament postponed this change to 2024. As of 2025, the retirement age will increase by 2/3rds of the increase in life expectancy instead of 1-to-1.						
New Zealand					November 2020 Qualified superannuitants no longer have the option to include their partner (who does not qualify) in their rate of New Zealand Superannuation or Veteran's Pension. People already including their non-qualified partner can continue to do so. A superannuitant's New Zealand Superannuation or Veteran's Pension is no		

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
					longer reduced because their partner has an overseas pension that exceeds that partner's entitlement to a New Zealand benefit or pension. A single superannuitant who lives alone in a self-contained mobile home is now entitled to receive the single living alone rate. These changes were originally scheduled for July 2020, but delayed due to COVID-19.		
Norway			2021 Reform of the survivors' benefits in the National Insurance Scheme has been approved by the Storting and will be implemented in 2023 or 2024. Main changes include: - The current permanent survivor's pension for persons under the age of 67 will be replaced by a time-limited adjustment benefit. The benefit will no longer be calculated as a pension on the basis of the deceased's earnings, but determined at a fixed level approximately corresponding to the current minimum level. The new benefit will be taxed as salary and reduced to the survivor's earned income. An activity requirement will be introduced. - Children's pension is significantly improved. - Current supplements to survivors' old-age pension or disability benefit will be phased out over time.		September 2019 The minimum pension level (special rate for single pensioners) was raised by NOK 4 000. December 2020 A decision was made to further increase the minimum pension by NOK 4 000 as a lump sum. February 2021 It was decided that the amount of NOK 4 000, adopted in December 2020, should be sustained as a permanent increase in the minimum pension level for single persons from January 2021, in addition to the regular indexation for 2021, and that the minimum pension level (special rate for single pensioners) should be raised again by NOK 5 000 from July 2021.		January 2021 Rules on "individual pension accounts" in private defined contribution schemes were set into force. The rules facilitate collection of pension accrual from various DC schemes on a single account and introduces increased freedom of choice in the management of pension capital.

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
			In 2021, pensions in payment were indexed to the average wage growth while the indexation rule indicated an indexation to the average wage growth minus 0.75 percentage points.				
Poland			January 2020 The government introduced an additional annual cash benefit for all pensioners (the so-called 13th pension) equal to the minimum old-age pension on 1 March. In 2020, the minimum pension was PLN 1 200 gross. In 2021 amount 13th pension will be PLN 1250.88 gross. March 2021 A one-off benefit, the so-called 14th pension in the amount of the lowest old-age pension, was introduced. In November 2021, benefits of PLN 1, 250, 88 gross were paid to pensioners whose pensions did not exceed PLN 2 900. People whose pensions were higher than PLN 2 900 received reduced amounts. 2020, at 100% withdrawal rate. September 2021 Calculation of pensions granted in June was adjusted to make sure that they are not lower compared to those granted in May. In previous years, the quarterly indexation of notional accounts did not apply to those retiring in June; the yearly indexation applied instead but people retiring in June could have received lower pensions	February 2020 The government reduced the social security contributions for self-employed workers (the so-called "Little ZUS plus") whose annual income was lower than PLN 120 000. Their contributions are based on 50% of income (before deducting any costs) as opposed to 100% of profits.		October 2019 The income tax rate in the first income bracket (which covers most pensioners) was reduced from 18% to 17%.	October 2019 Persons incapable of independent existence, including retirees and pensioners, receive a supplementary benefit of maximum PLN 500 per month. The supplementary benefit and the old-age / disability pension may not exceed the amount of PLN 1, 772, 08 gross per month in 2021 (PLN 1 700 in 2020, PLN 1 600 in 2019). The supplementary benefit is intended to provide additional financial support to people with disabilities due to increased costs related to nursing, rehabilitation and medical care.

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
			than those retiring in other months.				
Portugal			May 2020 Extraordinary pension indexation. Pensions indexed between 2011 and 2015 were increased by EUR 6.00; pensions not updated between 2011 and 2015 increased by EUR 10. In 2021, pensions were not indexed according to legal framework; pensions up to 1.5 x IAS (EUR 658, 20) increased by EUR 10.				
Slovak Republic	December 2020. The Slovak Government removed the cap on the retirement-age increases at 64. The future pathway for retirement age is to be enacted the by parliament in the next 2 years. Currently, the retirement age is increased by 2 months a year until the retirement age reaches 64 years. Increasing the retirement age by two months mirrors the trend in the change of the life expectancy in the Slovak Republic. The retirement age for mothers was lowered by at least 6 months for each child, up to three children.		April 2020 The government introduced an additional pension payment (13th pension), equal to the average pension, at EUR 460 in 2020, to replace the so-called Christmas bonus. The new 13th pension amount has been set at the average pension amount for each type of pensions (e.g. old-age pensions, disability pensions). If one receives more than one pension benefit (for example old-age and survivor pension), he or she is entitled only to the higher of the two 13th pensions. All pensioners will receive the new benefits while, before, only pensioners with their benefits lower than 65% of the average wage were eligible. November 2020 The new 13th pension was reduced especially for high pensions: at EUR 300 only for those with pension below EUR 214.83 and decreasing to		2020 The minimum pension for individuals with 30 years of contributions was set at 33% of the average wage two years before. For each extra year of contributions, the minimum pension increases by 2% of the subsistence level threshold up to 39 years of career and by 3% thereafter. October 2020 Effective from January 2021, the mechanism determining the minimum pension is dropped, and their amounts are frozen at the level of 2020. Additionally, from 2021, only those years with contributions from a contributory base above 24.1% of the average wage are taken into account to determine the minimum pension amount.		

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
			EUR 50 for pensions higher than EUR 909.30.				
Slovenia			December 2019 A reform increased men's total accruals from 57.25% to 58.50% in 2020, to 59.50% in 2021 and then gradually to the women's level of 63.50% by 2025. A pension bonus for having children, at 1.36% accrual per child up to three children, was introduced. The restrictions on combining work and pensions were eased: when working full time after having met the eligibility conditions to pensions, 40% pension can be claimed for the first 3 years and 20% thereafter. Before, only 20% of pensions could have been claimed. The additional accrual for working 41st, 42nd and 43rd years was decreased from 4% to 3% compared to the regular accrual rate of 1.36% for 15th through 40th years. May 2021 The Act Amending The Pension and Disability Insurance Act has shortened the transitional period for the gradual equalisation of the assessment scale by gender from 2025 to 2023. That increased men's total accruals to 61.50% in 2022 and 63.50% in 2023.		December 2019 The minimum pension is set at 29.5% of the minimum pension base and from 1 May 2021 amounts to EUR 279.56, and will continue to be adjusted in the same way as pensions. The guaranteed pension for beneficiaries of an old-age or disability pension with at least 40 years of completed pension period from 1 May 2021 onwards amounts to EUR 620.00. Furthermore, the guaranteed pension will be co-ordinated in the same way as pensions. From 1 May 2021 onwards, the lowest disability pension is set at 41% of the minimum pension base, amounting to EUR 388.54. This pension will continue to be adjusted in the same way as pensions.		December 2020 A requirement to provide a justified reason when dismissing an employee who has met eligibility conditions to the old-age pension was removed. However, the implementation of this amendment, which effectively introduces the mandatory retirement age, is uncertain as it has been appealed in the Constitutional Court on the ground of discrimination. The Constitutional Court suspended the implementation of these statutory provisions until its final decision.
Spain			February 2021 The government introduced a new pension supplement for parents receiving old-age, disability, and survivor pensions.		June 2020 The Social Security implemented the Minimum Vital Income. The Minimum Vital Income is a benefit aimed at preventing the risk of poverty		

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
			The new supplement starts from a fixed amount of EUR 378/year, per child, up to a maximum of 4 children.		and social exclusion of people who live alone or are integrated in a cohabitation unit and lack basic economic resources to cover their basic needs. In general, the guaranteed income was set at EUR 469.93 per month for an adult person living alone. In the case of a cohabitation unit, this amount is increased by EUR 140.98 per month for each additional person, adult or minor, up to a maximum of EUR 1 033.85 per month. In addition, for single-parent families, a supplement of EUR 103.39 is added.		
Sweden	January 2020 The government increased the earliest age to draw public contributory pensions from 61 to 62 years and the mandatory retirement age was increased from 67 to 68 in 2020 and to 69 in 2023. The planned further reforms require enacting amendments to the law: - increasing minimum retirement age to 63 in 2023 and to 64 in 2026; - increasing the minimum age to access the basic pension from 65 to 67 by 2026; - introducing a “target retirement age”; the target retirement age will undergo annual review, but any increase would take effect 2026 later and remain				2021 The government introduced a new pension supplement to increase monthly pensions between SEK 9 000 and SEK 17 000 (between 23% and 44% of gross average wage, respectively) by up to 6.7%. This benefit will be paid to people who receive none or a small amount of the basic pension, which is fully withdrawn when monthly earnings-related pension exceeds SEK 12 529 (in 2020).		

Annex Table 1.A.1. **Pension reform decided between September 2019 and September 2021**

	Retirement age	Coverage	Pension benefits	Contributions	Minimum and basic pensions, income and means testing	Taxes and fees	Other
	unchanged for at least three years; - linking all retirement ages to changes in life expectancy.						
Switzerland							
Turkey			April 2021 A holiday bonus amount was increased to TRL 1 100 for each holiday to total of TRL 2200.				
United Kingdom							February 2021 A legal framework to establish and operate occupational CDC schemes was enacted. Government tightened abuse rules for pension schemes by the Pensions Regulator's powers. Government strengthened the Pensions Regulator's ability to take stronger, more effective, action to protect members' pensions of Defined Benefit Pension Schemes.
United States							

ANNEX 1.B

Results of the Bai – Perron test

Annex Table 1.B.1. **Yearly change in life expectancy at age 65, in years**

The reported measure indicates the average change for each sub-period during which no break is identified

Country	Women					Men					
		Break1	Break2	Break3	Break4		Break1	Break2	Break3	Break4	Break5
Australia	1955-72	1973-82	1983-2008	2009-19		1955-70	1971-93	1994-2008	2009-19		
	0.06	0.12	0.16	0.08		0.00	0.14	0.20	0.16		
Austria	1955-70	1971-80	1981-2019			1955-71	1972-81	1982-96	1997-2008	2009-19	
	0.06	0.17	0.13			-0.01	0.10	0.15	0.19	0.10	
Belgium	1955-72	1973-93	1994-2019			1955-73	1974-84	1985-2019			
	0.06	0.16	0.11			-0.02	0.10	0.15			
Canada	1955-63	1964-82	1983-99	2000-10	2011-19	1955-66	1967-75	1976-97	1998-2010	2011-19	
	0.09	0.13	0.07	0.13	0.09	0.01	0.05	0.10	0.19	0.13	
Chile	1993-2003	2004-19				1993-2019					
	0.15	0.09				0.12					
Czech Republic	1955-63	1964-86	1987-2019			1955-66	1967-95	1996-2019			
	0.10	0.02	0.15			-0.03	0.03	0.17			
Denmark	1955-63	1964-78	1979-98	1999-2019		1960-95	1996-2006	2007-19			
	0.07	0.14	0.03	0.15		0.00	0.11	0.19			
Estonia	1960-94	1995-2019				1955-63	1964-72	1973-86	1987-95	1996-2009	2010-19
	0.03	0.19				0.00	-0.05	0.02	0.13	0.17	0.12
Finland	1955-67	1968-81	1982-93	1994-2008	2009-19	1955-69	1970-93	1994-2008	2009-19		
	0.05	0.20	0.11	0.18	0.09	0.01	0.11	0.19	0.13		
France	1955-72	1973-82	1983-91	1992-2010	2011-19	1955-74	1975-2019				
	0.11	0.15	0.18	0.14	0.08	0.05	0.14				
Germany	1991-2002	2003-07	2008-11	2012-19		1991-2010	2011-19				
	0.17	0.13	0.10	0.06		0.17	0.09				
Greece	1982-87	1988-99	2000-11	2012-19		1982-88	1989-97	1998-2002	2003-11	2012-19	
	0.08	0.11	0.15	0.09		0.05	0.08	0.11	0.14	0.10	
Hungary	1955-64	1965-85	1986-96	1997-2010	2011-19	1955-63	1964-82	1983-94	1995-2019		
	0.10	0.03	0.10	0.13	0.07	0.01	-0.04	0.04	0.10		
Iceland	1955-68	1969-78	1979-94	1995-2019		1955-69	1970-78	1979-91	1992-2019		
	0.03	0.18	0.05	0.08		0.00	0.09	0.04	0.13		
Ireland	1955-76	1977-98	1999-2009	2010-19		1955-79	1980-96	1997-2010	2011-19		
	0.06	0.11	0.22	0.14		0.00	0.08	0.25	0.18		
Israel	1984-90	1991-98	1999-2009	2010-19		1984-98	1999-2010	2011-19			
	0.18	0.15	0.17	0.14		0.11	0.17	0.12			
Italy	1955-76	1977-2007	2008-19			1955-70	1971-80	1981-2019			
	0.10	0.16	0.08			0.00	0.05	0.15			
Japan	1955-63	1964-73	1974-2003	2004-19		1955-64	1965-73	1974-85	1986-2019		
	0.08	0.17	0.22	0.11		0.05	0.15	0.19	0.12		
Korea	2004-10	2011-19				2004-12	2013-19				
	0.31	0.24				0.26	0.25				

Annex Table 1.B.1. **Yearly change in life expectancy at age 65, in years** *(cont.)*

The reported measure indicates the average change for each sub-period during which no break is identified

Country	Women					Men					
		Break1	Break2	Break3	Break4		Break1	Break2	Break3	Break4	Break5
Latvia	1960-94	1995-2004	2005-19			1960-77	1978-95	1996-2005	2006-19		
	0.01	0.10	0.15			-0.05	-0.03	0.07	0.12		
Lithuania	1960-68	1969 – 1994	1995-2019			1960-68	1969-94	1995-2008	2009-19		
	0.08	0.01	0.11			0.01	-0.04	0.04	0.09		
Luxembourg	1961-74	1975-2011	2012-19			1961-74	1975-97	1998-2011	2012-19		
	0.07	0.16	0.11			-0.02	0.13	0.20	0.14		
Netherlands	1955-71	1972-83	1984-2000	2001-10	2011-19	1955-74	1975-97	1998-2019			
	0.10	0.15	0.04	0.13	0.06	-0.02	0.06	0.18			
New Zealand	1955-64	1965-2019				1955-69	1970-80	1981-89	1990-2010	2011-19	
	0.02	0.10				-0.03	0.06	0.12	0.20	0.16	
Norway	1955-69	1970-87	1988-99	2000-19		1955-69	1970-90	1991-99	2000-19		
	0.04	0.10	0.15	0.13		-0.06	0.04	0.13	0.18		
Poland	1959-76	1977-93	1994-2010	2011-19		1959-93	1994-2019				
	0.07	0.03	0.17	0.10		0.01	0.13				
Portugal	1955-72	1973-2019				1955-73	1974-99	2000-10	2011-19		
	0.04	0.15				0.02	0.11	0.18	0.12		
Slovak Republic	1955-63	1964-89	1990-2000	2001-09	2010-19	1955-63	1964-72	1973-86	1987-95	1996-2004	2005-19
	0.11	0.04	0.09	0.13	0.16	0.02	-0.06	-0.01	0.03	0.09	0.15
Slovenia	1984-2011	2012-19				1984-2000	2001-12	2013-19			
	0.18	0.12				0.12	0.22	0.15			
Spain	1955-73	1974-84	1985-2010	2011-19		1955-73	1974-84	1985-2000	2001-10	2011-19	
	0.10	0.18	0.15	0.12		0.05	0.13	0.10	0.16	0.13	
Sweden	1955-63	1964-75	1976-84	1985-95	1996-2019	1955-71	1972-80	1981-90	1991-2019		
	0.10	0.13	0.12	0.10	0.09	0.01	0.04	0.10	0.14		
Switzerland	1955-68	1969-80	1981-89	1990-2009	2010-19	1955-68	1969-93	1994-2009	2010-19		
	0.11	0.18	0.15	0.12	0.08	0.04	0.11	0.17	0.14		
United Kingdom	1955-76	1977-98	1999-2010	2011-19		1955-70	1971-79	1980-95	1996-2010	2011-19	
	0.07	0.10	0.16	0.08		0.02	0.06	0.12	0.21	0.11	
United States	1955-2019					1955-68	1969-98	1999-2010	2011-19		
	0.08					-0.01	0.10	0.16	0.09		
OECD	**1955-70**	**1971-79**	**1980-95**	**1996-2010**	**2011-19**	**1955-71**	**1972-88**	**1989-97**	**1998-2010**	**2011-19**	
	0.07	**0.11**	**0.09**	**0.14**	**0.11**	**0.00**	**0.07**	**0.10**	**0.16**	**0.13**	

Note: The breaks are significant at the 99% confidence level. To limit interferences from short-term fluctuations in change in life expectancy, the breaks are estimated on the Hodrick-Prescott filtered trend series (lambda=100).
Source: Human Mortality Database (2020), *https://www.mortality.org*.

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