An Roinn Airgeadais
Department of Finance

2021 AGEING REPORT: IRELAND COUNTRY FICHE

JANUARY 2021

Contents

Section 1: Overview of the pension system

This section gives an overview of the pension system in Ireland and the main changes since the last ageing report, published in spring 2018. While there are sizable private pensions in Ireland, the focus here remains on public pension coverage and costs.

1.1: Description

The Irish pension system is a multi-pillar pension system.

Pillar 1: Social welfare/security pensions (State Pension)

The first pillar relates to the State Pension, or social welfare pension, a pay-as-you-go pension system administered by the Department of Employment Affairs and Social Protection (DEASP). These pension costs are the main focus of this report, although account is taken for the public service component of Ireland's second pillar (see below).

Pillars 2 and 3: Supplementary pension schemes

The second pillar consists of occupational pensions including the non-funded public service occupational pension scheme and private sector occupational schemes. The third pillar is made up of privately funded personal or voluntary pensions. While the public service occupational component of these pillars is included in this report, no projections are made for private sector occupational schemes or privately funded personal pension schemes. That said, these schemes continue to play an important role in the Irish pension system. At the end of 2019, the value of Irish pension funds stood at €119.3 billion (33.5 per cent of GDP) up from €103.6 billion at the end of 2018. Savings in defined benefit schemes amounted to €73.3 billion (61.4 per cent of total scheme value) and assets in defined contribution schemes totalled €46.0 billion (38.6 per cent of total scheme value).

The Pensions Authority's 2019 annual report states that there were 105,712 contributing members to private sector defined benefit schemes and 381,430 members in defined contribution schemes.[1]

The State Pension is designed in the first instance to provide basic protection against poverty in retirement. As set out in the Roadmap for Pensions Reform, 'as the 'first pillar', the State Pension is intended to be combined with individual retirement savings in the form of 'second pillar' occupational pensions and/or 'third pillar' personal pensions (Department of Employment Affairs and Social Protection, 2018).[2] However, recent analysis suggests four out of ten current workers in Ireland do not have a supplementary pension, i.e. a second or third pillar pension. Of those without a supplementary

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[1] https://www.pensionsauthority.ie/en/about_us/annual_reports/the_pensions_authority_annual_report_and_accounts_2019.pdf

[2] Department of Employment Affairs and Social Protection (2018). "The Roadmap for Pensions Reform 2018-2023". Available at: https://www.gov.ie/en/publication/29056f-pensions-roadmap-2018-2023/

pension, approximately 60 per cent indicated they would rely on the State Pension as their sole income during retirement.[3]

1.1.1 Social Security Pensions

Under the first pillar, the State Pension provides flat rate payments based on two types of schemes - Social Insurance and Social Assistance.

Social insurance pension benefits are contributory pensions based on an individual's record of paying Pay Related Social Insurance (PRSI).[4] In contrast, social assistance pensions are non-contributory and are available on a means-tested basis for those with insufficient PRSI contributions.

Overall pension payments are financed through a combination of social insurance contributions from employers, employees and the self-employed as well as general taxation. As regards the former, employers and employees PRSI contributions go into the Social Insurance Fund (SIF) which is managed by both the Minister of Finance and the Minister of Employment Affairs and Social Protection.[5]

For an individual to qualify for a State Contributory Pension (SCP), a number of conditions must be met. First, the State Pension Age (SPA), the age at which an individual can receive a State pension is 66.. Second, the person must have begun paying PRSI before the age of 56 and must have a minimum number of weekly contributions (260 or more), and a yearly average of at least 10 contributions.[6] The SCP is not means tested.

In the event that a person is not eligible for the SCP, then an application for the Non-Contributory State Pension (SNCP) can be made. The qualifying conditions for the SNCP include a minimum age requirement (the SPA), a habitual residency requirement and a means test.

In 2020, the maximum weekly payment rate for the SCP was €248.30 and €237.00 for the SNCP. The weekly SCP rates are graduated downwards depending on a persons (social insurance) payment history.[7] SNCP rates are means tested.

Aside from the maximum levels of weekly payment, a person can receive additional monies in respect of having qualified adult and child dependants, with higher rates also payable to those aged 80 and over.[8]

There are also a range of supplementary benefits available to State Pension recipients. These include policy measures such as fuel allowances, free travel, free television licence and utility (including telephone) allowances. These benefits are subject to qualifying conditions. Furthermore, there are also

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[3] https://www.cso.ie/en/releasesandpublications/ep/p-pens/pensioncoverage2019/
[4] Most employers and employees (over 16 years of age and under the state pension age, 66 in 2020) pay social insurance (PRSI) contributions into the Social Insurance Fund.
[5] The Social Insurance Fund is projected to fall into deficit over the long term as a result of ageing.
http://www.welfare.ie/en/Pages/Actuarial-Review-of-The-Social-Insurance-Fund-31-December-2015.aspx
[6] Contributions paid or credited from 1953 or from the date of entry into social insurance. A yearly average of 10 contributions entitles you to a minimum pension, a yearly average of 48 contributions is needed to get the maximum pension.
[7] Payment rates are set out in Annex 4.
[8] Recipients receive an extra allowance of €10 per week when they reach 80 years of age.

allowances for persons living alone (although these are much smaller in scale relative to the main payments).

In Ireland, social security pensions are not taxed at the point of payment as they are below the minimum tax threshold. However, where appropriate, such payments may be included in income tax assessments in conjunction with any other income and taxed accordingly.[9]

1.1.2   Public service occupational pensions

Public Service Occupational (PSO) pensions take the form of *defined benefit* schemes. For existing retirees and for staff hired up to end-2012, these schemes deliver set payments based on the individual's final salary. The benefits (pension and retirement lump sum) are calculated by reference to the individual's salary level at retirement and their length of service. There are three basic distinctions applied depending on when public servants were hired. These are:

- Persons hired up to 5 April 1995

- Persons hired on or after 6 April 1995 up to end-December 2012

- Persons hired since 1 January 2013.

Depending on which group a person belongs to, pension payments vary.

In brief, **for those that were hired pre-1995**, retirement benefits are accrued at:

- pension of 1/80th of final salary per year of service (maximum pension 40/80ths, i.e. half pay);

- retirement lump sum of 3/80ths of final salary per year of service (maximum lump sum 120/80ths).[10]

For the middle group, those hired between 1995 and 2012, the same retirement lump sum accrual applies as for the pre-1995 cases. However, pension accrual arrangements differ:

- 1/200th of final salary per year of service up to a salary point ceiling of 3.33 times the value of the SCP;

- 1/80th of final salary per year of service on the portion of final salary (if any) above 3.33 times the value of the SCP.

This group pays PRSI and qualifies for the SCP. This overall integrated pension outcome means that this group receives the SCP (at a full or reduced rate) on top of the public sector occupational pension.

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[9] There is no mechanism for taxing social welfare pensions at source. An individual's other source of income determines how tax is levied. The most common situation is where a pensioner has both an occupational pension and a social welfare pension. If the occupational pension is paid from within Ireland, it is taxed by PAYE in the same way as a wage or salary. This means that tax credits are received in the normal way. In order to tax an individual's social welfare pension, annual tax credits are reduced by the tax liability on the social welfare pension. This means tax is effectively paid on both pensions, but it is collected from the occupational pension. The technical term for this is *coding in* of credits. The same arrangement applies if you have income from a job and a social welfare pension.
[10] Pre-1995 public servants usually pay a lower rate of PRSI but do not qualify for the full range of social insurance benefits; in particular eligibility for the SCP.

The third group, those hired from 1 January 2013, are designated as members of the Single Public Service Pension Scheme. This was a radical departure from the pre-existing pension schemes, notably on account of the fact that members accrue pension benefits based on *career average* earnings, rather than on final salary.

The Single Public Service Pension Scheme (Single Scheme) is a defined benefit pension scheme, with retirement benefits based on career-average earnings rather than final salary. The Single Scheme applies to all new entrants to the public service from 1 January 2013 (including civil servants, teachers, healthcare workers, local government employees, police, military personnel, parliamentarians, judges).

The main features of the scheme include:

- Benefits based on career average earnings rather than final salary - individuals accrue annual pension and lump sum 'referable amounts' each year. These are 'banked' and revalued annually until retirement, in line with inflation increases (Consumer Price Index), to produce the pension and lump sum on retirement.

- A new minimum pension age of 66, linked to the SPA.

- A maximum retirement age of 70.

- A facility for early retirement from age 55 on a cost-neutral (actuarially reduced) basis.

- Post-retirement pension increases for Single Scheme members are linked to CPI rather than wage movements of existing public servants.

A significant and growing reduction in longer-term pension costs is therefore envisaged once this cohort begins to retire.

Compulsory retirement ages vary across the three different groups of existing public servants. In general, for those public servants who joined prior to 1 April 2004 the compulsory retirement age is 65. For those who joined between 1 April 2004 and 31 December 2012 there is no compulsory retirement age. Finally, for those who joined since 2013 the compulsory retirement age is 70 years.[11]

Public service pension rates are not formally indexed (to inflation or average earnings) but historically have been linked to the pay increases of equivalent public service grades. Indeed, at the beginning of the last decade, when reductions to the pay levels of the majority of public services were applied in response to the great economic crisis, deductions were also made to public service pension payments. However, for members of Single (Public Service Pension) Scheme (post-2013), pension increases are linked to inflation (the consumer price index (CPI)).

In relation to taxation, public service pensions are not subject to PRSI but they are subject to income tax and the Universal Social Charge (USC).[12]

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[11] Some occupations - for example, the police, firefighters and military have provisions for much earlier retirement generally and/or on grounds of illness.
[12] The Universal Social Charge (USC) is a tax on income that replaced both the income levy and the health levy (also known as the health contribution) on 1 January 2011. An individual pays the USC if their gross income is more than €13,000 per year. Once income is over this limit, the relevant rate of USC is paid on all income.

Table 1: qualifying age for State Pension*

	2019	2030	2040	2050	2060	2070
Earliest/ retirement age	66	66	66	66	66	66

Note: *as per Social Welfare Bill 2020 enacted in December 2020. The current qualifying age for all State pensions is 66. References to the previously planned increases in the SPA to 67 in 2021 and to 68 in 2028, as legislated for by the Social Welfare and Pensions Act 2011, were removed by the enactment of the Social Welfare Bill 2020. There is no single fixed compulsory retirement age for employees in Ireland. If you are employed, your retirement age is set out in your individual contract of employment. Some contracts of employment have a mandatory retirement age. There is no distinction between male and female retirement ages. To get a State Pension (Contributory), you must have started to pay PRSI before the age of 56.
Source: Department of Finance, Department of Employment Affairs and Social Protection.

1.2: Recent reforms of the pension system included in the projections

1.2.1   Total contributions approach

The National Pensions Framework proposed that a 'Total Contributions Approach' (TCA) replace the current average contributions test for the contributory State pension. This is designed to ensure that the level of pension payments will be directly proportionate to the number of social contributions paid by the person over their working life, thereby removing some of the anomalies associated with the current averaging approach. The new TCA methodology means that the total number of PRSI contributions an individual has paid, instead of when they were paid, are taken into account when the Department of Employment Affairs and Social Protection (DEASP) assesses an application for a pension.

Since 2019, a person reaching the SPA on or after September 1st 2012 can have their pension rate calculated in 2 ways: 1) using the normal yearly average rule or 2) using the new TCA. DEASP will carry out both calculations and choose whichever gives the better rate of pension.

As mentioned above, the National Pensions Framework has proposed that the TCA be introduced to entirely replace the yearly average rule. However, legislation would be required for this to come into effect. Therefore, in the pension expenditure projections, it is assumed that a combination of the yearly average and TCA methodologies continue to be used over the projection period.

1.2.2   State pension age

Under previous legislation, introduced in 2011, the SPA was to increase to 67 in 2021 and 68 in 2028.[13] The 'Programme for Government' (PfG) agreed by the newly-formed Irish Government in June 2020, committed to deferring the legislated increase in the SPA in 2021, keeping the SPA at 66, pending a review on sustainability and eligibility issues by a newly established Commission on Pensions. The Social Welfare Bill 2020, enacted in December 2020, removed the previously planned increases in the SPA from legislation. As such, the pension projections described in this fiche, assume a constant SPA throughout the projection horizon.

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[13] Social Welfare Bill 2011.

1.3: Description of the actual 'constant policy' assumptions used in the projection

There is no formal indexation mechanism for Irish social welfare pensions. Decisions in relation to pension payments are generally made as part of the annual budgetary process. Thereby discretion with respect to changes rests with the Ministers for Finance and Public Expenditure and Reform. Currently, the value of the SCP is approximately one-third of average earnings although historically, payments have tended to increase in line with whole-economy average earnings. The latter is the approach adopted in this exercise – i.e. linking pensions to the growth rate in nominal earnings (inflation plus productivity) from 2021 onwards.

Section 2: Overview of the demographic and labour force projections

This section sets out the long-term demographic and labour force projections for Ireland over the 2019-2070 period. These follow from EUROPOP2019, Eurostat's 2019-based demographic projections.

Labour force projections and the associated macroeconomic assumptions are produced by the Commission's Cohort Simulation Model (CSM). These projections are used as exogenous inputs into the Irish pension model.

2.1: Demographic developments

An overview of the main population variables for Ireland is shown in Table 2, drawing on EUROPOP2019.

Ireland's current age structure compares favourably to other EU countries. Ireland currently has the highest share of population aged under 20 years old (27.1 per cent), the joint lowest median age (37.7 years) and the lowest share of the population aged 65 or above in the EU (14.1 per cent). However, the composition of Ireland's population is set to change significantly over the projection period with a notable increase in old age dependency ratios.

The share of the population aged 65 and over is set to steadily rise – nearly doubling from 14.3 per cent in 2019 to 27.5 per cent in 2070.

The share of the working age population (WAP), defined here as those aged 20-64 relative to the total population is set to decline consistently over the period, from 58.8 per cent in 2019 to 51.9 per cent in 2070. Reflecting these changes, the Old Age Dependency Ratio (OADR) is set to more than double from 24.2 per cent in 2019 to 53.0 per cent in 2070. These developments will make Ireland one of the most rapidly ageing Member States in the EU.

The Irish population is set to grow by 1.0 per cent on average each year until 2030, before growing at 0.6 per cent on average per annum until the mid-point of the century, reaching 6.2 million. From then, the pace of annual population growth is expected to half to 0.2 per cent, with the population reaching 6.5 million in 2070. Over the projection period, the population aged 65 and over is set to grow significantly faster than the population aged 20 to 64, i.e. the working age population. At the same time, fertility rates are expected to remain well below historical levels and the natural increase in the population, i.e. births versus deaths, is expected to decelerate – eventually turning negative in 2063.

Over the full period, these projections are not too dissimilar to those underpinning the 2018 Ageing Report. More realistic short to medium-term migration assumptions than those used in the previous report result in stronger population growth, particularly among the working age cohort, over the first decade of the projections. However, from the mid-point of the century, these trends are assumed to reverse with much slower growth in the working age population in the later part of the new projections, coupled with faster growth in the older age cohorts relative to the last report.

The demographic projections will result in a large rise in the Irish population out to 2070 coupled with significant compositional changes. The population will gradually age as Ireland moves from a relatively

young to old population over the period. This will have sizable implications for the public finances given the expected demand on pension-related spending, in particular.

Figure 1: male and female population by age group, as a share of total population
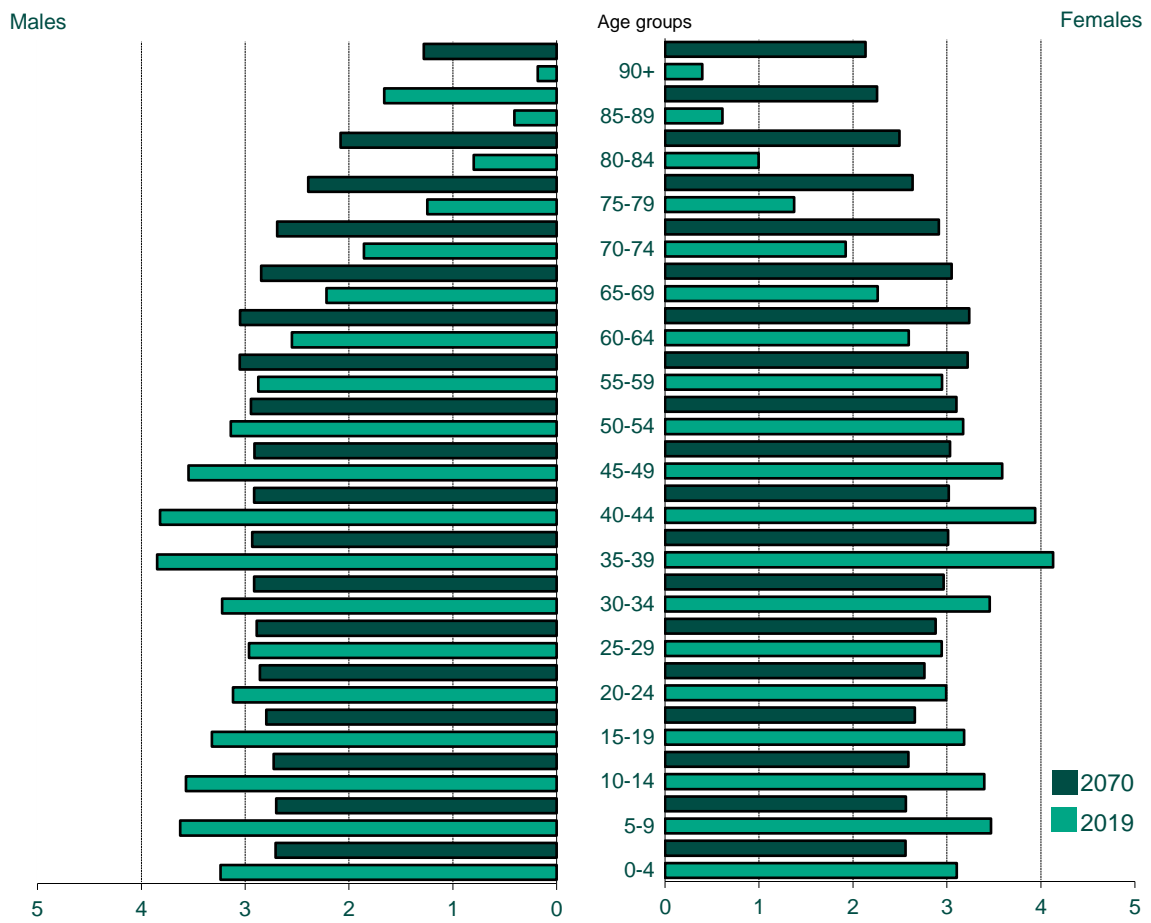
Source: European Commission (Eurostat).

Table 2: evolution of the main demographic variables

	2019	2030	2040	2050	2060	2070	Peak value	Peak year	Δ2019-2070
Population (000)	4,936	5,526	5,922	6,225	6,405	6,500	6,500	2070	1,564
Population growth rate (% per annum)	1.4	0.8	0.6	0.4	0.2	0.1	1.4	2019	-1.3
Old age dependency ratio (pop65+/pop20-64)	24.2	30.3	37.4	46.5	50.0	53.0	53.0	2070	28.7
Old age dependency ratio (pop75+/pop20-74)	9.0	12.3	15.7	19.9	24.7	26.0	26.0	2070	17.0
Ageing of the aged (pop80+/pop65+)	23.8	27.4	30.5	32.7	39.2	41.9	41.9	2068	18.1
Men - Life expectancy at birth	81.1	82.1	83.4	84.6	85.7	86.8	86.8	2070	5.7
Women-life expectancy at birth	84.8	85.8	87.1	88.3	89.4	90.4	90.4	2070	5.6
Men-life expectancy at 65	19.6	20.3	21.2	22.1	23.0	23.8	23.8	2070	4.2
Women-life expectancy at 65	22.1	22.9	23.9	24.9	25.8	26.7	26.7	2070	4.6
Men-survivor rate at 65+*	88.7	90.4	91.7	92.8	93.8	94.6	94.6	2070	5.9
Women-survivor rate at 65+	93.0	94.1	94.9	95.6	96.2	96.8	96.8	2070	3.8
Men-survivor rate at 80+	61.7	66.7	70.8	74.5	77.8	80.7	80.7	2070	19.0
Women-survivor rate at 80+	73.7	77.8	81.1	83.9	86.3	88.4	88.4	2070	14.8
Net Migration ('000)	32.7	19.3	16.1	14.4	12.1	10.5	39.5	2020	-22.2
Net Migration over population change	0.5	0.4	0.4	0.6	0.9	1.5	1.5	2070	1.0

Source: European Commission (Eurostat). *Men-Survivor rate at 65+ is the result of (1- mortality rate) for all men aged 65+

2.2: Labour force projections

The main labour force projections are summarised in Table 3. These flow from the demographic assumptions produced by Eurostat, explained above, and their interaction with the Commission's Cohort Simulation Model (CSM). The starting point for the labour market in 2019 was already very strong, with the outlook pointing to a 1.6 percentage point increase in labour force participation rates of those aged 20-64. Within this, the outlook assumes a rise in the participation rates of older workers, with a 3.6 percentage point increase for those aged 55 to 64 to 68.1 per cent. A further key characteristic is a sustained rise in female participation rates across the main age cohorts and notably so for older persons.

Table 3: participation rate, employment rate and share of workers, by age group

	2019	2030	2040	2050	2060	2070	Peak value	Peak year	Δ2019-2070
Labour Force Participation rate 20-64	78.8	79.6	80.0	80.6	80.6	80.4	80.7	2055	1.6
Employment rate for workers 20-64	75.1	74.2	74.7	75.4	75.4	75.2	75.6	2055	0.1
Share of workers aged 20-64 of total labour force (20-64)	95.4	93.2	93.3	93.6	93.6	93.6	95.4	2019	-1.8
Labour Force Participation rate 20-74	71.1	70.8	69.9	68.7	69.6	69.0	71.2	2022	-2.2
Employment rate for workers 20-74	67.9	66.1	65.3	64.5	65.3	64.7	67.9	2019	-3.2
Share of workers aged 20-74 of total labour force (20-74)	95.5	93.3	93.5	93.8	93.8	93.8	95.5	2019	-1.7
Labour Force Participation rate 55-64	64.1	65.5	66.8	67.0	67.9	67.7	68.1	2056	3.6
Employment rate for workers 55-64	61.8	62.1	63.3	63.6	64.5	64.3	64.7	2056	2.5
Share of workers aged 55-64 of total labour force (55-64)	96.4	94.7	94.7	95.0	95.0	95.0	96.4	2019	-1.4
Labour Force Participation rate 65-74	16.7	15.8	15.9	15.4	15.6	15.7	16.7	2019	-1.0
Employment rate for workers 65-74	16.5	15.4	15.5	15.1	15.2	15.4	16.5	2019	-1.0
Share of workers aged 65-74 of total labour force (65-74)	98.5	97.8	97.8	98.0	98.0	98.0	98.5	2019	-0.6
Median age of the labour force	39.0	40.0	40.0	41.0	41.0	41.0	41.0	2044	2.0

Source: Commission Services. *Men-Survivor rate at 65+ is the product of (1- mortality rate) for all men aged 65+

Table 4a: labour market entry and exit ages (male)

	2019	2030	2040	2050	2060	2070	Peak value	Peak year	Δ2019-2070
Average effective retirement age (administrative data)*	65.9								
Average labour market exit age (CSM)**	65.5	65.5	65.5	65.5	65.5	65.5	65.5	2023	0.0
Duration of retirement***	19.3	20.3	21.2	22.1	23.0	23.8	23.8	2070	4.5
Percentage of adult life spent in retirement****	28.9	30.0	30.9	31.8	32.6	33.4	33.4	2070	4.5
Early/late exit*****	1.2	1.3	1.3	1.0	1.1	1.0	1.3	2030	-0.1

Source: European Commission. * refers to when recipients have application approved for State Pension. ** labour market exit age calculated based on Labour Force Survey data for base year and estimated by Commission Cohort Simulation Model (CSM) thereafter. *** duration of retirement is calculated as difference between life expectancy at average labour market exit age and that exit age itself. **** percentage of adult life spent in retirement is calculated as the ratio between the duration of retirement and life expectancy minus 20 years. *****early/late exit is the ratio between those who retire below the state pension age and those who retire at state pension age and above.

Table 4b: labour market entry and exit ages (female)

	2019	2030	2040	2050	2060	2070	Peak value	Peak year	Δ2019-2070
Average effective retirement age (administrative data)*	65.9								
Average labour market exit age (CSM)**	63.9	64.0	64.0	64.0	64.0	64.0	64.0	2025	0.1
Duration of retirement***	22.7	23.8	24.8	25.8	26.7	27.6	27.6	2070	4.9
Percentage of adult life spent in retirement****	33.1	34.1	35.1	36.0	36.8	37.5	37.5	2070	4.4
Early/late exit*****	1.8	1.8	1.8	1.4	1.6	1.3	2.1	2022	-0.4

Source: European Commission. * refers to when recipients have application approved for State Pension. ** labour market exit age calculated based on Labour Force Survey data for base year and estimated by Commission Cohort Simulation Model (CSM) thereafter. *** duration of retirement is calculated as difference between life expectancy at average labour market exit age and that exit age itself. **** percentage of adult life spent in retirement is calculated as the ratio between the duration of retirement and life expectancy minus 20 years. *****early/late exit is the ratio between those who retire below the state pension age and those who retire at state pension age and above.

2.3: Macroeconomic projections

The starting point for the macroeconomic projections is complicated by, firstly, very strong growth in GDP in the period up to 2019, in part reflecting globalisation factors (that inflate Irish GDP), and secondly, the negative impact arising from COVID-19. The baseline outlook envisages a COVID-related fall in GDP growth from 5.5 per cent in 2019 to -8.0 per cent in 2020 before recovering in 2021 (6.0 per cent). Following this, growth is expected to slow to an average of 2.5 per cent from 2022 to 2030, stabilising thereafter at an average of 1.6 per cent per annum over the rest of the projection period to

2070.[14] An extra degree of caution is needed in interpreting ratios to GDP in Ireland due to globalisation effects.[15] The level of nominal GDP in 2019 is 8 per cent higher than was envisaged at the time of the last Ageing Report.[16]

Figure 2: comparison of AR18 and AR21 GDP and demographic projections
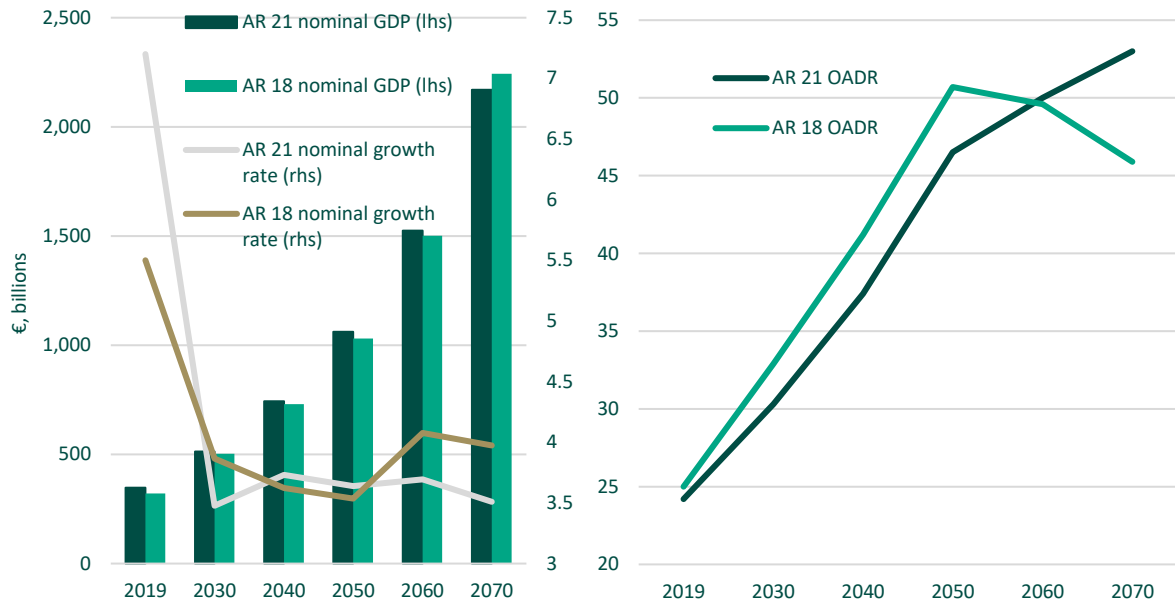
Source: Department of Finance, European Commission and Ageing Report 2018.

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[14] Real GDP growth. Reflecting assumed inflation of 2 per cent per annum, nominal GDP growth is projected to average 3.7 per cent between 2031 and 2070.
[15] See Section 5.5
[16] The starting point of the Commission's macroeconomic projections is based on the Commission's 2020 Spring forecasts. This shows an estimated level of GDP of €347.2 billion in 2019. Since then, the Irish Central Statistics Office has published a revised estimate of €356.1 billion. To allow a consistent approach, the Commission's forecasted 2019 estimate is used.

Section 3: Pension projection results

3.1: Extent of the coverage of the pension schemes in the projections

The pension projections covered by this exercise include public social security and assistance pensions and public sector occupational pensions.

3.1.1 Public social security and assistance pensions

Public social security and assistance pensions (hereafter referred to as 'social welfare pensions') include contributory social pensions and non-contributory social assistance pensions.

3.1.1a Contributory social security pensions

Contributory social security pensions cover old-age, disability and survivors' pensions under the social insurance system and the public service component of the second pillar. It also includes other legacy pension schemes such as contributory pensions for those who contributed before 1953.[17]

3.1.1b Non-contributory social assistance pensions

Non-contributory social assurance pensions cover non-contributory old-age, disability and survivor pensions under the social assistance system (non-earnings based means-tested basic pensions).

A full list of the public pension schemes covered in the projections are included in Annex 4.

3.1.2 Public sector occupational pensions

Public sector occupational pensions are pensions paid to public servants on retirement. These projections are provided by the Department of Public Expenditure and Reform (DPER).

Table 5: Eurostat (ESSPROS) vs. AWG definition pension expenditure, per cent of GDP

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Δ2009-2018
Eurostat total pension expenditure	7.9	8.1	7.9	8.1	8.1	7.7	5.8	5.7	5.6	5.3	-2.6
Eurostat public pension expenditure (A)	4.6	4.7	4.6	4.6	4.7	4.4	3.4	3.4	3.3	3.1	-1.5
Public pension expenditure (AWG outcome) (B)	5.5	5.5	5.5	5.4	5.4	5.0	3.9	3.9	3.7	3.6	-2.0
Difference B-A*	0.9	0.9	0.9	0.8	0.7	0.7	0.5	0.5	0.5	0.5	0.5

Source: Eurostat, Department of Employment Affairs and Social Protection and Department of Finance.* Eurostat doesn't include 'other' category defined in AWG projections (includes illness benefit and carer's allowance).

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[17] The pre-53 pension is payable to those who commenced insurable employment before 1953 and who had at least five years paid insurance.

3.2: Overview of projection results

Tables 6 and 7 present the main results of the pension projections exercise for Ireland. A range of technical assumptions covering demographic and labour force developments underpin the results, the details of which are provided in section 2.

As can be seen from table 6, total pension expenditure (social welfare and public sector occupational pensions) is projected to increase from 4.6 per cent in 2019 to 7.6 per cent in 2070.[18] Compared with the 2018 Ageing Report projections, 2070 expenditure levels are 1.0 percentage points of GDP higher.

The profiles of these two components of total pension expenditure differ significantly. Social welfare pension spending increases relatively consistently over the projection period. Expenditure is projected to increase by 17 percentage points of GDP between 2019 and 2040, before increasing by 1.6 percentage points to 6.9 per cent of GDP in the 30 years following that.

In contrast, public sector occupational pension expenditure is expected to increase by 0.6 percentage points by 2039 before falling by 1.0 percentage points after that. This fall can be attributed to several factors. These include the shift towards 'integrated' pensions over the forecast horizon. As a result, there is a substantial reallocation of expenditure from public sector occupational pension expenditure to social security pensions over the projection period. The fall is also driven by the introduction of the Single Public Service Pension Scheme for new public service entrants in 2013 (including indexation by CPI). Therefore, the rise in overall pension expenditure as a share of GDP is entirely driven by social security pension (State pension) expenditure.

Table 6: projected gross pension spending and contributions, per cent of GDP

	2019	2030	2040	2050	2060	2070	Peak value	Peak year	Δ2019 -2070
Social welfare pension (a)	3.5	4.4	5.2	6.1	6.6	6.9	6.9	2070	3.4
Public sector occupational pension (b)	1.0	1.5	1.6	1.4	0.9	0.7	1.6	2041	-0.3
Gross total pension expenditure (a+b)	4.6	5.9	6.9	7.5	7.5	7.6	7.6	2070	3.0
Social welfare pension contributions*	2.6	2.6	2.6	2.6	2.6	2.6	2.6	n/a	0.0
Social welfare contributions (including public sector employees)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	n/a	0.0
Total pension contributions** (including state intervention)	3.3	3.4	4.2	5.1	5.6	6.0	6.0	2070	2.6

Note: figures may not sum due to rounding. * PRSI revenue from private sector – assumed to hold as a fixed proportion of GDP over horizon. ** As per legislation, the State intervenes when the Social Insurance Fund (SIF) is in deficit, i.e. only when the expenditure on schemes funded by the SIF is higher than PRSI revenue intake. Initial subvention figures are zero, suggesting no State intervention is required for SIF related pension items. This figure only shows the intervention related to pension expenditure. The SIF also funds other social welfare items. Non SIF-related pension expenditure is funded by voted expenditure. As per AWG framework, State intervention for social assurance pension (i.e. non SIF funded) not included. Source: Department of Finance calculations.

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[18] As explained in section 1.1.1, there is no mechanism for taxing social welfare pensions at source, however other sources of income such as occupational pensions are subject to tax. If an individual's other source of income is taxed within the PAYE system, tax credits are 'coded in' (explained in footnote 10 in Section 1.1.1) resulting in a person effectively paying tax on both their social welfare pension and other source of income (including the public sector occupational pension). As a result, pension expenditure projections are only produced in 'gross' terms.

The projected value of PRSI contributions (employer, employee and self-employed) is assumed to be constant over the entire timeframe at the 2019 rate of 3.3 per cent of GDP. It should be noted that PRSI revenue e.g. employer and employee contributions, is used to fund a wider range of social insurance benefits beyond the component relating solely to pensions.[19] Projecting pension provisioning on the basis of PRSI contributions could serve to overestimate the degree of pension contributions, as some of the receipts will be used to fund separate non-pension related expenditure.[20]

Table 7 disaggregates the overall pension projections by component. The bulk of the increase in total expenditure is attributable to old age and early pensions. This component is set to increase by 3.1 p.p. of GDP between 2019 and 2070. This increase is driven by both demographics and the effect of longer contributory periods, amongst women in particular.

Table 7: projected social welfare pension expenditure by scheme, per cent of GDP

	2019	2030	2040	2050	2060	2070	Peak value	Peak year	Δ2019 -2070
Social welfare pension	3.5	4.4	5.2	6.1	6.6	6.9	6.9	2070	3.4
Of which									
Old age and early pensions	1.9	2.7.	3.4	4.3	4.7	5.0	5.0	2070	3.1
of which									
flat component	1.6	2.4	3.1	4.0	4.5	4.8	4.8	2070	3.1
minimum pensions (non-contributory)	0.3	0.3	0.3	0.2	0.2	0.2	0.3	2020	-0.1
Disability Pensions	0.7	0.8	0.8	0.8	0.8	0.8	0.8	2041	0.1
Survivors Pensions	0.5	0.5	0.6	0.6	0.7	0.7	0.7	2070	0.3
Other Pensions	0.5	0.5	0.4	0.4	0.4	0.4	0.5	2020	-0.1

Note: figures may not sum due to rounding. Breakdown of items contained in each heading is included in Annex 3.
Source: Department of Finance calculations.

Despite a considerable increase in the dependency ratio over the forecast period, spending on non-contributory old-age pensions is set to decline while expenditure on survivor's pensions is set to stay nearly constant over the forecast horizon. However, this is largely compositional as more individuals are assumed to transition to receipt of the State contributory pension over the forecast horizon.[21] For instance, the share of the female population of state pension age receiving a contributory state pension is set to increase significantly from around 58 per cent to around 74 per cent over the horizon reflecting sustained improvements in female participation.

Disability and other pensions (i.e. illness benefit, deserted wife's benefit/allowance and carer's benefit/allowance) remain relatively steady throughout the forecast period as the share of the population by age cohort receiving these benefits is assumed to remain constant.

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[19] PRSI revenue is used to fund the Social Insurance Fund (SIF). In addition to flat rate pensions (State Contributory Pension), the SIF is also used to fund jobseekers benefit, health and safety benefit, maternity benefit, adoptive benefit etc. According to the 2015 SIF Actuarial Review, pension related expenditure is projected to continue to be the predominant component of SIF expenditure.
[20] However, PRSI contributions are assumed to stay constant as a share of GDP despite the fact that contribution histories and participation rates are set to increase over the forecast period. As a result, this assumption is likely to underestimate public pension contributions.
[21] It is not possible to get the SNCP or widows, widowers or surviving civil partners pension at the same time as the SCP.

Figure 3: projected social welfare pension expenditure by scheme, per cent of GDP
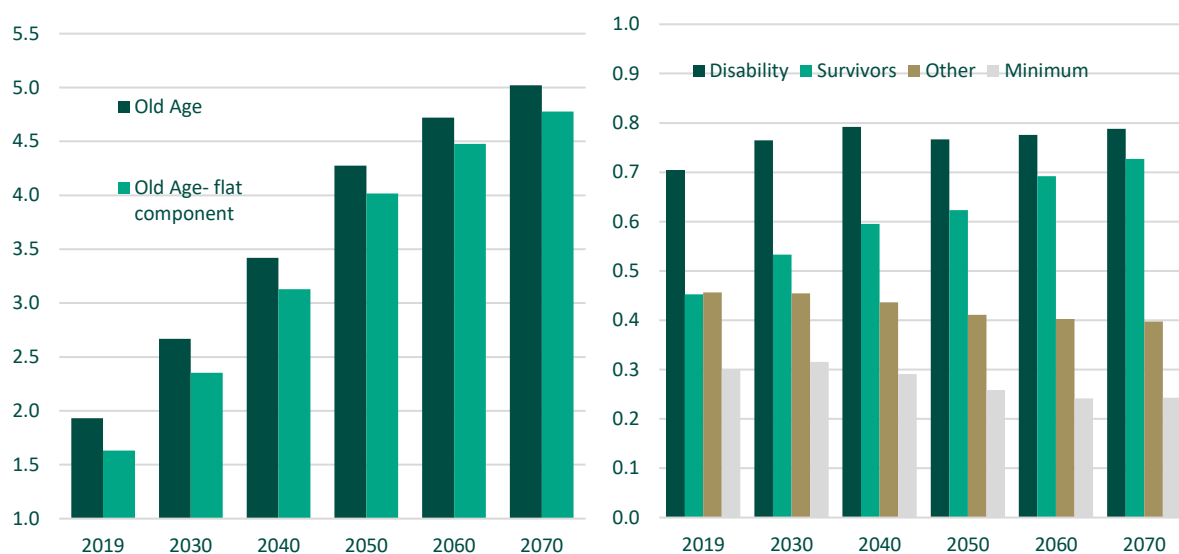
Source: Department of Finance

3.3: Description of main driving forces behind the projection results

Breaking down the spending projections by its drivers reveals that much of the projected increase in social welfare pension expenditure is attributable to Ireland's changing demographic profile, where the effect of the dependency ratio is shown to dominate over other drivers (Table 8). As expected, the increasing proportion of elderly persons compared to the working age population places the most stress on spending. As discussed in Section 2, the old-age dependency ratio continues to worsen (i.e. increase in value) throughout the projection period, with the peak value being reached at the end of the horizon. This results in a positive dependency ratio effect (expenditure increasing) throughout the entire period.

Demographic factors (captured by the strong positive contribution from the dependency ratio effect), are partially offset by the projected fall in the ratio of pension beneficiaries to the population (a negative coverage ratio effect) out to 2050, mainly driven by cohort effects

Table 8: factors behind the change in social welfare pension expenditures between 2019 and 2070 using pension data– pensioners, p.p of GDP change

Δ	2019-30	2030-40	2040-50	2050-60	2060-70	2019-70
Social welfare pensions to GDP	0.9	0.8	0.8	0.5	0.3	3.4
Dependency ratio effect	0.9	1.0	1.3	0.5	0.4	4.0
Coverage ratio effect	-0.2	-0.2	-0.3	0.0	-0.1	-0.7
Coverage ratio old-age	0.1	0.1	0.0	0.1	0.0	0.3
Coverage ratio early-age	-0.4	-0.1	0.1	-0.2	0.0	-0.5
Cohort effect	-0.4	-0.8	-1.3	-0.2	-0.3	-3.0
Benefit ratio effect	0.2	0.0	0.0	0.0	0.0	0.2
Labour market effect	0.0	-0.1	-0.1	0.0	0.0	-0.1
Employment ratio effect	0.0	0.0	0.0	0.0	0.0	0.0
Labour intensity effect	0.0	0.0	0.0	0.0	0.0	0.0
Career shift effect	0.0	0.0	0.0	0.0	0.0	-0.1
Residual	0.0	0.0	0.0	0.0	0.0	-0.1

Note: see annex 2 for methodology. Subcomponents of the coverage ratio effect do not add up necessarily.
Source: Department of Finance.

Tables 9a and 9b below show the benefit and replacement ratios and coverage rates related to social welfare pension schemes. Table 9a highlights the benefit ratio using the European Commission's measure of average earnings, while Table 9b utilises a measure of average earnings collated to the Irish National Statistical Institute, the Central Statistics Office (CSO). Both tables have the same replacement ratio as they make use of the same proxy measure of earnings at retirement (earnings at age 65) collated by the CSO.

As seen in Table 9b, the benefit ratio of the old age-flat component indicates that pension payments of the largest component of the social welfare pension system, the old age-flat component (known in Ireland as the State Contributory Pension) remain constant at approximately a third of average earnings throughout the projection period as a result of assuming that benefits are indexed to average wage growth.

Pension payment rate increases below the implied growth in inflation and labour productivity in the initial years of the projections are offset by improvements in contribution histories, resulting in an essentially flat profile over the projection period.

Old age flat component coverage is forecast to increase substantially throughout the forecast period, with females seeing a particularly strong increase over the forecast horizon. This is driven by the improving contribution histories of females, with a rising proportion shifting from non-contributory to contributory pensions. The improvement in contribution histories also leads to recipients moving into more generous rate bands over the projection period.

Table 9a: replacement rate at retirement (RR), benefit ratio (BR) and coverage by pension scheme, per cent (COM average earnings basis)

	2019	2030	2040	2050	2060	2070	Δ2019-2070
Social welfare pensions (BR)	28	28	28	28	28	28	0
coverage	100	100	100	100	100	100	0
Old age pension –flat component (BR) *	30	30	30	30	30	30	0
Old age pension –flat component (RR) *	37	35	36	36	36	36	-1
coverage	43.2	49.7	56.1	62.6	64.5	65.4	22.2

Note: All RRs reported on a new pensions flow basis. BRs and coverage reported on a stock of pensioners basis. Social welfare pensions include old-age, disability, survivors and other pensions. Average earnings based on European Commission's measure of average, economy –wide earnings.* State Contributory Pension.
Source: Department of Finance.

Table 9b: replacement rate at retirement (RR) and benefit ratio (BR) by pension scheme, per cent (CSO average earnings basis)

	2019	2030	2040	2050	2060	2070	Δ2019-2070
Old age pension –flat component (BR) *	33	33	32	32	32	32	0
Old age pension –flat component (RR) *	37	35	36	36	36	36	-1

Note: All RRs reported on a new pensions flow basis. BRs and coverage reported on a stock of pensioners basis. Social welfare pensions include old-age, disability, survivors and other pensions. Average earnings based on administrative data from the Central Statistics Office. This figure is assumed to grow in line with the Commission's average earnings figure. * State Contributory Pension.
Source: Department of Finance.

Demographic pressures will cause the pension system dependency ratio (number of pensioners/total employment) to rise substantially between 2019 and 2070 (36 percentage points).

As the old age dependency ratio is set to more than double over the forecast horizon, the overall pension system efficiency ratio is projected to decline over most of the projection period falling from 1.8 in 2019 to 1.4 in 2070).

Table 10: system dependency ratio and old-age dependency ratio

	2019	2030	2040	2050	2060	2070	Δ2019-2070
(1) Number of pensioners (thousands)*	998	1313	1612	1874	2051	2161	1163
(2) Employment (thousands)**	2310	2546	2657	2670	2705	2710	400
(3) Pension system dependency ratio (SDR) (1/2)	43.2	51.6	60.7	70.2	75.8	79.7	36.5
(4) Number of people aged 65+ (thousands)	704	981	1254	1543	1683	1787	1083
(5) Working age population 20-64 (thousands)	2904	3241	3353	3315	3366	3374	471
(6) Old age dependency ratio (OADR) (4/5)	24.2	30.3	37.4	46.5	50.0	53.0	28.7
(7) System efficiency (3/6)	1.8	1.7	1.6	1.5	1.5	1.5	-0.3

Source: Department of Finance and European Commission.

In tables 11 and 12, the number of pensioners is divided by both the total and inactive population in their age cohort, respectively. The inclusion of carers allowance and deserted wives benefit recipients in the projections can result in ratios above 100 per cent for the older age groups as these benefits can be received alongside either State pension (contributory or non-contributory). In addition, the numerator includes resident and cross-border beneficiaries whereas the denominator refers only to resident population.

The previous legislation that provided for increases in the SPA in 2021 and 2028 meant that the pensioners to population ratio for the 65-69 age group was projected to decrease significantly in the 2018 Ageing Report. The repeal of this legislation and the related assumption of a constant SPA of 66 throughout the projection horizon sees a much smoother profile of this ratio in this iteration. Aside from this, the increase in the female pensioners to population ratio for the 70-74 and 75+ cohorts is particularly pronounced reflecting improving contribution histories.

Table 11a: (social welfare) pensioners to inactive population ratio by age group

	2019	2030	2040	2050	2060	2070
Age Group						
-54	13.0	14.4	14.3	14.1	14.3	14.2
55-59	72.4	76.3	80.9	84.3	84.8	84.5
60-64	60.7	60.8	63.5	62.4	64.7	64.7
65-69	107.2	104.6	107.4	107.0	107.5	107.4
70-74	104.0	104.6	106.4	105.7	105.5	105.8
75+	99.4	100.3	100.7	100.1	102.3	102.6

Source: Department of Finance. Can be above 100 per cent as some schemes payable in addition to the old-age pension.

Table 11b: (social welfare) pensioners to total population ratio by age group

	2019	2030	2040	2050	2060	2070
Age Group						
-54	5.9	6.1	6.1	6.0	6.1	6.0
55-59	20.3	20.1	20.1	20.0	20.0	20.0
60-64	27.2	26.6	26.5	26.4	26.4	26.4
65-69	81.2	80.9	82.9	82.8	82.3	82.4
70-74	95.9	96.5	98.3	97.5	97.5	97.5
75+	99.4	100.3	100.7	100.1	102.3	102.6

Source: Department of Finance. Can be above 100 per cent as some schemes payable in addition to the old-age pension.

Table 12a: (social welfare) pensioners to inactive population ratio by age group- female

	2019	2030	2040	2050	2060	2070
Age Group						
-54	14.3	16.0	15.7	15.6	15.8	15.7
55-59	65.0	73.5	80.6	80.8	81.7	81.4
60-64	59.1	58.3	63.2	61.4	64.0	64.0
65-69	92.9	90.1	93.3	93.2	92.9	93.0
70-74	90.7	96.6	96.8	95.9	95.9	96.0
75+	94.2	99.4	101.5	99.6	101.9	102.2

Source: Department of Finance. Can be above 100 per cent as some schemes payable in addition to the old-age pension.

Table 12b: (social welfare) pensioners to total population ratio by age group- female

	2019	2030	2040	2050	2060	2070
Age Group						
-54	7.0	7.2	7.1	7.1	7.1	7.1
55-59	23.9	23.5	23.4	23.4	23.4	23.4
60-64	31.0	30.1	29.8	29.7	29.7	29.7
65-69	77.5	77.1	78.9	78.7	78.1	78.2
70-74	88.8	93.9	94.1	93.0	93.0	93.0
75+	94.2	99.4	101.5	99.6	101.9	102.2

Source: Department of Finance. Can be above 100 per cent as some schemes payable in addition to the old-age pension.

Tables 13a, 13b and 13c provide a detailed decomposition of projected new old-age pensions. The number of new pensioners increases substantially over the forecast period reflecting *inter alia* the significant rise in the population reaching retirement age.

Monthly average pensionable earnings as a proportion of average wages is set to remain reasonably consistent over the projection period.

Table 13a: projected and disaggregated new old-age pensions - total

	2019	2030	2040	2050	2060	2070
I. Projected new pension expenditure (millions EUR)	472	764	1,378	2,275	2,874	4,408
II. Monthly Average New Pension ('000 EUR)	1.0	1.4	2.0	2.8	4.0	5.7
III. Number of new pensions('000) (per annum)	33	41	55	64	57	61
IV. Average number of months paid the first year	12	12	12	12	12	12
V. Monthly average new pension / Monthly economy-wide average wage (%)	30.7	29.4	29.8	30.1	30.1	30.1

Note: monthly average pensionable earnings equates to average monthly pension payments.
Source: Department of Finance.

Table 13b: projected and disaggregated new old-age and early pensions - male

	2019	2030	2040	2050	2060	2070
I. Projected new pension expenditure (millions EUR)	262	418	747	11,96	1,545	2,344
II. Monthly Average Pensionable Earnings ('000 EUR)	1.0	1.4	2.0	2.8	4.0	5.7
III. Number of new pensions('000) (per annum)	19	23	30	34	31	33
IV. Average number of months paid the first year	12	12	12	12	12	12
V. Monthly average new pension / Monthly economy-wide average wage (%)	29.9	29.4	29.7	30.0	30.0	30.0

Note: monthly average pensionable earnings equates to average monthly pension payments.
Source: Department of Finance.

Table 13c: projected and disaggregated new old-age pensions - female

	2019	2030	2040	2050	2060	2070
I. Projected new pension expenditure (millions EUR)	210	346	631	1,079	1,329	2,063
II. Monthly Average Pensionable Earnings ('000 EUR)	1.0	1.4	2.0	2.8	4.0	5.7
III. Number of new pensions('000) (per annum)	14	18	25	30	26	28
IV. Average number of months paid the first year	12	12	12	12	12	12
V. Monthly average new pension / Monthly economy-wide average wage (%)	31.4	29.4	29.8	30.1	30.1	30.1

Note: monthly average pensionable earnings equates to average monthly pension payments.
Source: Department of Finance.

Table 14: financing the system

	Public employees	Private employees	Self-employed
Contribution rate/contribution			
Employer	varies	varies	varies
Employee	varies	varies	varies
Other revenues	Social Insurance Fund and Social Assistance Fund (used to finance other social benefits in addition to pensions). Shortfalls met by Exchequer.	Social Insurance Fund and Social Assistance Fund (used to finance other social benefits in addition to pensions). Shortfalls met by Exchequer.	Social Insurance Fund and Social Assistance Fund (used to finance other social benefits in addition to pensions). Shortfalls met by Exchequer.

Note: see annex 2 for methodology.
Source: Department of Finance.

The projected value of Pay Related Social Insurance contributions as a share of GDP (employer, employee and self-employed) is assumed to remain constant at the 2019 proportion (3.3 per cent of GDP) over the entire timeframe. The split between employer and employee PRSI contributions is also held constant throughout the forecast period at their currently observed levels (79 per cent and 21 per cent respectively).

As discussed in section 3.2, the State intervenes when the SIF is in deficit, i.e. only when the expenditure on schemes funded by the SIF is higher than PRSI revenue intake. Non SIF-related pension expenditure is funded by voted expenditure.

It should be noted that PRSI revenue (both employer and employee contributions) is used to fund a wide range of social insurance benefits, beyond the pension component. Thus, the below figures may underestimate the potential social security pension subvention requirement throughout the forecast period.

The number of public contributors is mechanically assumed to increase in line with employment growth. The Commission projections underpinning these estimates indicate this will be relatively moderate throughout the forecast period (employment growth averages just 0.2 per cent per annum over the period 2019-2070). On this basis, the number of contributors per pensioner falls significantly over the forecast horizon from 2.6 in 2019 to 1.4 in 2070.

Table 15: revenue from contributions (per cent of GDP), number of contributors in the Social welfare pension (in millions), total employment (thousands) and related ratios (per cent)

	2019	2030	2040	2050	2060	2070	Δ2019-2070
Social welfare pension contributions (including state intervention) *	2.6	2.7	3.5	4.4	4.9	5.3	2.6
Employer contribution	*1.9*	*1.9*	*1.9*	*1.9*	*1.9*	*1.9*	*0.0*
Employee contribution	*0.7*	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*	*0.0*
State contribution	*0.0*	*0.0*	*0.8*	*1.7*	*2.2*	*2.6*	*2.6*
Social welfare pension contributions (including public sector	3.3	3.3	3.3	3.3	3.3	3.3	0.0
Social welfare pension contributions (including public sector and state intervention)	3.3	3.3	3.8	4.6	5.2	5.5	2.2
Number of contributors (1)	2571	2883	2956	2972	3010	3016	445
Employment (2)	2310	2546	2657	2670	2705	2710	400
Ratio of (1) / (2)[22]	1.1	1.1	1.1	1.1	1.1	1.1	0.0

Note: Rounding may affect totals. Not including public sector. Only legislated contributions are included. State contribution indicates State intervention in terms of funding the Social Insurance Fund.
Source: Department of Finance.

3.4: Sensitivity scenarios

In order to test the robustness of the pension projection results to a range of assumptions, a sensitivity analysis was carried out in line with the harmonised range of shocks agreed by the Ageing Working Group (AWG).[23]

 As the baseline assumes a constant SPA, a policy scenario agreed by the AWG keeping the SPA constant throughout the projection horizon is not needed here.

A fertility rate 20 per cent lower than that considered in the baseline scenario is assumed to lead to a 0.9 p.p increase in social welfare pension expenditure as a proportion of GDP relative to the baseline by 2070.

Intuitively, a scenario that increases life expectancy by 2 years leads to an increase in social welfare pension expenditure as a proportion of GDP, as pension recipients spend longer in retirement. By 2070, social welfare pension spending under the higher life expectancy scenario is projected to be 0.4 p.p. of GDP higher than baseline expenditure.

As migration flows fluctuate considerably in Ireland, it is important to have a scenario that considers different migration assumptions. A scenario in which net migration was 33 per cent higher (lower) than

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[22] The ratio of contributors to employment is above 100% as PRSI contributions are a weekly charge i.e. where a person has worked for one week in the year they are recorded as a contributor whereas employment figures are based on annual average levels.
[23] The sensitivity scenarios were applied exclusively to social welfare pensions and not the public sector occupational pension.

the baseline assumption would reduce (increase) pension expenditure by 0.1 per cent of GDP by 2070, relative to the baseline.

While pension expenditure increases (decreases) in the higher TFP (TFP risk) scenarios compared to the baseline, this impact is largely offset by the associated denominator effect as increases (decreases) in nominal GDP cancel out noticeable changes in the expenditure/GDP ratio relative to the baseline.

A scenario envisaging a higher employment rate for older workers, leads to a reduction in expenditure of 0.3 p.p. compared to the baseline in 2070.

It should be noted that the Irish pension system does not include any mechanism that links the statutory retirement age to changes in life expectancy in order to offset such cost pressures. The effects of such an approach is considered in the sensitivity analysis. A policy linking retirement age to increases in life expectancy could be expected to lead to a fall in social welfare pension expenditure of 1.0 p.p by 2070 compared to the baseline.[24]

While the demographic impact of the COVID-19 crisis is not reflected in the demographic assumptions underpinning these projections, the baseline macro-economic scenario takes the Commission's Spring 2020 forecast as a starting point. These forecasts reflected the initial assessment of the crisis impact and assume recovery as per May 2020 and a rebound of growth in 2021, with only a small impact on growth potential. The sensitivity analysis includes two adverse macro-economic scenarios. 1) a lagged, U-shape recovery with a more pronounced cyclical downturn and a longer recovery phase than the baseline, but with a relatively limited impact on potential growth and 2) an adverse structural scenario that assumes potential output growth would be lower over the next decade and therefore potential output growth will be permanently lower than in the baseline. The lagged recovery scenario makes little impact on expenditure as a proportion of GDP, but the adverse structural impact scenario increases expenditure by 0.2 p.p of GDP by 2070, relative to the baseline, mainly due to the impact it would have on potential growth.

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[24] Assumes state pension ages increases to 67 in 2021 and 68 in 2028 after which the pension age increases in line with life expectancy.

Table 16: social welfare pension expenditure under different scenarios, pp of GDP deviation from the baseline

	2019	2030	2040	2050	2060	2070	Δ2019-2070
Baseline	**3.5**	**4.4**	**5.2**	**6.1**	**6.6**	**6.9**	**+3.4**
Higher life expectancy at birth (+2 years)	0.0	0.0	0.1	0.2	0.3	0.4	0.4
Higher migration (+33 per cent)	0.0	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1
Lower migration (-33 per cent)	0.0	0.1	0.1	0.2	0.2	0.1	0.1
Lower fertility (-20 per cent)	0.0	0.0	0.0	0.2	0.5	0.9	0.9
Higher employment of older workers (+10 pps)	0.0	-0.1	-0.2	-0.3	-0.3	-0.3	-0.3
Higher TFP growth (convergence to 1.2 per cent)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TFP risk scenario (convergence to 0.8 per cent)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Policy scenarios							
Linking retirement age to life expectancy	0.0	0.0	-0.2	-0.5	-0.7	-1.0	-1.0
COVID scenarios							
Lagged recovery scenario	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adverse structural scenario	0.0	0.1	0.2	0.2	0.2	0.2	0.2

Note: sensitivity analysis applied to social welfare pensions only.
Source: Department of Finance.

Section 4: Description of the changes relative to previous AR projections

4.1: Summary

As Table 17 indicates, current projections together with the previous vintages point towards the dominance of demographics in terms of driving future pension expenditure. Indeed, the dependency ratio effect has worsened significantly relative to the 2018 Ageing Report (AR 18) capturing the relative increase in the old age dependency ratio, particularly in the later years of the projections due to slower growth of the working age population and faster growth of the population aged 65 and over from the midpoint in the century. Despite relatively lower outturn payment rates in the base year 2019 and in 2020 (as announced in Budget 2020) compared to the projected rates in AR 18, the benefit ratio has also worsened marginally. This reflects the higher coverage of females in the higher paying bands of the State Contributory Pension (old age-flat component) between 2019 and 2030, likely due to the introduction of the mixed approach of calculating benefits from 2019.[25]

Table 17: overall change in social welfare pension expenditure to GDP under the 2006, 2009, 2012. 2015, 2018 and 2021 projection exercises, pp of GDP

	Pension expenditure	Dependency ratio	Coverage ratio	Benefit ratio	Labour intensity	Residual (incl. interaction effect)
AR 2006 (2004-2050)	6.5	7.9	-1.4	0.8	-0.5	-0.2
AR 2009 (2007-2050)	6.1	8.0	-2.1	0.8	-0.3	-0.4
AR 2012 (2010-2060)	4.1	7.2	-2.8	0.8	-0.5	-0.5
AR 2015 * (2013-2060)	1.1	6.0	-1.7	-2.1	-0.6	-0.5
AR 2018 * (2016-2070)	2.2	3.1	-0.6	-0.1	-0.1	-0.2
AR 2021* (2019-2070)	3.4	4.0	-0.7	0.2	-0.1	-0.1

Note: * refers to social security pension expenditure i.e. occupational pensions are not included. The disaggregation for 2006/2009/2012 is on the basis of pensions; for 2015/2018/2021 it is on the basis of pensioners. The projection horizon has been extended over consecutive Ageing Reports, limiting comparability over time. Legislation was passed in 2011 to increase the SPA to 67 in 2021 and 68 in 2028. Acknowledging the change in this legislation, removing plans to increase to SPA, the AR 2021 projections assume a constant SPA. Source: Department of Finance.

The decomposition of the differences between AR 18 and the new social welfare pension projections is set out in Table 18a. The first row displays social welfare pension projections as a share of GDP as reported in AR 18. The second row isolates the impact of the new macro-demographic assumptions on spending.[26] The third row displays the effects of the new pension data outturns and changes to the

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[25] Benefits calculated by DEASP based on both the TCA and YA methodologies with recipients getting the most beneficial rate produced by the two calculations.
[26] This is achieved by calculating the difference between these AR21 projections and AR18 projections using the AR18 macro-demographic assumptions.

modelling assumptions.[27] The fourth demonstrates the impact of policy changes made since the provision of the AR 18 projections, i.e. rate increases in 2019 and 2020(outturn rates lower than productivity assumptions in AR 18).

As evident in Table 18a, the differences between the projected figures and outturn are not particularly large. The differences relate mainly to the variance between the short-term macroeconomic projections underpinning the early years of AR 18 and outturn, particularly the differences in the level of nominal GDP in 2018 and 2019.

Table 18a: breakdown of the difference between the 2018 social welfare **pension expenditure projections and outturn figures,** p.p. of GDP

	2016	2017	2018	2019
Ageing Report 2018	3.8	3.8	3.7	3.8
Change in macro-demographic assumptions	*-0.1*	*-0.1*	*-0.2*	*-0.3*
Improvement in coverage/modelling	*0.0*	*0.0*	*0.0*	*0.0*
Policy related changes	*0.0*	*0.0*	*0.0*	*0.0*
Outturn	3.9	3.7	3.5	3.5

Note: Rounding may affect totals.
Source: Department of Finance.

Table 18b below, illustrates the differences between the future expenditure projections contained in AR 21 and AR 18. As seen in Figure 2 in Section 2, the Old Age Dependency Ratio in the latest Eurostat demographic projections is lower for a large part of the projection period relative to the demographic assumptions underpinning AR 18. However, this ratio begins to worsen significantly (higher ratio) compared to AR 18 after the mid-point of the century due to markedly lower growth of the working age population and faster growth of the over 65 population. This is evident by the '*change in macro-demographic assumptions'* turning positive after 2050.

In terms of policy-related changes, projected pension payment rates are significantly lower in AR 21 compared to AR 18. This is mainly due to the base impact of the decision announced in Budget 2020 to keep rates in 2020 unchanged from 2019. An increase in line with nominal earnings in 2020 was projected in AR 18. The benefit ratio in AR 21 is not significantly impacted by this, as projected earnings are also lower in AR 21 relative to AR 18.[28] In the opposite direction, as discussed earlier, a significant policy decision was taken to remove legislation to increase the SPA in 2021 and 2028. This policy decision acts to more than cancel out the lower pension rates compared to AR 18.

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[27] This is obtained by calculating the difference between the AR 21 projections (with the AR18 macro assumptions) and AR18 projections.
[28] Given lower labour productivity assumptions in the initial years of the projections.

Table 18b: breakdown of the difference between the 2018 Ageing Report and the 2021 Ageing Report social welfare pension projections, p.p. of GDP

	2019	2030	2040	2050	2060	2070
Ageing Report 2018	3.8	4.3	5.1	6.1	6.3	6.0
Change in macro-demographic assumptions	-0.3	-0.1	-0.2	-0.2	0.2	0.8
Improvement in coverage/modelling	0.0	0.2	0.3	0.1	0.1	0.2
Change in the interpretation of constant policy	0.0	0.0	0.0	0.0	0.0	0.0
Policy related changes	0.0	0.1	0.1	0.1	0.1	0.0
New Projections	3.5	4.4	5.2	6.1	6.6	6.9

Note: Rounding may affect totals.
Source: Department of Finance.

Outturn public sector pension expenditure in the base year, 2019, is approximately 0.3 p.p of GDP below the figure projected in AR 18. The main driver of this difference is indexation. Pre-Single Scheme public sector pensions, i.e pensions for entrants who joined the public sector before 2013, are indexed by nominal earnings. Earnings inflation in the period between the publication of AR 18 and now has been below that assumed in AR 18, therefore the actual indexation for these pension was significantly what was previously projected.

Figure 4: public sector occupational pension expenditure
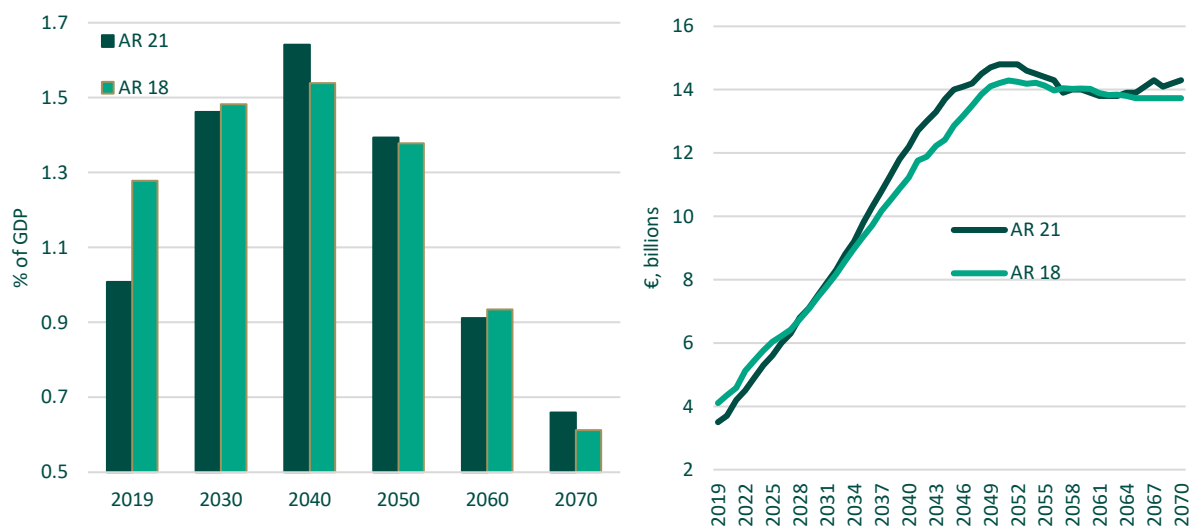
Source: Department of Finance and CSO.

Section 5: Description of the pension projection model and its base data

5.1: Institutional context in which the projections are made

The projections presented as part of this exercise were undertaken by the Department of Finance with assistance from the Department of Employment Affairs and Social Protection (DEASP) and the Department of Public Expenditure and Reform (DPER). The data used to run the pension model were supplied in 2020 by DEASP and DPER (for public sector workers) and refer to the base year 2019. The base year social welfare pension data is categorized by type of pensions (old-age, disability and survivors), by sex and age, at 31 December 2019.

5.2: Data used to run the model

The macroeconomic and demographic variables used in the projections are exogenous as agreed by the Ageing Working Group (AWG). In addition, data on pensioners by type of pension scheme (old-age and early retirement, disability and survivors), by sex and age (at 31 December each year) are used to run the model.

5.3: Reforms incorporated in the model

See Section 1.2

5.4: General description of the model

Public social security and assistance pensions (social welfare pensions)
Pension Recipients: To project the number of social welfare pension recipients, the starting point requires a detailed disaggregation of current recipients to obtain the proportion of the population by scheme, sub-scheme, payment type, gender and age cohort. These proportions are expected to change throughout the forecast period reflecting improvements in contribution histories and the incorporation of the total contributions approach.

As was the case with the pension projections in the 2018 Ageing Report, to forecast the evolution of these proportions, the model relies on estimates of the projected pension entitlements of future retirees. These estimates were produced by KPMG in their actuarial review of the Social Insurance Fund. Using the full contribution histories provided by DEASP, KPMG calculated rates of pension for each retiring individual for each of the first 10 years of the projection period (2016-2025) and thereafter at five-year spot rates interpolating between years.

KPMG provided estimates of the proportions falling into each rate band of SCP, split by gender, in 2020, 2030 and 2040. Hereafter, contribution histories were assumed to be constant for new qualifiers. In order to estimate the number of new recipients falling into each pension band in each future year, a linear interpolation between the data points provided by KPMG was calculated. Slight adjustments were

made to these coverage rates to reflect the differences in the development of coverage rates between 2016 and 2019. [29]

Pension Expenditure: Gross social welfare pension expenditure projections adopt a bottom-up approach. The projection methodology takes the most up to date rates of payment applicable to the various pension schemes plus appropriate extra allowances as the starting point.

For this particular exercise, we have incorporated the pension payment rates announced by the Government in the 2019 and 2020 Budgets. Thereafter (from 2021), all pension rates are assumed to rise at the same flat rate (nominal earnings, i.e. inflation plus labour productivity). An estimate of overall spending is provided by multiplying the projected payment rates for each year by the number of pensioners claiming each type of payment.

Net pension expenditure projections are not provided as it is not possible to distinguish pension income from non-pension income on the basis of tax records.

Contributions: Social welfare pensions in Ireland are financed through a combination of PRSI contributions (Social Insurance pensions) and general tax revenues (Social Assistance schemes; Social Insurance schemes in the event of a shortfall in contributions).

The projected value of Pay Related Social Insurance contributions (employer, employee and self-employed) is held constant over the entire timeframe at the 2019 rate of 3.3 per cent of GDP. The proportion coming from employer and employee PRSI contributions is also held constant throughout the forecast period at approximately 79 and 28 per cent, respectively.

Number of Contributors: The number of individuals paying PRSI in 2017 (the most recent year for which this data was available at the time of the projections) is taken as the base figure when projecting contributors. Over time, the number of contributors is assumed to increase in line with employment growth.

Public sector occupational pensions
Pension Expenditure: Actual spending on public sector occupational pensions in 2019 is taken as the starting point. Reforms implemented in 1995 and 2004, including the integration of occupational and state pensions, the raising of the minimum pension age and the removal of a compulsory retirement age for most new public servants, are accounted for in the projected spending figures. In addition, the introduction of the Single Public Service Pension Scheme, which is a career average revalued earnings scheme is incorporated in the public service pension model.

As in the case of the social welfare pension projections, net pension expenditure estimates are not reported as it is not possible to distinguish public sector pension income from non-pension income on the basis of tax records.

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[29] Slight changes were made to the 2020 Male and 2020 and 2030 Female coverage spot rates.

5.5: Statistical distortions to Irish GDP

While the expenditure projections contained in the Ageing Report are understandably scaled by Gross Domestic Product (GDP) to allow standard assumptions and cross-country comparability, there are significant problems associated with using GDP as a measure of the size of the Irish economy. As highlighted in the Irish Country Fiche in AR 18, statistical distortions mean estimates of Irish GDP overstate the size of the economy and therefore ratios using GDP as the denominator can give a misleading picture, potentially overstating the repayment capacity of the economy.[30]

The CSO publishes an alternative measure of the size of the Irish economy, commonly referred to as 'modified Gross National Income or GNI*. Fiscal ratios, including the fiscal costs of ageing, are more meaningful when GNI* is used to scale data in Ireland.

To comply with the framework of the Ageing Report and methodologies agreed by the Ageing Working Group, all pension expenditure ratios are presented in terms of GDP, however the figures below show the significant difference when these ratios are scaled by GNI*.

When scaled by GNI*, total pension expenditure is projected to increase by 4.9 p.p. of GNI* from 7.4 per cent of GNI* in 2019 to 12.3 per cent of GNI* in 2070. [31]

Figure 5: comparison between GDP and GNI*, per cent
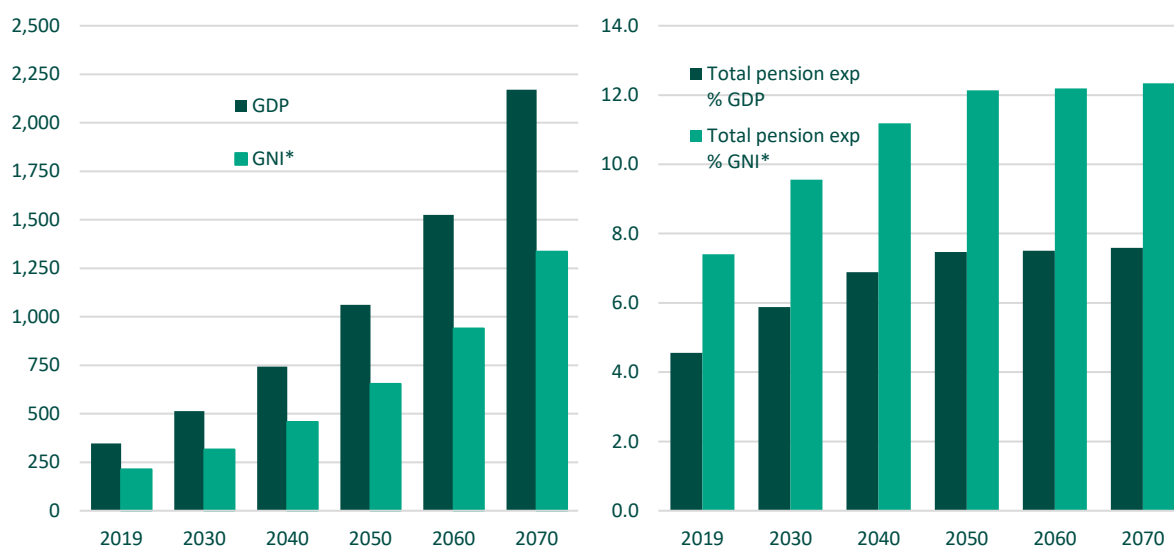
Source: Central Statistics Office, Department of Finance

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[30] A more detailed explanation can be found at: https://assets.gov.ie/4910/181218123252-71a2c297f26b419fa3696d7349e3e788.pdf
[31] Projections of GNI* are purely mechanical. For illustrative purposes, GNI* is assumed to grow in line with Commission projections for nominal GDP. While the macroeconomic forecasts from the Commission's Spring 2020 forecasts, including GDP are used in the base year, GNI* is taken from the CSO's 2019 National Income and Expenditure 2019 Annual Results. The 2019 GNI* figure from this release published in July 2020 is part of the outturn data published by the CSO as therefore more up to date than the Commission's Spring 2020 forecasts. Nevertheless, this comparison is provided for illustrative purposes.

Annex 1

Economy-wide average wage

As highlighted in Section 3.3, the benefit ratio is calculated using first, the Commission's projections of average earnings and second, average earnings based on data provided by the Irish National Statistical Institute, the Central Statistics Office (CSO). Data from the CSO indicates that the average wage in Ireland is much lower than the Commission estimates. Table A1 shows the difference between the two estimates.

Table A1: economy-wide average wage at retirement, € thousands

	2019	2030	2040	2050	2060	2070	Δ2019-2070 (%)
Economy-wide average gross wage at retirement	33.6	47.4	66.3	94.1	133.6	189.7	464.0
Economy-wide average gross wage (COM)	43.9	61.7	86.4	122.8	174.1	247.2	463.0
Economy-wide average gross wage (CSO)	40.3	56.7	79.3	112.7	160.0	227.2	460.3

Note: Average earnings are based on CSO 2018 Administrative Data Sources, assumed to increase in line with Commission projections.
Source: Department of Finance, Central Statistics Office.

Annex 2

Methodology

$$\underbrace{\frac{\text{Pension Exp.}}{\text{GDP}}}_{} = \underbrace{\frac{\text{Population } 65+}{\text{Population } 20-64}}_{\text{Dependency Ratio}} \times \underbrace{\frac{\text{Number of Pensioners}}{\text{Population } 65+}}_{\text{Coverage Ratio}} \times \underbrace{\frac{\text{Population } 20-64}{\text{Working People } 20-74}}_{\text{Labour Market / Labour Intensity}} \times \underbrace{\frac{\frac{\text{Average Pension}}{\text{GDP}}}{\text{Hours Worked } 20-74}}_{\text{Benefit Ratio}}$$

$$\underbrace{\frac{\text{Number of Pensioners}}{\text{Population } 65+}}_{\text{Coverage Ratio}} = \underbrace{\frac{\text{Number of Pensioners } 65+}{\text{Population } 65+}}_{\text{Coverage Ratio Old-Age}} + \left(\underbrace{\frac{\text{Number of Pensioners} \leq 65}{\text{Population } 50-64}}_{\text{Coverage Ratio Early-Age}} \times \underbrace{\frac{\text{Population } 50-64}{\text{Population } 65+}}_{\text{Cohort Effect}} \right)$$

$$\underbrace{\frac{\text{Population } 20-64}{\text{Working People } 20-74}}_{\text{Labour Market / Labour Intensity}} = \underbrace{\frac{\text{Population } 20-64}{\text{Working People } 20-64}}_{\text{1/Employment Rate}} \times \underbrace{\frac{\text{Working People } 20-64}{\text{Hours Worked } 20-64}}_{\text{1/Labour intensity}} \times \underbrace{\frac{\text{Hours Worked } 20-64}{\text{Hours Worked } 20-74}}_{\text{1/Career shift}}$$

Table A2: factors behind the change in social welfare pension expenditures between 2019 and 2070 using pension data, p.p. of GDP change

Δ	2019-30	2030-40	2040-50	2050-60	2060-70	2019-70
Social welfare to GDP	**0.9**	**0.8**	**0.8**	**0.5**	**0.3**	**3.4**
Dependency ratio effect	**0.9**	**1.0**	**1.3**	**0.5**	**0.4**	**4.2**
Coverage ratio effect	**-0.2**	**-0.1**	**-0.2**	**0.0**	**-0.0**	**-0.5**
Coverage ratio old-age	*0.0*	*0.1*	*0.0*	*0.1*	*0.0*	*0.2*
Coverage ratio early-age	*-0.3*	*0.0*	*0.1*	*-0.1*	*0.0*	*-0.4*
Cohort effect	*-0.4*	*-0.5*	*-0.6*	*-0.1*	*-0.1*	*-1.6*
Benefit ratio effect	0.1	0.0	0.0	0.0	0.0	0.2
Labour market effect	0.0	-0.1	-0.1	0.0	0.0	-0.1
Employment ratio effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*
Labour intensity effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Career shift effect	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*
Residual	**0.0**	**-0.1**	**-0.3**	**0.0**	**-0.1**	**-0.5**

Note: Figures may not sum due to rounding.
Source: Department of Finance.

Annex 3

Classification of schemes

Table A3: classification of schemes

Old-Age and early pensions	
flat component	*basic pension*
State Contributory Pension	State Non-Contributory Pension
Disability	
flat component	*basic pension*
Invalidity Pension	Disability Allowance, Blind Pension
Survivors	
flat component	*basic pension*
Widow's, Widower's or Surviving Civil Partner's Contributory Pension	Widow's, Widower's or Surviving Civil Partner's Non-Contributory Pension
Others	
flat component	*basic pension*
Illness Benefit, Deserted Wife's Benefit, Carer's Benefit	Deserted Wife's Allowance, Carer's Allowance

Annex 4

State contributory pension rates

Table A4: state contributory pension (SCP) rates in 2019[32]

Yearly average PRSI Contributions	Personal rate per week, €
48 or over	248.30
40-47	243.40
30-39	223.20
20-29	211.40
15-19	161.80
10-14	99.20

Source: Department of Employment Affairs and Social Protection.

Table A5: state contributory pension (SCP) rates in 2019 for people who qualified for pensions before 1 September 2012

Yearly average PRSI Contributions	Personal rate per week, €
48 or over	248.30
20-47	243.40
15-19	186.20
10-14	124.20

Source: Department of Employment Affairs and Social Protection.

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[32] The projections incorporate social welfare rate increases announced in Budget 2019 and 2020. From 2021 rates are indexed by inflation and productivity. This is a technical assumption for the purpose of this exercise to maintain consistency with previous Ageing Reports.

Annex 5

Eligibility requirements

Table A6: main eligibility requirements for first pillar pensions open to new recipients

Pension Scheme	Requirements
State Contributory Pension	- be 66 years or over - have commenced paying PRSI contributions before age 56 - have at least 260 full rate contributions paid - from April 2012 have at least 520 full rate contributions with a yearly average of 48 paid / credited since 1979 to the end of the relevant tax year or a yearly average of 10 paid / credited since 1953 (or since commencement of insurable employment if later) to the end of the relevant tax year
State Non-Contributory Pension	- be 66 years or over - satisfy a means test - satisfy the Habitual Residence Condition
Widow's, Widower's or Surviving Civil Partner's Contributory Pension	- be widowed or divorced from late spouse and not remarried / cohabiting - have 156 weeks PRSI paid before pension age / death of spouse with a yearly average of 39 weeks PRSI paid / credited over 3 or 5 tax years (whichever is most beneficial) before pension age / death of spouse or an annual average of 24 PRSI contributions for a minimum pension, or an average of 48 for a maximum pension - From 27th December 2013 have at least 260 weeks PRSI paid
Widow's Widower's or Surviving Civil Partner's Non-Contributory Pension	- be widowed or divorced from late spouse and not remarried / cohabiting - satisfy a means test - be habitually resident in the State
Invalidity Pension (note: since 2006 recipients of Invalidity Pension on reaching 66 years of age have been transferred to State Pension Contributory)	- Have been incapable of work for at least 12 months and be likely to be incapable of work for at least another 12 months or be permanently incapable of work - Be under 66 years of age - have 260 PRSI contributions paid - have 48 PRSI contributions paid / credited in the relevant tax year
Illness Benefit	- be unable to work due to illness - be under 66 years - have at least 52 weeks PRSI contributions paid (104 weeks from January 2009) and 39 weeks PRSI contributions paid / credited in the relevant tax year (13 of which must be paid contributions) or 26 weeks PRSI contributions paid in the relevant tax year and 26 weeks PRSI contributions paid in the tax year immediately before the relevant tax year
Disability Allowance	- satisfy the Habitual Residence Condition - have an illness/disability that has continued or is expected to continue for at least one year and causes a substantial restriction in doing work that would otherwise be suitable - be between 16 and 65 years

	• satisfy a means test
Carers Allowance	• be 18 years or over
	• satisfy a means test
	• live with or can be contactable quickly by the person they are caring for
	• care for the person on a full-time basis
	• not be employed outside the home for more than 15 hours a week
	• Satisfy Habitual Residence condition
	• be resident in the State
	• not live in a hospital or similar institution
Carers Benefit	• be 16 or over but under 66
	• have been in employment for at least eight weeks in the previous 26 weeks
	• give up employment to care for somebody full-time
	• live with or can be contactable quickly by the person they are caring for
	• care for the person on a full-time basis
	• not be employed outside the home for more than 15 hours a week
	• be resident in the State
	• not live in a hospital or similar institution
	• have 156 weeks PRSI contributions paid between entry into insurance and the time the claim is made and 39 weeks PRSI contributions paid in the relevant tax year or 39 weeks PRSI contributions paid in the 12 month period before the commencement of the Benefit or 26 weeks PRSI contributions paid in the relevant tax year and 26 contributions paid in the relevant tax year prior to that
Blind Persons Pension (note: since 2006 recipients of Blind Person's Pension on reaching 66 have been transferred to SNCP)	• be at least18 years and under 66 years
	• be blind or have serious vision impairment
	• be habitually resident in the State
	• satisfy a means test

Source: Department of Employment Affairs and Social Protection.

Annex 6

Administrative data on new pensioners

Table A7a: administrative data on new pensioners (2019) – men, number of recipients

age group	all	old-age	disability	survivor	other
15-49	0	0	0	0	0
50-54	0	0	0	0	0
55-59	0	0	0	0	0
60-64	0	0	0	0	0
65-69	22,007	22,007	0	0	0
70-75	0	0	0	0	0
75+	0	0	0	0	0

Source: Department of Finance.

Table A7b: administrative data on new pensioners (2019) – female, number of recipients

age group	all	old-age	disability	survivor	other
15-49	0	0	0	0	0
50-54	0	0	0	0	0
55-59	0	0	0	0	0
60-64	0	0	0	0	0
65-69	17,793	17,793	0	0	0
70-75	0	0	0	0	0
75+	0	0	0	0	0

Source: Department of Finance.

Table A7c: administrative data on new pensioners (2019) – total, number of recipients

age group	all	old-age	disability	survivor	other
15-49	0	0	0	0	0
50-54	0	0	0	0	0
55-59	0	0	0	0	0
60-64	0	0	0	0	0
65-69	39,800	39,800	0	0	0
70-75	0	0	0	0	0
75+	0	0	0	0	0

Source: Department of Finance.