

Finnish Centre for Pensions,
Reports



Pension Indicators 2022

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Foreword

The aim of pension policy is to ensure sufficient earnings-related pensions, the financial sustainability of the earnings-related pension scheme and longer working lives. Earnings-related pension indicators provide a perspective on the current status of earnings-related pensions as well as on their realised and predicted development. This collection of indicators is intended for decision-makers and other parties interested in the future development of earnings-related pensions. The pension indicators have been grouped according to three central goals: length of working life, pension level and pension financing.

The core indicators include central issues in terms of the development of earnings-related pensions and the monitoring of pension reforms. The supplementary indicators offer, as their name reveals, additional insight. There is more information relating to indicators on the website of the Finnish Centre for Pensions and its various publications.

The Finnish Centre for Pensions first introduced indicators for the monitoring and evaluation of pension provision in 2013. The indicators were slightly updated in 2021.

The indicators of this review have been compiled by Allan Paldanius, Joonas Hautamäki, Santeri Helin, Henna Iire, Jari Kannisto, Katariina Käkönen, Jukka Lampi, Tuija Nopola, Juha Rantala and Suvi Ritola of the Finnish Centre for Pensions, as well as Kimmo Koivurinne of The Finnish Pension Alliance TELA.

Helsinki, November 2022

Allan Paldanius
Director, Finnish Centre for Pensions

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1.1 Expected effective retirement age

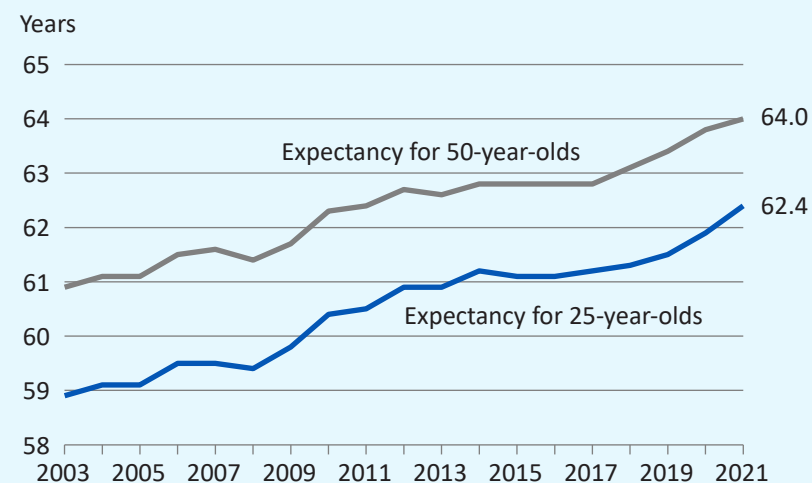
The expected effective retirement age depicts the average retirement age for insured persons of a certain age when presuming that the retirement risk and mortality per age group remains at the level of the review period. Part-time pension retirees or partial old-age pension retirees are not included when calculating the expectancy.

The expected effective retirement age can be calculated for persons at any age. The expectancy for a 25-year-old has been selected as the basic indicator.

The expectancy for a 25-year-old has risen by more than three years from the level prior to the previous pension reforms (2004). In 2021, the expected effective retirement age for a 25-year-old was 62.4 years. It rose by 0.5 years compared to 2020. In 2021, the expected effective retirement age for a 50-year-old was 64.0 years; that is, 1.6 years higher than that of a 25-year-old. Thus, the expected effective retirement age for a 50-year-old rose by 0.2 years in 2021. One of the key underlying reasons for the rapid rise in expected effective retirement age is the rising old-age retirement age.

The expected effective retirement age for men and women was on the same level until 2015. After that, the expected effective retirement age for men rose in a few years and exceeded that of women by 0.7 years. In the last few years, the gap has not grown. Instead, men's and women's expected effective retirement age has increased at the same pace. The gap between 50-year-old men and women is narrow.

Figure 1.1a
Expected effective retirement age in 2003–2021,
all retirees on earnings-related pension



Those born after March in 1957 reached their retirement age in 2020. Because of the rising retirement ages, their retirement age was 63 years 9 months. Due to the change, the number of new retirees on an old-age pension has been lower than before since only a part of the age group reaches their retirement age each year. Before 2018, the entire age group reached the retirement age in the same year.

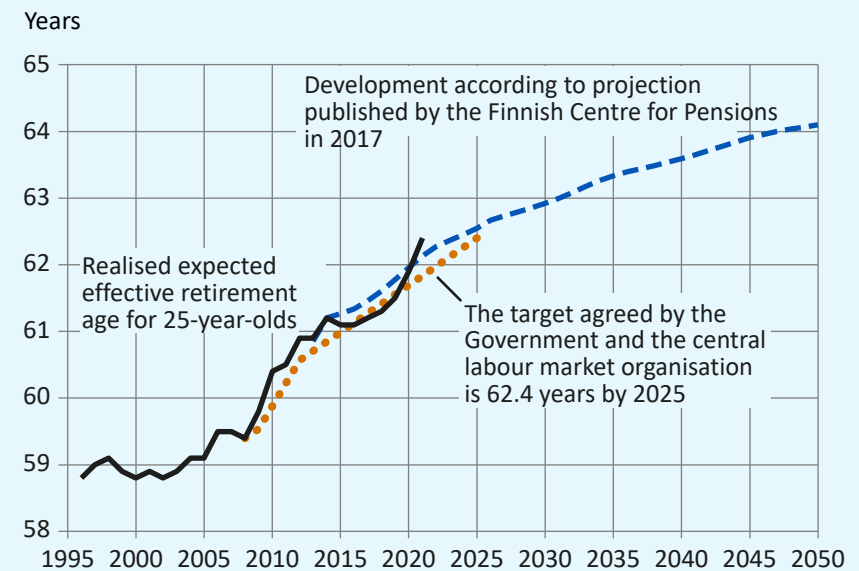
[More information: Effective retirement age in the Finnish earnings-related pension scheme](#)

In 2009 the government and central labour market organisations set as a goal that the expected effective retirement age of a 25-year-old should rise to at least 62.4 years by 2025. To implement this goal, government proposals to change the earnings-related pension acts were confirmed in January 2016. New earnings-related pension acts came into force on 1 January 2017. The Finnish Centre for Pensions' impact assessment of the 2017 pension reform projected that, as the age limits for old-age pension are progressively raised, the targeted levels for the expected retirement age should be reached by around 2025.

[\(Projections on the effects of the 2017 earnings-related pension reform – Assessments based on the Government bill. Finnish Centre for Pensions, Reports 08/2015\).](#)

The expected effective retirement age at the beginning of the 2000s was around 59 years. In connection with the 2005 pension reform, the unemployment pension was phased out which, after a transition period, clearly raised the expected effective retirement age. When the effective retirement age ceased to rise in 2015, a change in retirement age was seen as the best alternative to achieve the set goal. The retirement age was amended in connection with the 2017 pension reform. In 2021, the expected effective retirement age rose to 62.4 years, ahead of schedule.

Figure 1.1b
Expected effective retirement age in 1996–2050: realisation, goal and projection



1.2 Duration of active working life and duration of employment

The duration of active working life depicts the average number of years a 15-year-old is expected to take part in the workforce during the remaining years of life if the workforce shares of the year in question would prove to be permanent.

The duration of employment depicts the average years that a 15-year-old person can be expected to be in employment or self-employment during the remaining years of life if the rates of employment during the year in question would prove to be permanent. Its annual values are cyclical in the same way as the employment rate.

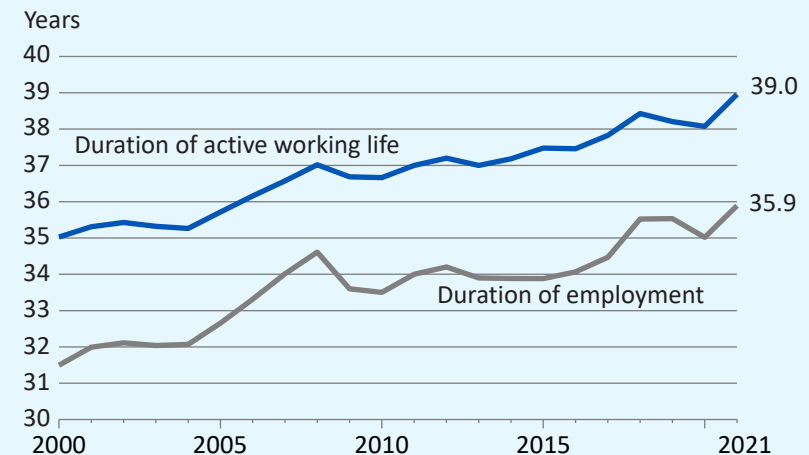
The calculations are based on data from workforce research of Statistics Finland. The variables used are workforce share and employment rate. More detailed definitions are presented at the website of [Statistics Finland](#).

The calculations have been made at the Finnish Centre for Pensions.

The duration of active working life increased by four years and the duration of employment by 4.4 years in the review period.

The difference of about three years between the duration of active working life and the duration of employment is due to unemployment.

Figure 1.2
Duration of active working life and duration of employment for a 15-year-old in 2000–2021



1.3 Employment rate

The employment rate is the percentage share of employed persons in the population of the same age. The review is based on the annual average values of the labour force survey by Statistics Finland. Normally, the employment rate is calculated as a percentage share of same-age population among the employed between 15 and 64 years of age. This being the case, 65–69-year-olds do not impact the employment rate of the population as a whole.

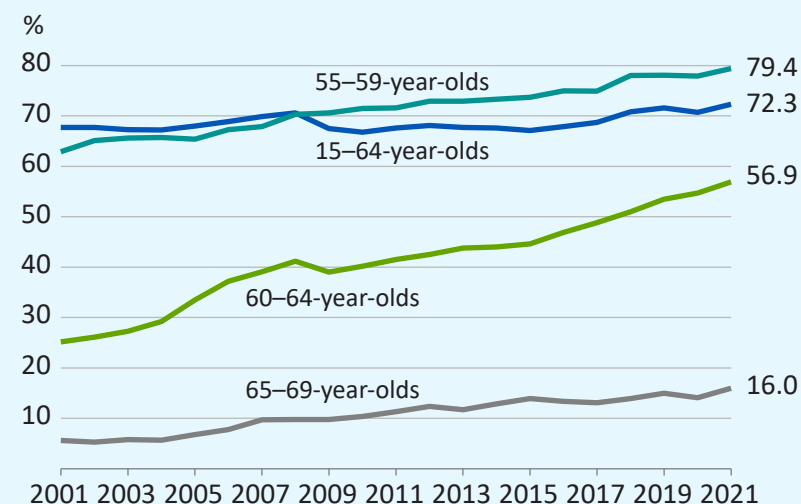
As employed is considered a person who, during the survey week, was in gainful employment and received a monetary salary for at least an hour of work or fringe benefits, or profit, or someone who has been temporarily off work. More detailed definitions are available from [Statistics Finland](#).

The employment rate rose in the 2000s, right up until the financial crisis of 2008. Since then the trend for the employment rate has been particularly favourable in the age groups 55+. In the age group 55–59, the employment rate since 2008 has been higher than in the whole working age population. The employment rate of this age group has risen steadily. In 2021, the employment rate reached a record-high level of 79.4 per cent, up by 1.5 percentage points.

Employment has also improved significantly among the 60–64-year-olds. Apart from the brief slump caused by the financial crisis, the employment rate in this age group has risen rapidly. A new record has been set each year, also during the corona pandemic. In 2021, the employment rate of the 60–64-year-olds was 56.9 per cent - an increase of one per cent from 2020.

The employment rate for the 65–69-year-olds has also improved, particularly since the 2005 pension reform. The likely main reason for this is that the age

Figure 1.3
Employment rate by age group in 2001–2021



Source: Official Statistics of Finland (OSF): Labour force survey.
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when the insurance obligation ends has risen from 65 to 68 years. Before the 2017 reform, the employment rate of this age group was around five per cent. In 2021, it was three times as high (16.0%) as at the turn of the century.

It took ten years for employment in the total population to rise to the pre-financial-crisis level. In the year of the corona pandemic (2020), the employment rate decreased by one percentage point, but in 2021, it reached the highest level in the 2000s, that is, 72.3 per cent.

1.4 Length of working life of new retirees

Length of working life means the duration of time, in months or years, as available from the earnings-related pension records. That means that working life only includes employment or self-employment insured for earnings-related pensions. In this review, a person is considered to have been at work during a specific month, according to register information, if they have been employed or self-employed and insured for earnings-related pensions during said month.

A person's working life begins no earlier than from the beginning of the month following their 17th birthday: this is the age at which pension begins to accrue. Until the end of 2016, pension began to accrue at age 18. Since the review ends with retirement, working life does not comprise work carried out alongside receiving a pension, if the pension in question is not part-time pension or partial old-age pension. The information is based on the statistical registers of the Finnish Centre for Pensions.

Since the pension reform in 2017, the working life length of new retirees on an earnings-related pension seems to have taken an upward turn. In 2021, it was 32.5 years on average. The median working life was around five years higher.

The working life length of new retirees on an old-age pension has risen clearly since the 2017 pension reform. In 2021, however, both their average and median working life declined by 0.2 years compared to 2020. In 2021, the average working life of new retirees on an old-age pension was 35.6 years and the median working life 39.3 years. In other words, half of all new retirees on an old-age pension worked for at least 39.3 years before retiring.

Table 1.4

The length of working lives of retirees in 2021, years

	Average value	Median
All new retirees in 2021		
Both genders	32.5	37.3
Males	33.1	38.0
Females	32.0	36.6
New retirees on an old-age pension in 2021		
Both genders	35.6	39.3
Males	36.1	39.8
Females	35.1	38.8

The working life of male new retirees on an old-age pension was, on average, one year longer than that of female new retirees. The gender gap was of similar size also among all new retirees.

The median length of working life is around five years higher than that measured with the average value. For new retirees on an old-age pension, the gap is slightly under four years.

1.5 Retirees and working

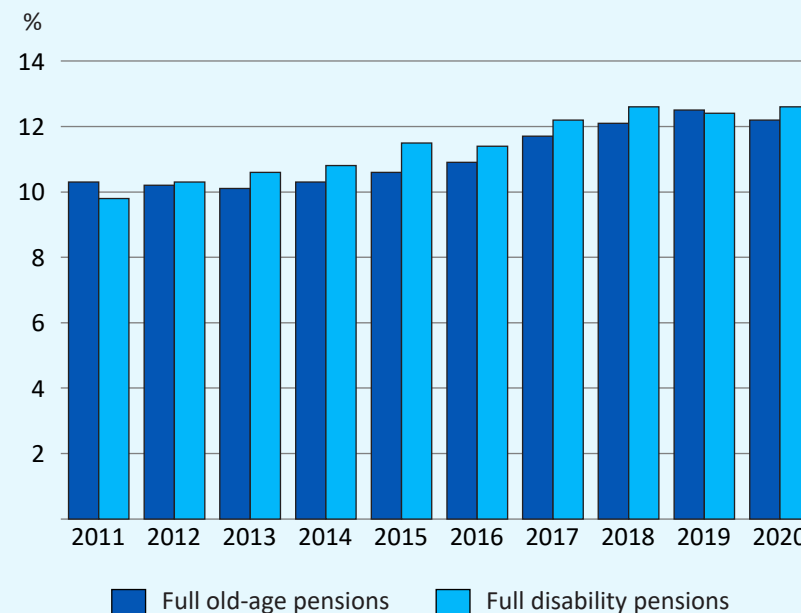
The percentage of pension recipients working while drawing a pension compared to pension recipients of the same age describes the frequency of working in retirement. Since the data is based on the statistical registers of the Finnish Centre for Pensions, the review has to be limited to those covered by the insurance obligation, that is, the 18–67-year-old pension recipients who received an old-age pension or a full disability pension at the end of the statistical year.

The old-age pensions do not include the partial old-age pension. The partial disability pension has also been excluded from the review. The disability pension may be awarded as a full pension or a partial pension. Since the partial pension is half of the amount of the full pension, its prerequisite is continued working (with a reduced work input) within the limits of the person's ability to work. In recent years, partial pensions have been paid to more than 23,000 persons, one third of whom are men. Nearly 80 per cent of all partial pension recipients work.

Of the under 68-year-old recipients of a full old-age pension, a total of 12.2 per cent worked at year-end 2020, up by a couple of percentage points in the 2010s. Working has become more common mainly in the latter half of the decade in the wake of a favourable economic development.

The number of recipients of a full disability pension has dropped by 40 per cent during the period under review. They numbered 180,000 in 2011 and 107,000 by the end of 2020. While the number of full disability pension recipients has decreased, working in retirement has increased slightly. At the end of 2020, a total of 12.6 per cent of all recipients of a full disability pension worked.

Figure 1.5
Share of employed 18–67-year-old pension recipients at year-end 2011–2020, %



1.6 Expected effective retirement age, median and average value

The effective retirement age can be described by the indicators expectancy, median and average value.

The expected effective retirement age (expectancy) depicts the average retirement age for insured persons of a certain age when presuming that starting pensions and mortality per age cohort remain at the level of the year under review. The expected effective retirement age can be calculated for persons at any age. The expectancy for a 25-year-old has been selected as the basic indicator.

The median is the age that 50 per cent of retirees are younger than and 50 per cent are older than.

The average age is the arithmetic mean of the ages of those who retired.

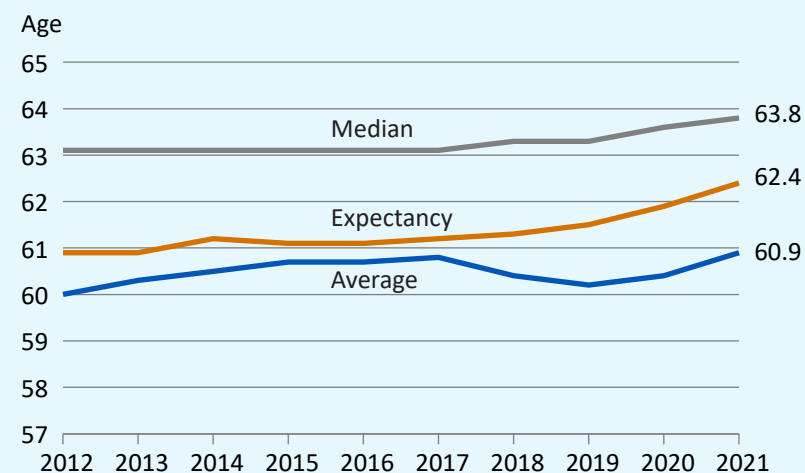
People who have taken out a part-time pension or a partial old-age pension are not included in the figures of retirees.

All indicators show that the effective retirement age has risen considerably in the 2000s. In 2021, all indicators were at their highest levels in statistical history. Since 2017, the number of new retirees on an old-age pension has been lower than before due to the rising retirement age. In 2021, those born after March in 1957 reached their retirement age, that is 63 years and 9 months.

The average and median values indicate the effective retirement age for a given year; they cannot be used for inferences about changes occurring over time. For example, the drop in the average value in the last couple of years is due to the exceptionally low number of new retirees on an old-age pension. In reality, this will defer actual retirement. Both the expected effective retirement age and the median effective retirement age have risen clearly since the 2017 pension reform.

Figure 1.6

The expected effective retirement age, median and average value in the earnings-related pension scheme in 2012–2021



The population age structure has had a major effect on the effective retirement age in the 2000s. The boomers have now retired on an old-age pension, so their impact on these indicators has faded. In the future, increasingly smaller age groups are approaching retirement age. The expected effective retirement age is not affected by the demographic age structure, only by changes in behaviour of those approaching their retirement age. As the retirement age rises, the number of new retirees on an old-age pension decreases, which reduces the average effective retirement age, at least in the beginning.

1.7 Share of insured that have retired on an earnings-related pension

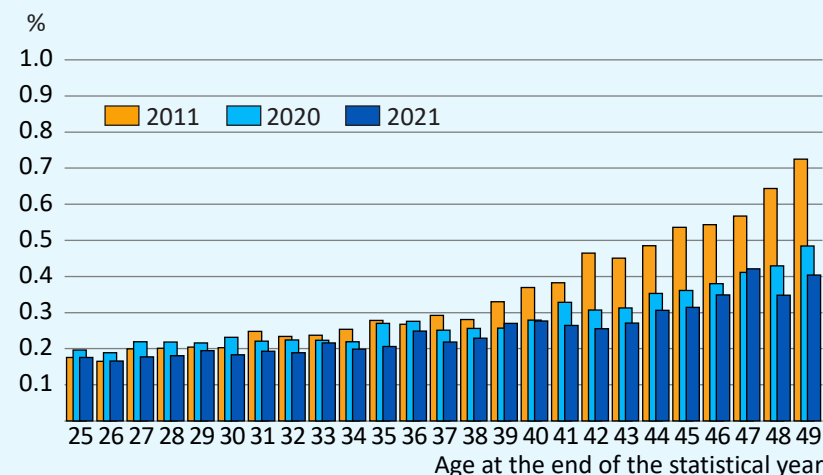
The share of insured that have retired on an earnings-related pension depicts the percentage share of new retirees among persons of the same age who are insured but not retired. The ratio can be interpreted as the risk of retirement at a certain age. This retirement risk is also used to calculate the expected retirement age.

In the 2010s, the share of new retirees on an earnings-related pension has clearly decreased in the age groups under 63. Among the young, however, the decline has been limited, with an occasional slight increase in the number of young people retiring on a disability pension.

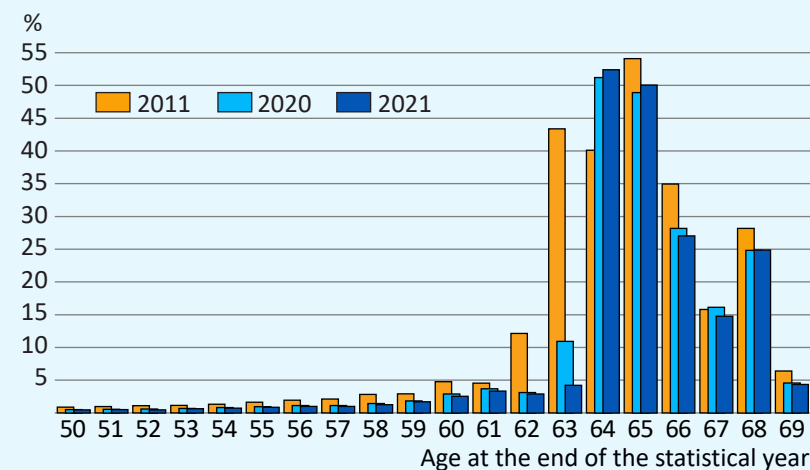
The share of middle-aged new retirees on a disability pension has decreased because of the population's improved health and more developed health services. As for the older workforce, the possibilities of unemployed persons to retire early have been reduced, which is particularly obvious among the 60–62-year-olds. The increase in the old-age pension retirement age has reduced the number of new retirees among the 63-year-olds and increased the number among the 64-years-old. In 2021, those born in after March 1957 reached their retirement age of 63 years and 9 months.

Figure 1.7
Share of insured that have retired on an earnings-related pension in 2011, 2020 and 2021

a) 25–49-year-olds



b) 50–69-year-olds



Please note the different scaling in figures a and b.

1.8 Age-standardized incidence of disability pensions

The incidence of disability pensions depicts the percentage share of the non-retired population that has begun receiving disability pension during the year in question. The figures have been age-standardized, using those insured for earnings-related pension in the last year as standard population. By standardizing them, the impact that age structure differences in the population have on the incidence is removed.

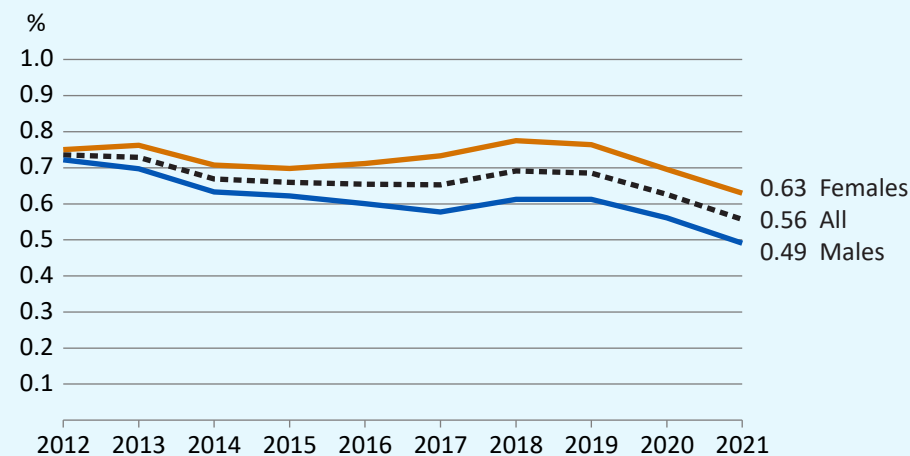
The incidence of disability pensions clearly fell in the 2000s, more so among men than women. At the end the 2010s, the incidence took a temporary upward turn, which ended in a clear downward turn in 2020. In 2021, the strong downward turn continued with the incidence of disability pensions dropping to 0.56 per cent.

In the early 2000s, the incidence was higher for men than women. In 2010, the incidence was the same for both genders, but since then, women's incidence rates have been higher than men's. In recent years, the gap has no longer increased and seems to have stabilised at 0.15 per cent.

In the mid-2010s, the annual number of new retirees on a disability pension stabilised at clearly less than 19,000 persons. In 2018–2019, the number was higher, at both sides of 20,000. In 2020, the year of the corona pandemic, the number dropped again to around 19,000. In 2021, it reached the lowest level in the 2000s, at less than 17,500 persons.

The most common reasons for retirement on a disability pension are musculoskeletal disorders and mental and behavioural disorders. In 2019, for the first time, mental and behavioural disorders was the most common reason for retirement on a disability pension. The trend continues: 33 per

Figure 1.8
Age-standardized incidence of disability pensions for 25–62-year-olds in the earnings-related pension scheme in 2012–2021 by gender, %



The figures include full disability pensions and individual early retirement pensions.

Standard population = non-retired population of persons insured for an earnings-related pension in 2021

cent of all new retirees on a disability pension in 2021 retired due to mental and behavioural disorders while 32 per cent retired due to musculoskeletal disorders.

1.9 Duration of active working life in the Nordic countries and the EU

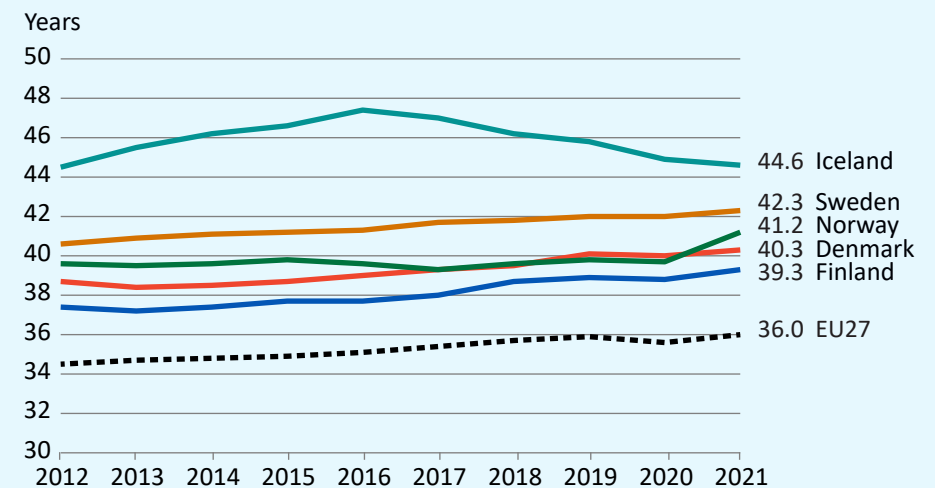
The duration of active working life depicts the average number of years a 15-year-old is expected to take part in the workforce during the remaining years of life. The figures come from [Eurostat](#).

The expected duration of active working life has increased in the whole EU area by around 1.5 years during the period under review.

In the Nordic countries, Sweden, Denmark and Finland have seen the expectancy rise at the same rate as in the EU. In Norway, the expectancy grew by 1.5 years. The expected duration of active working life is highest in Iceland, 44.6 years.

In Finland, the active working life duration is shorter than in the other Nordic countries. In 2021 the difference to Sweden was 3.0 years.

Figure 1.9
Duration of active working life of a 15-year-old in the Nordic countries and the EU in 2012–2021



1.10 Employment rate of 55–67-year-olds

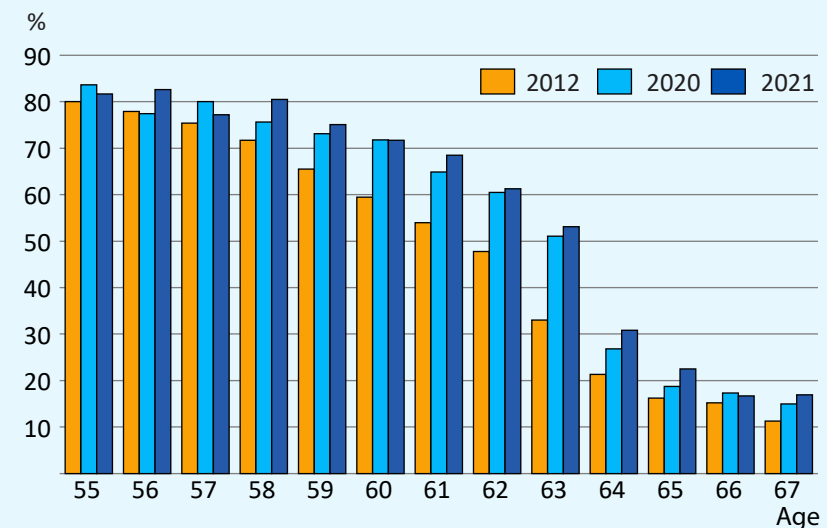
The employment rate is the percentage share of employed persons in the population of the same age. The review is based on the annual average values of the labour force survey by Statistics Finland.

As employed is considered a person who, during the survey week, was in gainful employment and received a monetary salary for at least an hour of work or fringe benefits, or profit, or someone who has been temporarily off work. More detailed definitions are available from [Statistics Finland](#).

In recent years, the employment rate has risen in the older workforce. In the past ten years the employment rate has increased clearly in all 55+ age groups. This positive trend continued also in 2021 in nearly all age groups.

The largest change in recent years occurred in the age group 60–63-year-olds. The increase in retirement age is probably one of the central reasons for the rising employment rate in these age groups.

Figure 1.10
The employment rate of 55–67-year-olds in 2012, 2020 and 2021



Source: Official Statistics of Finland (OSF): Labour force survey.
ISSN=1798-7857. Helsinki: Statistics Finland

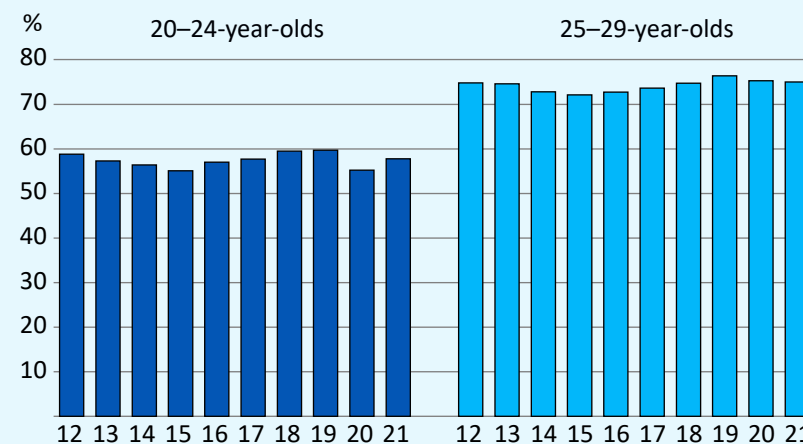
1.11 Employment rate of 20–29-year-olds

The employment rate is the percentage share of employed persons in the population of the same age. The review is based on the annual average values of the labour force survey by Statistics Finland.

As employed is considered a person who, during the survey week, was in gainful employment and received a monetary salary for at least an hour of work or fringe benefits, or profit, or someone who has been temporarily off work. More detailed definitions are available from [Statistics Finland](#).

In the early 2010s, the euro crisis pressed down the employment rate. Among the youth, it was at its lowest in 2015, after which their employment rate took an upward turn again. The employment rate peaked at the end of the 2010s. The upward trend ended with the corona pandemic. In 2021, the employment rate among the 20–24-year-olds was 57.8 per cent, and 75.0 per cent among the 25–29-year-olds.

Figure 1.11
The employment rate of 20–24- and 25–29-year-olds in 2012–2021



Source: Official Statistics of Finland (OSF): Labour force survey.
ISSN=1798-7857. Helsinki: Statistics Finland

1.12 The average employment rate of 60–64-year-olds in the Nordic countries and the EU

The employment rate is the percentage share of employed persons in the population of the same age. The review is based on data collected by Eurostat from the workforce research of different countries. The definitions of the statistic are the same as in the workforce research of Statistics Finland. More details available at [Eurostat](#).

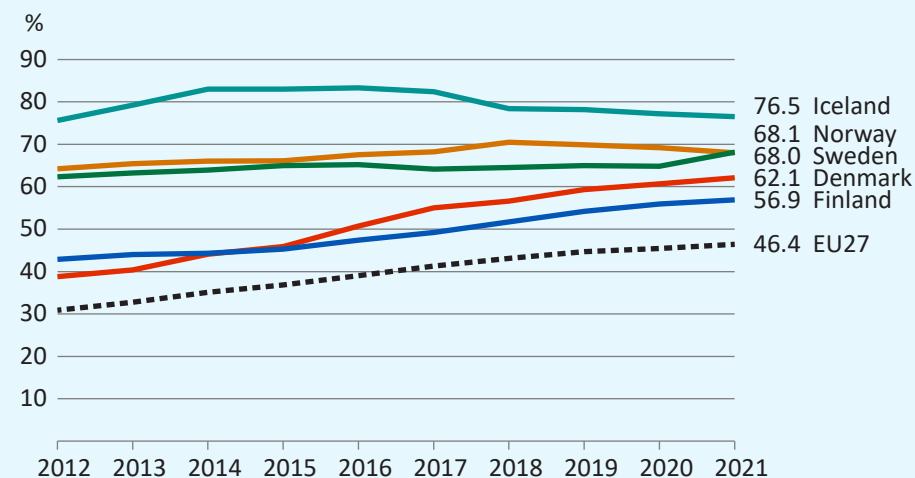
As employed is considered a person who, during the survey week, was in gainful employment and received a monetary salary for at least an hour of work or fringe benefits, or profit, or someone who has been temporarily off work.

Although the employment rate of 60–64-year-olds in the EU has risen considerably in the 2010s, it is still clearly below that in the Nordic countries. Finland has the lowest employment rate of the Nordic countries but it is 10 percentage points above the average EU rate. Finland lags behind Sweden and Norway by 10 percentage points.

Iceland has the clearly highest employment rate in the Nordics. Sweden comes in second. Its employment rate among the 60–64-year-olds decreased by one percentage point in 2021. When the employment rate in Norway increased considerably, Sweden, which held second position for a long time, fell below Norway. Denmark has clearly approached the level of the two leading countries but fell six percentage points below them in 2021.

In Finland and Denmark, the employment rate among the 60–64-year-olds has risen the most in the Nordic countries in the 2010s. The gap to the other Nordic countries has narrowed in particular in recent years. For example, the gap between Finland and Sweden has narrowed by ten percentage points during the review period. At the same time, the employment rate of the

Figure 1.12
Employment rate of 60–64-year-olds in the Nordic countries and the average rate in EU countries in 2012–2021



Source: Eurostat, Employment, Labour Force Survey

elderly workforce has risen by more than 20 percentage points in Denmark. The swiftest development in the Nordics has made Denmark clearly surpass Finland.

At least part of the gaps between the Nordic countries can be explained by part-time work, which is clearly more common in Sweden and Norway than in Finland. In Finland, the employment rate particularly of older men is lower than in the other Nordic countries.

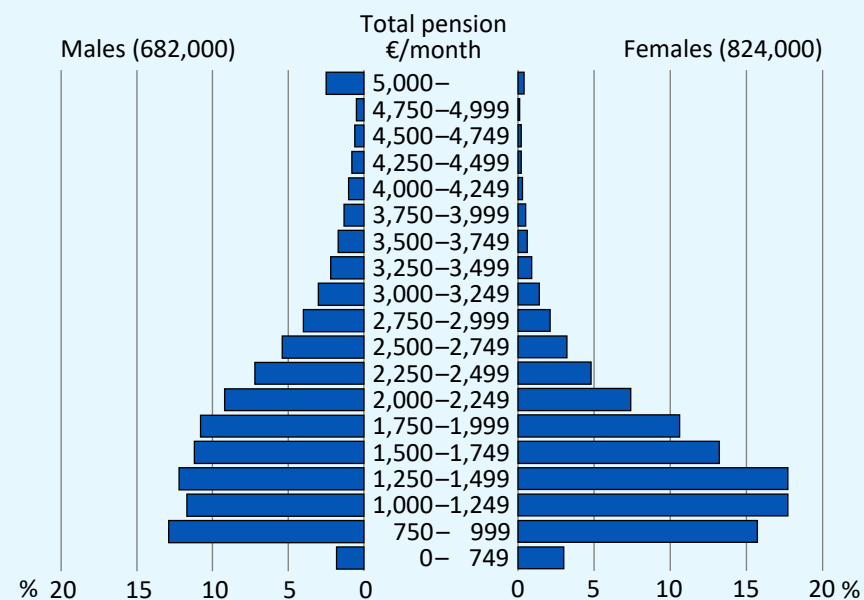
2.1 Distribution of total pension among pensioners with a pension in one's own right

The average total pension in one's own right depicts the average total pension of persons resident in Finland and receiving old-age or disability pension from the earnings-related and/or national pension scheme. The pension contains the individual's own earnings-related and national pension as well as surviving spouse's pension. The total pension also comprises special provision pensions¹ as well as front veterans' supplements, child increases and guarantee pensions paid by Kela.

Pension recipients received an average monthly total pension of 1,784 euros in 2021. The size distribution of the total pension received in one's own right is more regular among men than women. Of the pension recipients, nearly half received a monthly pension of less than 1,500 euros. From a gender perspective, 54 per cent of the women and 39 per cent of the men received a monthly pension of less than 1,500 euros. Around 16 per cent of all pension recipients residing in Finland received a total monthly pension of more than 2,500 euros. As a rule, large pensions are paid to men.

Figure 2.1

Distribution of total pension received in one's own right of persons residing in Finland at 31 Dec. 2021



The graph does not include pension recipients who get partial old-age pension or disability pension.

¹ The Motor Liability Insurance Act, the Occupational Accidents, Injuries and Diseases Act, the Act on Compensation for Military Accidents and Service-Related Illnesses, the Act on Compensation for Accidents and Service-Related Illnesses in Crisis Management Duties, and the Military Injuries Act

2.2 Average total pension in one's own right

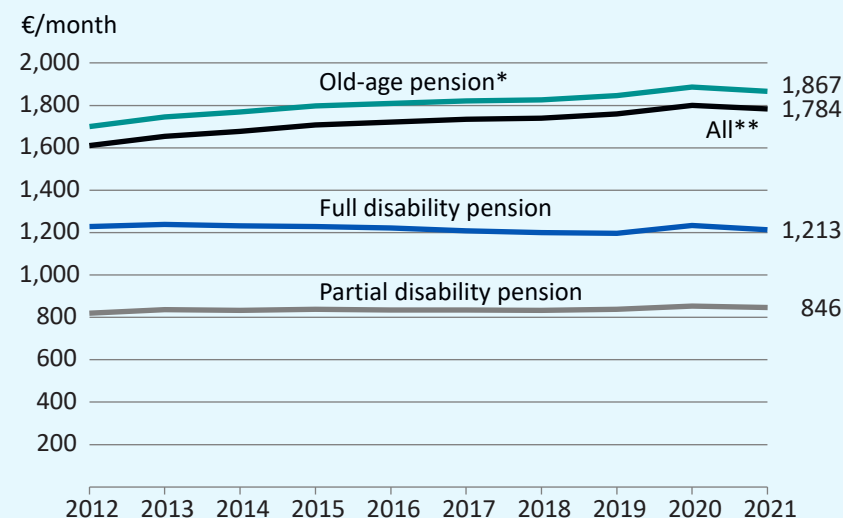
The average total pension in one's own right depicts the average total pension of persons resident in Finland and receiving old-age or disability pension from the earnings-related and/or national pension scheme. The pension contains the individual's own earnings-related and national pension as well as surviving spouse's pension. The total pension also comprises special provision pensions¹ as well as front veterans' supplements, child increases and guarantee pensions paid by Kela.

The average total pension of old-age pension recipients has seen a real growth of 10 per cent during the period under review.

The average total pension of those receiving a full disability pension has remained nearly at the same level throughout most of the period under review. The total average pension of those receiving a partial disability pension has also remained fairly stable during the period under review. According to the definition, the partial disability pension is half the size of a full pension. Relatively speaking, partial disability pensions are better than full pensions. In 2021 the total average pension of those receiving a partial disability pension was 70 per cent of the total pension of those receiving a full disability pension.

Figure 2.2

The average total pension in one's own right in 2012–2021 by pension benefit, at 2021 level



*Old-age pension doesn't include partial old-age pensions.

**Contains unemployment pensions up until 2014.

1 The Motor Liability Insurance Act, the Occupational Accidents, Injuries and Diseases Act, the Act on Compensation for Military Accidents and Service-Related Illnesses, the Act on Compensation for Accidents and Service-Related Illnesses in Crisis Management Duties, and the Military Injuries Act.

2.3 Average total pension in one's own right in relation to average earnings

The average total pension in one's own right depicts the average total pension of persons resident in Finland and receiving old-age or disability pension from the earnings-related and/or national pension scheme. The pension comprises the individual's own earnings-related and national pension as well as surviving spouse's pension. The total pension also comprises special provision pensions¹ as well as front veterans' supplements, child increases and guarantee pensions paid by Kela.

The average earnings are based on the average wages and self-employment income of different professions, as reported in the income distribution statistic of Statistics Finland. More detailed definitions are available from [Statistics Finland](#).

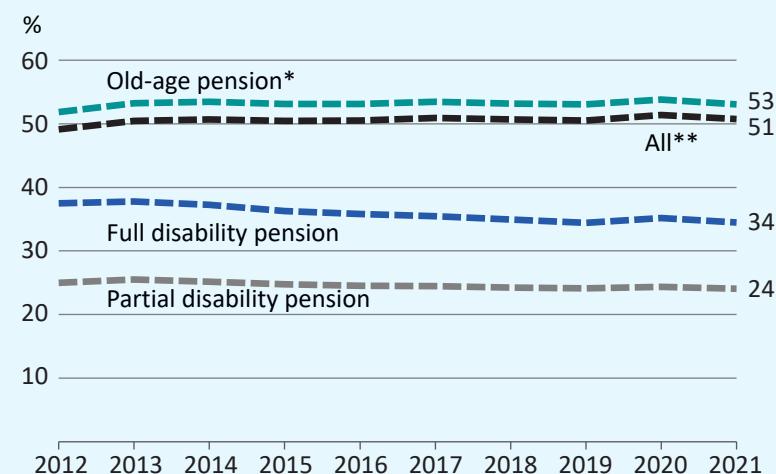
The income ratio of all pension recipients and the working population has remained around 50 per cent throughout the entire period under review. The income ratio has remained virtually the same due to the development in old-age pensions. The average old-age pension relative to the average earnings of those working has also remained around 50 per cent. In recent years, the moderate changes in average earnings have also impacted the development of this ratio.

The status of recipients of a full disability pension in relation to people still in the labour market has slightly weakened during the period under review.

¹ The Motor Liability Insurance Act, The Occupational Accidents, Injuries and Diseases Act, The Act on Compensation for Military Accidents and Service-Related Illnesses, The Act on Compensation for Accidents and Service-Related Illnesses in Crisis Management Duties, Military Injuries Act.

Figure 2.3

The average total pension in one's own right in 2012–2021, in percentage of the annual average earnings of the year in question, by pension benefit



*Old-age pension doesn't include partial old-age pensions.

**Contains unemployment pensions up until 2014.

The income ratio of recipients of partial disability pension to the working population has remained at around 25 per cent throughout the period under review.

2.4 Average total pension in relation to average earnings, 2022–2090

The assessment of the development of the average total pension is based on the long-term projection published in October 2022. ([Statutory pensions in Finland: long-term projections 2022. Finnish Centre for Pensions, Reports 05/2022, English summary](#)).

The average total pension in one's own right depicts the average total pension of persons resident in Finland and receiving old-age or disability pension from the earnings-related and/or national pension scheme. The pension contains the individual's own earnings-related and national pension as well as surviving spouse's pension. The total pension also comprises special provision pensions¹ as well as front-veterans' supplements, child increases and guarantee pensions paid by Kela.

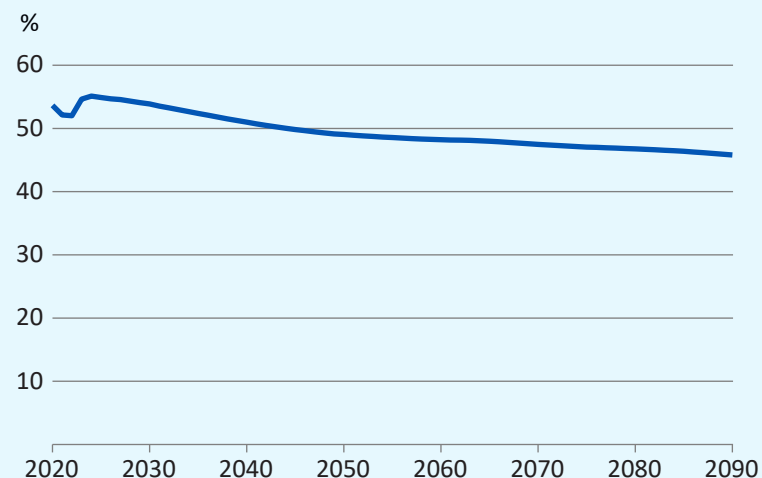
The average pension purchasing power will grow from 1,784 euros per month to 3,300 euros per month over the period 2022–2090. The rise in pension purchasing power is mainly attributable to rising earnings since earnings-related pensions are linked to earnings via accrual rates and by indexing. The average pension was slightly more than 52 per cent of the average earnings in 2021². Strong index increases projected for 2023 will bring the ratio to almost 55 per cent. From then onwards, pensions will rise more slowly than average earnings. By 2050, the ratio between average pension and average

¹ The Motor Liability Insurance Act, The Occupational Accidents, Injuries and Diseases Act, The Act on Compensation for Military Accidents and Service-Related Illnesses, The Act on Compensation for Accidents and Service-Related Illnesses in Crisis Management Duties, Military Injuries Act.

² Gross pensions are compared to gross earnings. Literature on income distribution often compares the equivalised income. This takes into account differences in household size and other incomes, as well as taxation. In such a comparison, the relative income of pensioners would be higher.

Figure 2.4

The average total pension in one's own right and its ratio to average earnings of the year in question in 2020–2090



earnings will decrease to 49 per cent, and by 2090, to 46 per cent. This is mainly due to the life expectancy coefficient. In addition, the age structure of pensioners will become older on average in the early decades as the baby-boomers age. This will reduce the ratio of pensions to earnings, as indexation is only partly linked to the evolution of earnings. Over the next few years, the decline of the ratio will be slowed by the ongoing maturing of the earnings-related pension system. The oldest pensioners started working before the earnings-related pension acts came into force while, nowadays, new earnings-related pensions are based on a full career.

2.5 Pension replacement rate

The pension replacement rate depicts the earnings-related pension percentage share of the earnings level preceding retirement of a person who has retired on an earnings-related pension. The earnings-related pension includes all pensions in one's own right paid as earnings-related pensions. The earnings level has been determined two and three years before the pension contingency year, based on earnings received.

Included in the review are persons who retired on an earnings-related pension in 2021 and had earnings from work during the years 2018 and 2019. Excluded from the review are thus those new retirees who did not have earnings during the two calendar years under review. Part-time pension recipients during that time have also been excluded from the review. The limitations screen out approximately half of all new retirees. Many left outside the review retired from disability or unemployment.

The earnings have been indexed to the statistical year by the cost-of-living index.

The pension replacement rate for people retiring in 2021 was 57 per cent on average. The replacement rate varies greatly. If earnings from the last working years differ significantly from average career earnings, the replacement rate may be very high or very low. The replacement rate median was 56 per cent. It describes the average pension replacement rate fairly well. Every second replacement rate was between 46 and 64 per cent. The replacement rate was higher for men than for women.

Table 2.5

Pension replacement rates of those retiring on an earnings-related pension from work in 2021

	Average replacement rate	Lowest decile, i.e. 10%	Lower quartile, i.e. 25%	Median value, i.e. 50%	Upper quartile, i.e. 75%	Highest decile, i.e. 90%
All new retirees						
Both genders	57	30	46	56	64	76
Males	61	36	49	57	66	81
Females	54	29	43	54	63	72

The basic figures for the replacement rates presented here are, by nature, rather stable; changes occur slowly. A slowly declining trend can be observed over the long run, with an annual decrease of around one percentage point. In 2012, the average replacement rate of those retiring from work was 66 per cent. The median and quartile rates have also decreased, but at an even slower rate.

2.6 Average total pension in one's own right and share of pension income per decile

The average total pension in one's own right per decile depicts the total pension of pension recipients in different deciles.

The deciles have been arrived at by arranging pension recipients in ascending order based on total pension, and by dividing pension recipients into ten groups of equal size.

Recipients of pension in one's own right are those Finnish residents receiving old-age, disability, unemployment or special farmers' pensions from the earnings-related and/or national pension scheme. Unemployment pensions have not been paid out since 2014.

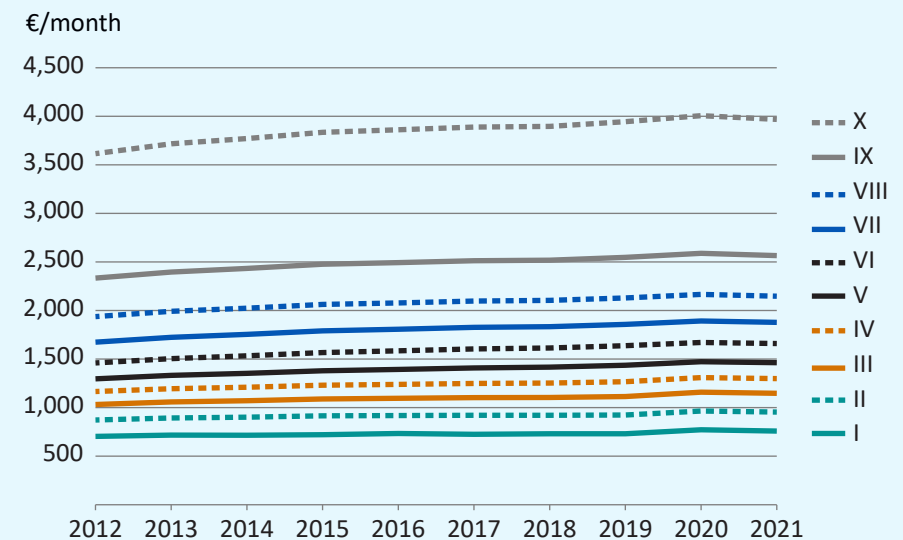
The total pension comprises the individual's own earnings-related and national pension as well as surviving spouse's pension. The total pension also comprises special provisions pensions¹ as well as guarantee pensions, front-veterans' supplements and child increases paid by Kela.

The pension level has risen in all pension income categories during the period under review. However, the pension level has risen more in the higher than in the lower deciles, resulting in greater differences between pensions when it comes to actual euro amounts. In the uppermost decile, the average pension has risen by approximately 350 euros and by approximately 55 euros in the lowest decile.

¹ The Motor Liability Insurance Act, the Occupational Accidents, Injuries and Diseases Act, the Act on Compensation for Military Accidents and Service-Related Illnesses, the Act on Compensation for Accidents and Service-Related Illnesses in Crisis Management Duties, and the Military Injuries Act.

Figure 2.6

The average total pension of pension deciles of recipients of pension in one's own right in 2012–2021, at 2021 level



2.7 Calculation of the development of pension replacement rates

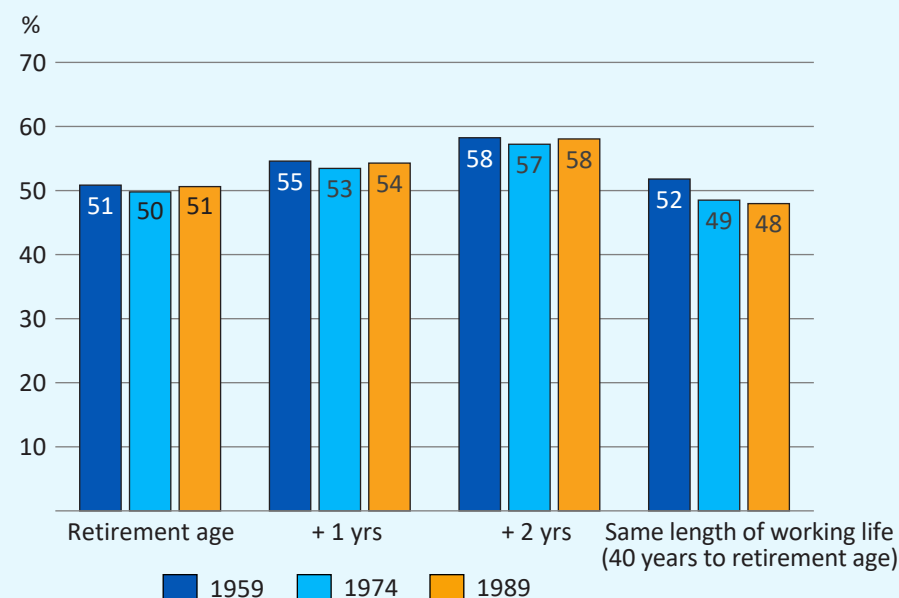
The pension replacement rate means the amount of the starting pension in relation to the last earned wage calculated with the help of pension models. With the help of these models, we can see how the pension calculation rules affect the level of the starting pension.

The replacement rate has been calculated based on the assumption that the working life has begun at the age of 25 and continued without interruption until retirement. The replacement rate has also been calculated for all for a working life exceeding 40 years, in which case the age at which the working life has begun varies but the length of the working life is the same. In the calculation, earnings are assumed to have developed according to an undulating earnings profile, where the earnings are 75 per cent of average earnings at the start of the working life and 105 per cent at the end. In the projection, the assumed life expectancy coefficient, retirement ages and general earnings and price development correspond to those in the projections of the Finnish Centre for Pensions.

Figure 2.7 shows the replacement rates for example persons born in 1959, 1974 and 1989. The replacement rate is presented for these cohorts at their retirement age as well as at one or two years of working past their retirement age. The working lives vary slightly depending on the retirement age of each birth cohort. For those born in 1959, the retirement age is 64 years and 3 months; for those born in 1974 it is 66 and 2 months years and for those born in 1989 it is 67 years and 6 months (the retirement ages of those born in 1974 and 1989 are current estimates). For each age cohort, there is also a calculation for a working life spanning 40 years.

For all cohorts, the replacement rates at retirement age are at the same level (49–50 per cent). This means that the working life is the longer the younger the cohort is. When reviewing working lives of equal length, the replacement

Figure 2.7
Pension replacement rates for example persons born in 1959, 1974 and 1989



rates decrease when moving from the oldest cohort to the younger cohorts. According to the population projection, the expected life expectancy will grow, which means that the life expectancy coefficient will reduce pension levels and the replacement rate. Continued working improves the replacement rates for each cohort.

2.8 Pension replacement rate distribution

The pension replacement rate depicts the earnings-related pension percentage share of the earnings level preceding retirement of a person who has retired on an earnings-related pension. The earnings-related pension includes all pensions in one's own right paid as earnings-related pensions. The earnings level has been determined two and three years before the pension contingency year, based on earnings received.

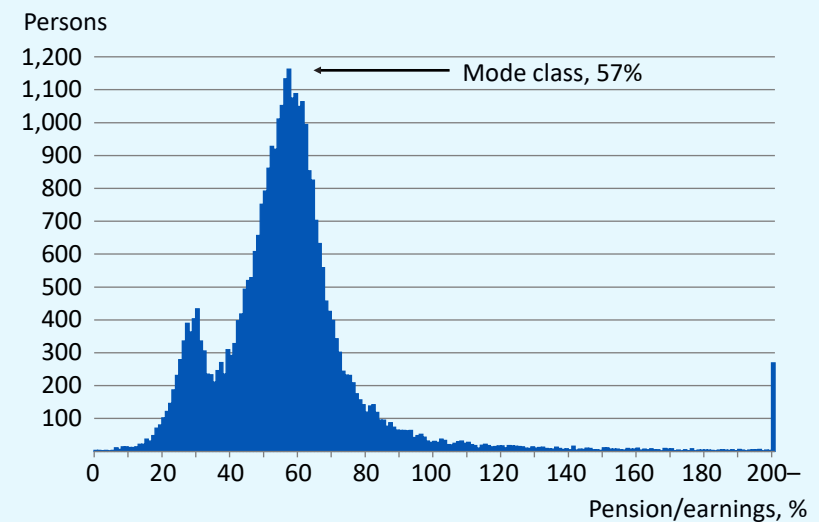
Included in the review are persons who retired on an earnings-related pension in 2021 and had earnings from work during the years 2018 and 2019. Excluded from the review are thus those new retirees who did not have earnings during the two calendar years under review. Part-time pension recipients have also been excluded from the review during that time. The limitations screen out approximately half of all new retirees. Many left outside the review retired as a result of disability or unemployment. The definition is the same as in section 2.5.

The earnings have been indexed to the statistical year by the cost-of-living index.

The ratio of pension to preceding earnings varies greatly for new retirees. In some situations, the replacement rate can rise very high percentage-wise. In such cases it is usually not a question of large pensions but of small and irregular earnings during the final years of working life. The replacement rate distribution of earnings-related pension clearly has two peaks. The smaller peak comes at the 30 per cent mark and the higher peak at the 60 per cent

Figure 2.8

The ratio of pension to preceding earnings of those retiring on an earnings-related pension in 2021



mark. The concentration at the 30 per cent mark can be explained by the partial disability pensions. The partial disability pension amounts to half of the full disability pension. In recent years there have been only minor changes in the shape of the distribution, but the mode has decreased by a few percentage points.

2.9 Income of pensioner households

A household consists of persons living and dining together. The member of the household that earns the most determines the socio-economic status of the household. The categories are professionally active, pensioners and others. Income means the household's disposable money income per consumption unit. This is referred to as equivalent income. Starting from the statistical year 2011, Statistics Finland has calculated the equivalent income based on money income, following the practices of Eurostat. Previous years have been updated to correspond to this concept. According to the previous definition, equivalent income also included imputed income items such as housing income. Pensioners, more often than the rest of the population, live in homes that they own and have fully paid for, which weakens the position of pensioners in the new calculation method. More detailed definitions are available from [Statistics Finland](#).

In 2020, the average income of those living in pensioner households was 22,500 euros per year or roughly 1,900 euros per month. Those who fared best were professionally active households, where the real annual income was 32,800 euros. In a weaker position, with an annual average income of 14,700 euros, were persons living in other domestic households: in practice, students and the long-term unemployed.

Compared to 2011, real growth in the income of pensioner households has been slightly less than eight per cent. In relation to those who are professionally active, the income of pensioner households has ranged between 66–71 per cent. Economic fluctuations are reflected in the ratio. During economic upturns, the position of pensioner households compared

Figure 2.9a
Household's disposable money income per consumption unit in 2011–2020, average at 2020 level

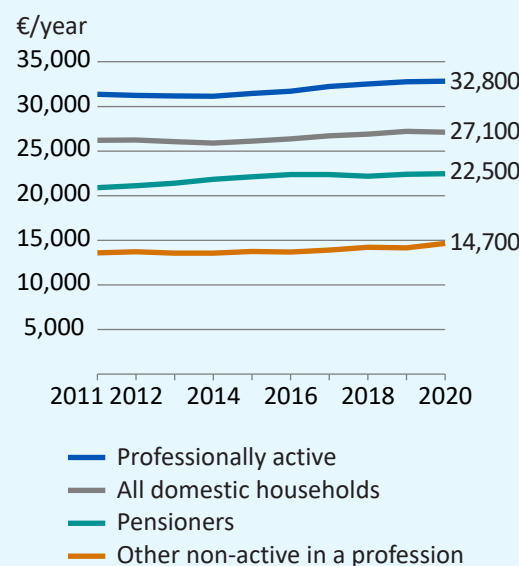
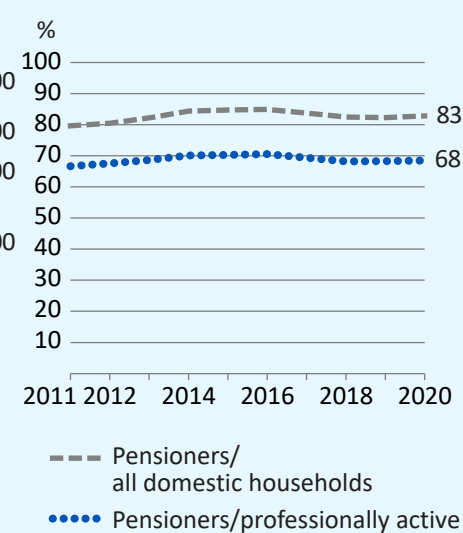


Figure 2.9b
Income of pensioner households in relation to wage earners and all domestic households in 2011–2020



to the professionally active tends to weaken; during downturns, it tends to improve. Compared to the population as a whole, the income of pensioner households has varied between 80 and 85 per cent. In 2020, the ratio was 83 per cent.

2.10 Low income of pensioners

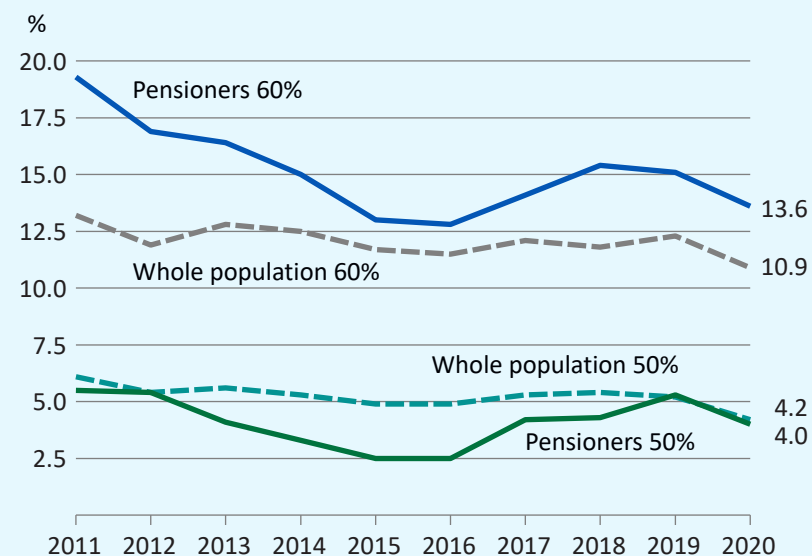
The low income rate depicts the share of the population falling below the low income limit. The low income limit is based on the household's median disposable money income (equivalent income) per consumption unit. The EU countries follow a uniform definition according to which a person is considered to be a low income earner if the income is smaller than 60 per cent of the median income, but a 50 per cent limit is also used.

Starting from the statistical year 2011, Statistics Finland has calculated the equivalent income based on money income, following the practices of Eurostat. Previous years have been updated to correspond to this concept. According to the previous definition, equivalent income also included imputed income items such as housing income. It is more common for pensioners to own and have fully paid for their homes, which is why the omission of housing income from the income particularly raises the low income rate of pensioners. More detailed definitions are available from [Statistics Finland](#).

In 2020 the pensioner low income rate was 13.6 per cent when calculated based on the 60 per cent limit, which is 2.7 percentage points higher than for the population as a whole. Compared to 2011, the pensioner low income rate has dropped by 5.7 percentage points and by 2.3 percentage points for the population as a whole.

The occasional shift in the pensioner low income rate is also greater than for the population as a whole. The fluctuation is affected by changes to the poverty limit, since the income distribution of pensioners is concentrated

Figure 2.10
The low income rate of pensioners and the entire population at the low income limit of 60 and 50 per cent in 2011–2020



more around the 60 per cent poverty limit than other population groups. Changes to the low income limit thus affect the number of low income pensioners the most, and thereby the pensioner low income rate. Using the lower limit of 50 per cent, the pensioner low income rate is slightly lower than for the population as a whole.

2.11 Earnings-related pension indexes

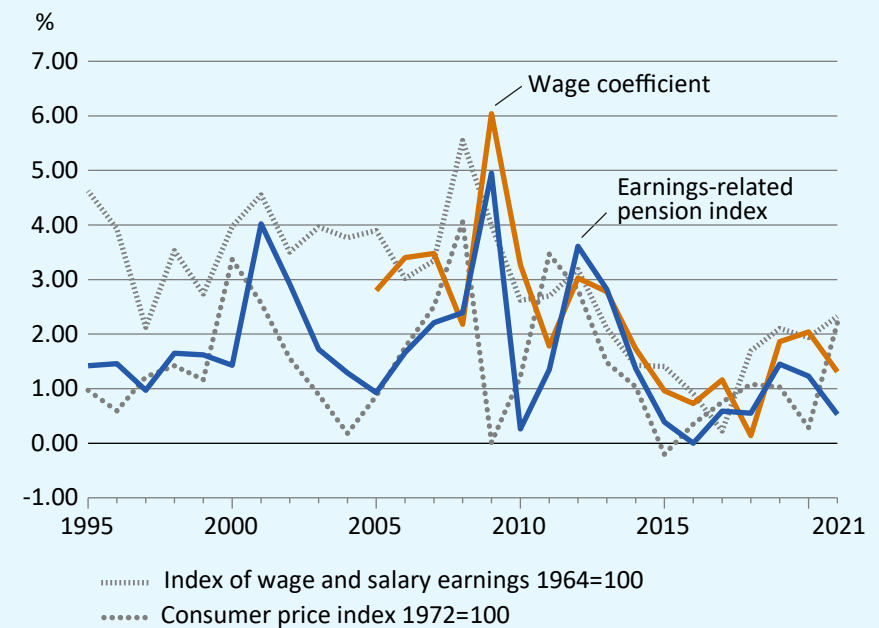
The earnings-related pension indexes ensure that the starting level of the retiring person's pension is reasonable and that the purchasing power of the pension in payment remains intact. The earnings-related pension index and the wage coefficient secure earnings-related pensions.

The weightings of the index adjustments are based on changes in the consumer price index and the index of wage and salary earnings calculated by Statistics Finland.

The consumer price index describes development in the prices of products and services purchased by households in Finland. The annual change to it is generally used as a measure of inflation. The index of wage and salary earnings describes the average development of all employees' earnings from regular working hours. In the wage coefficient (Employees Pensions Act, Chapter 96), changes in wage-earners' income level weigh 80 per cent and changes in price level weigh 20 per cent. In the earnings-related pension index (Employees Pensions Act, Chapter 98), on the other hand, changes in price level weigh 80 per cent and changes in wage-earners' income level weigh 20 per cent. In 2015, a decision-based cut was made to the earnings-related pension index.

Figure 2.11

Annual changes in consumer price index (1972=100), index of wage and salary earnings (1964=100), wage coefficient and earnings-related pension index in 1995–2021, %



3.1 Statutory pension expenditure in relation to the gross domestic product

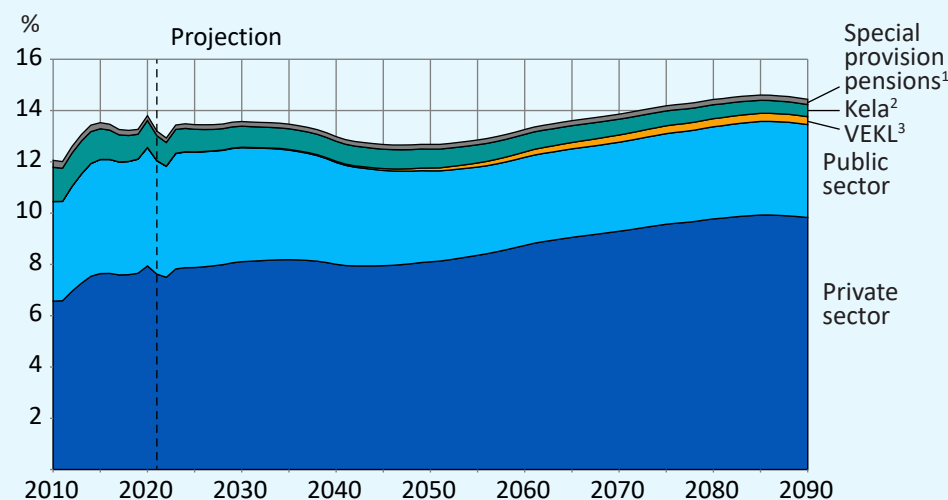
The assessment of the development of the statutory pension expenditure relative to the gross domestic product (GDP) is based on the long-term projection published in October 2022 ([Statutory pensions in Finland: long-term projections 2022. Finnish Centre for Pensions, Reports 05/2022, English summary](#)).

The statutory pension expenditure relative to GDP was slightly over 10 percentage points between 2000 and 2008. Rapid economic growth kept the ratio stable despite the ageing population. After 2008, however, pension expenditure relative to GDP has grown rapidly. In 2021, statutory pension expenditure came to 13.2 per cent of GDP. The number of pensioners will grow until 2035, but the average pension level relative to average earnings will decrease slightly. Consequently, pension expenditure relative to GDP will grow slightly. The year 2022 will form an exception as the rapid nominal growth in GDP will temporarily reduce the ratio to 12.9 per cent. However, the strong index increases in 2023 will return the ratio to 13.4 per cent. After 2035, the number of retirees will stop growing, which will cause a downturn in pension expenditure relative to GDP. By 2045, the ratio will decrease to 12.7 per cent.

Around 2050, the decline of the average pension relative to average earnings will slow down and the share of pensioners in the population will start to grow again. The ratio of pension expenditure to GDP will take an upward path, which will continue towards the end of the century. By 2090, the pension expenditure to GDP ratio will increase to 14.4 per cent.

Figure 3.1

Statutory pension expenditure in relation to GDP in 2010–2090, %



¹ The Motor Liability Insurance Act, The Occupational Accidents, Injuries and Diseases Act, the Act on Compensation for Military Accidents and Service-Related Illnesses, the Act on Compensation for Accidents and Service-Related Illnesses in Crisis Management Duties, and the Military Injuries Act.

² Comprises national pensions and guarantee pensions.

³ The Act on Compensation for Pension Accrual from State Funds for Periods of Childcare and Periods of Study.

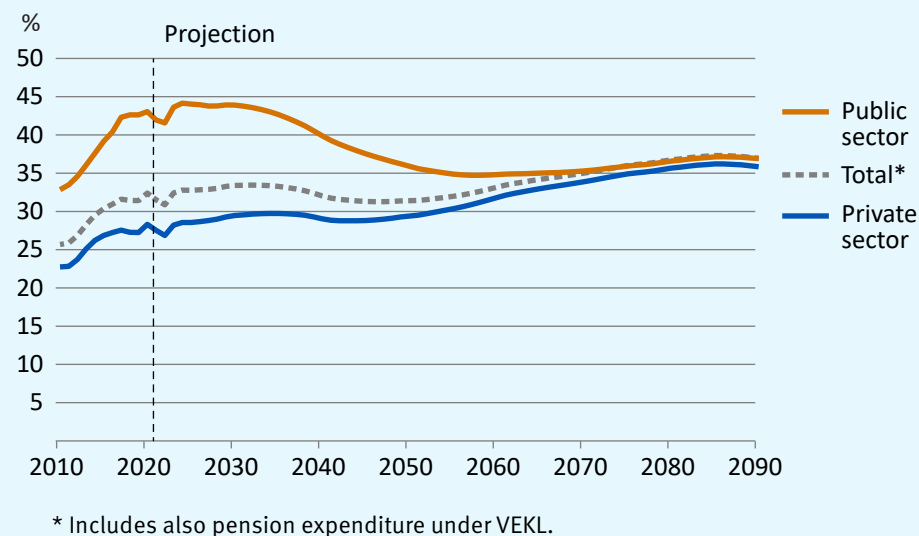
3.2 Earnings-related pension expenditure in relation to the sum of earnings

The assessment of the development of the statutory pension expenditure relative to GDP is based on the long-term projection published in October 2022 ([Statutory pensions in Finland: long-term projections 2022. Finnish Centre for Pensions, Reports 05/2022, English summary](#)).

Pension expenditure in relation to sum of earnings is on different trajectories in the public and private sectors. In the private sector, the expenditure ratio in 2021 was 27.5 per cent. The ratio will fluctuate within the range of 27 and 30 per cent until the end of the 2050s, after which it will take an upward turn. At the end of the projection period, the expenditure ratio will reach a level of 36 per cent. In 2021, public sector earnings-related pension expenditure stood at 42.0 per cent of the public sector payroll, and expenditure will continue to rise until 2024. At this point the expenditure ratio will reach 44.2 per cent. The expenditure ratio will then begin to fall. In 2025–2090, the ratios for the public and private sectors will converge. In 2090, the ratio in the private sector will be 36 per cent and in the public sector 37 per cent.

The high public sector expenditure ratio that will persist for several decades has its background, firstly, in the fact that pension benefits in the public sector used to be more generous than in the private sector, and secondly, in privatizations that have resulted in employees transferring to the private sector. In the long term, the public and private sector expenditure ratios will move closer to each other as benefits have mostly been harmonized.

Figure 3.2
Earnings-related pension expenditure in relation to the sum of earnings in 2010–2090, %



The total amount of earnings-related pension expenditure includes the pension expenditure accrued from periods of study and caring for a child at home (VEKL). This is not included in sector-specific expenditures.

3.3 Expenditure and contribution rates under the Employees Pensions Act

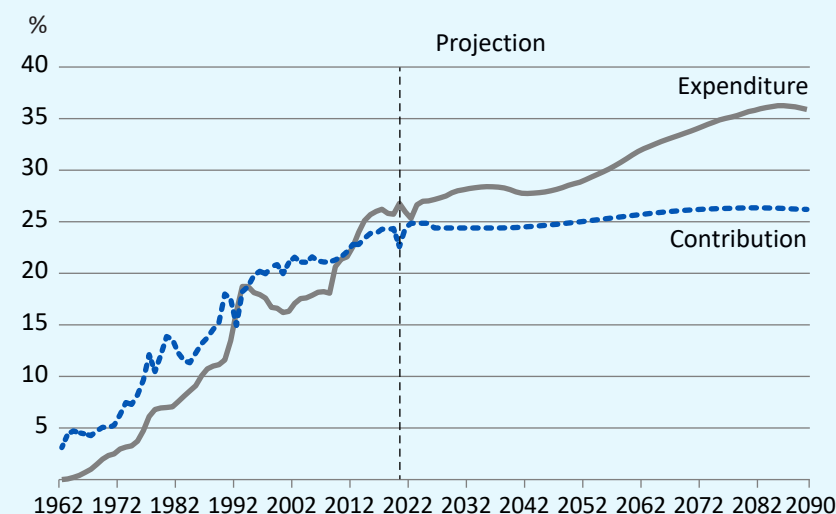
The assessment of the development of the statutory pension expenditure relative to GDP is based on the long-term projection published in October 2022 ([Statutory pensions in Finland: long-term projections 2022. Finnish Centre for Pensions, Reports 05/2022, English summary](#)).

Since the introduction of the Employee's Pensions Act (TEL), pension expenditure growth has almost continuously outpaced payroll growth in the private sector. This is because of population ageing and the gradual phasing in of new benefits. The ratio of expenditure to the sum of earnings will remain close to its current level through to the middle of the century. Although the dependency ratio will weaken in the next few decades, implemented pension reforms will slow down expenditure growth at the same time. As the share of pensioners in the population starts to grow again in the latter half of the century, pension expenditure in relation to the sum of earnings begins to rise.

In the spring of 2016, the central labour market organisations agreed in a competitiveness pact that the average TyEL contribution would be 24.4 per cent of wages until 2021. However, due to the corona pandemic, the contribution for 2020 was reduced by 2.6 percentage points as of May. Only the employers' share of the contribution was reduced and is recovered from employers in 2022–2025. As for 2022, the recovery amounts to 0.45 per cent of the wage sum, with an equal sized recovery also from 2023 to 2025. After that, the TyEL contribution relative to the wage sum can be kept at 24.4 per cent until the latter half of the 2030s.

The TyEL expenditure ratio will grow by more than 10 percentage points in 2023–2090 as a result of the population ageing. The expenditure ratio will peak in 2085, being 36.3 per cent.

Figure 3.3
Expenditure and contribution rates under the Employees Pensions Act in 1962–2090



Part of private sector employees' earnings-related pensions are prefunded. This explains why pension contributions exceeded pension expenditure up until 2012. Since TyEL pensions are partly funded, the return on the invested assets can be used to cover the growing pension expenditure. The TyEL contribution rate must be raised by 1.8 percentage points by 2090, to 26.2 per cent.

3.4 Accrued pension rights and the funding ratio

Capital value of pensions accrued up to a certain point means the amount of money that would be sufficient to fund pensions accrued up to that certain point in time.

The estimates of the accrued pension rights are based on the long term projections of the Finnish Centre for Pensions from the year 2022 ([Statutory pensions in Finland: long-term projections 2022. Finnish Centre for Pensions, Reports 05/2022, English summary](#)).

The amount of earnings-related pension funds refers to the current value of earnings-related pension institutions' investment assets at the end of each year. This is significantly affected by annual fluctuation in investment returns.

The value of accrued pensions has been calculated assuming a real discount rate of 2.5 per cent from August 2022 throughout the year 2031 and a real discount rate of 3.5 per cent from 2032 onwards. The capital value of earnings-related pensions accrued by the end of 2021 totalled 771.1 billion euros, which is three times the value of GDP in 2021.

The funding ratio is obtained by dividing the amount of pension assets by the capital value of accrued pensions. This figure shows to what extent pensions could be financed from pension funds already accrued and from the future yield of these funds. At year-end 2021 the funding ratio for the whole earnings-related pension scheme was 33.4 per cent.

Table 3.4

Pension assets, accrued pension rights and funding ratio in 2021, with a real discount rate of 2.5 per cent from August 2022 throughout the year 2031 and 3.5 per cent from 2032 onwards. Amounts at current prices

	TyEL	JuEL state	JuEL municipal sector	All
Pension funds, € billion	161.1	23.6	67.7	257.5
Accrued pension rights, € billion	455.0	93.4	150.6	771.1
Funding ratio, %	35.4	25.3	45.0	33.4

3.5 Earnings-related and national pension expenditure

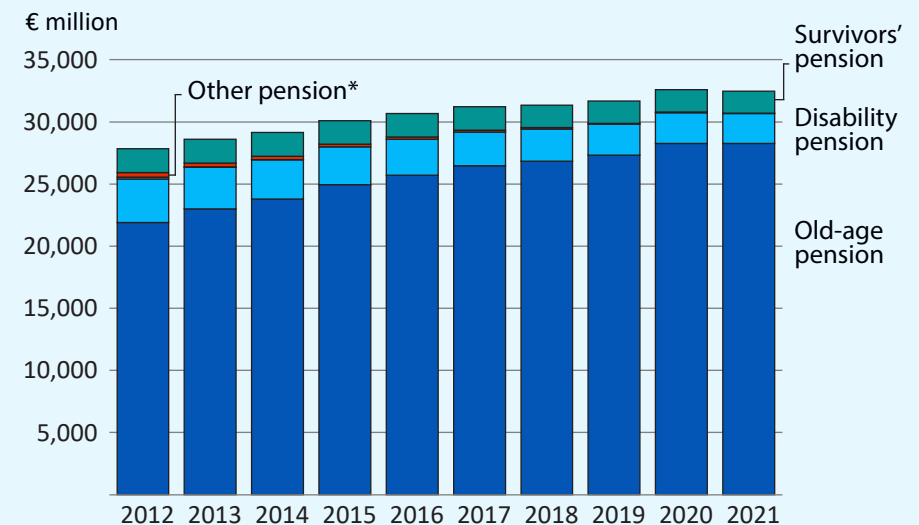
Earnings-related and national pension expenditure consists of old-age, disability, unemployment, part-time and survivors' pensions and special pensions for farmers paid by the earnings-related pension providers and Kela. Unemployment pensions have not been paid out since 2014.

In 2021, earnings-related and national pensions totalled 33 billion euros, of which earnings-related pensions accounted for 30 billion euros and national pensions for 2 billion euros. Old-age pensions accounted for 86 per cent of the pension expenditure, disability pensions for 7 per cent and survivors' pensions for 5 per cent.

In addition to national pensions, Kela paid guarantee pensions to a sum of 264 million euros and front veterans' supplements and child increases to a total sum of 14 million euros in 2021.

Figure 3.5

The earnings-related and national pension expenditure by pension benefit in 2012–2021, at 2021 level



*Special pension for farmers and part-time pension.

3.6 Earnings-related pension contribution rates

Table 3.6 shows the average pension contribution rates for 2012–2021. The rates under the relevant pension acts include both employer and employee contributions. The contribution components have been calculated on the wage earners' earnings based on the rules of the different pension acts.

The employee contribution is the same for all employees, but dependent on age. In 2021 the base contribution rate was 7.15 per cent of the monthly wage, while employees aged 53–62 paid an increased rate of 8.65 per cent of their monthly wage. Before 2017 the increased contribution rate was applied to employees aged over 53, with the exception of those insured under the Seafarer's Pensions Act (MEL). Until the end of 2015, half of their pension contribution was covered by the employer.

Self-employed persons' and farmers' pension contributions depend not only on age but also on income from work. Grant recipients have been insured under the Farmer's Pensions Act (MYEL) since 2009. Grant recipients' average contribution rate is an ample half a percentage point lower than farmers'.

The Public Sector Pensions Act (JuEL) was introduced at the beginning of 2017 by merging the Local Government Pensions Act (KuEL), the State Employees' Pensions Act (VaEL) and the Evangelical-Lutheran Church Pensions Act (KiEL). The pension contributions of public sector employers are regulated under the Keva Act (Keva's member corporations), the Act on the Financing of State Pension (State) and the Act on the Financing of Pensions of the Evangelical-Lutheran Church (Evangelical-Lutheran Church).

Table 3.6

Average earnings-related pension contribution rates in 2012–2021 according to pension act*

Year	TyEL ¹	MEL	JuEL state	JuEL munici- pal sector ²	JuEL church ³	Employee Em- contribu- tion ⁴		YEL	MYEL
						Basic	In- creased		
2012	22.8	22.4	25.0	29.1	33.3	5.2	6.5	21.1	11.8
2013	22.8	22.6	24.9	29.6	33.7	5.2	6.5	20.9	12.9
2014	23.6	22.8	26.5	29.8	34.1	5.6	7.1	21.8	13.4
2015	24.0	22.8	26.4	29.8	34.3	5.7	7.2	22.6	13.7
2016	24.0	22.8	24.1	29.4	30.5	5.7	7.2	22.6	13.6
2017	24.4	22.0	23.6	28.5	30.7	6.2	7.7	23.1	13.9
2018	24.4	20.0	23.8	28.3	29.0	6.4	7.9	23.1	13.8
2019	24.4	20.0	24.4	28.3	29.0	6.8	8.3	23.2	13.9
2020 ⁵	24.4/ 21.8	19.0	24.4	28.4	29.0	7.2	8.7	23.1	13.9
2021	24.4	19.0	24.4	28.2	29.0	7.2	8.7	23.1	13.9

¹TyEL contribution rates take into account employer-specific customer bonuses and temporary reductions to the contribution.

²The contribution of Keva's member corporations include the components based on wage and pension expenditure.

³Contribution rates of the Evangelical Lutheran Church Pension Act do not contain a pension fund contribution which was 1.2% of the church tax during the years 2013–2015, 4% of the church tax in 2016–2017 and 5% in 2018–2019.

⁴The confirmed contribution rates of employees are included in the table. They are the same for all insured employees, except for those insured under MEL before 2016 (when the pension insurance contribution was shared evenly between the employer and the employee).

⁵Due to the corona pandemic in 2020, the employer's share of the TyEL contribution was reduced by 2.6 percentage points as of 1 May 2020. The reduction did not apply to the employee's share of the contribution. The deduction was allocated to the pooled component of the contribution.

*Pension acts, see p. 34.

3.7 Earnings-related pension assets

The pension assets under TyEL and MEL in Table 3.7 include the solvency capital and the technical provisions used in the solvency calculations.

Pension assets under YEL and MYEL include the technical provision under these pension acts and the investment assets of public sector pension providers.

The amount of pension assets has increased apart from a few exceptional years. The decline in investment assets in 2008, 2011 and 2018 temporarily reduced the amount of pension assets. When the stock prices rose, pension assets continued to grow.

The total pension assets amounted to 257.5 billion euros at year-end 2021, which was 102 per cent relative to Finland's GDP. The pension assets grew during the review period by around 15 per cent.

Table 3.7
Pension assets, € bn

	TyEL	MEL	JuEL state	JuEL municipal sector	JuEL church	Other public sector	YEL	MYEL	Total
2010	92.3	0.8	13.9	29.4	1.0	1.3	0.1	0.0	138.8
2015	114.0	1.0	17.9	44.9	1.3	1.4	0.1	0.1	180.8
2020	140.1	1.3	21.0	58.9	1.8	1.4	0.1	0.1	224.6
2021	161.1	1.4	23.6	67.7	2.0	1.4	0.1	0.2	257.5

TyEL Employees Pensions Act

MEL Seafarer's Pensions Act

JuEL Public Sector Pensions Act

YEL Self-employed Persons' Pensions Act

MYEL Farmers' Pensions Act

Other public sector pensions regulation: Pension regulation for the Bank of Finland, Pension regulation for the regional government of Åland and regulations concerning the pension benefits of the employees of Kela.

3.8 Investment returns

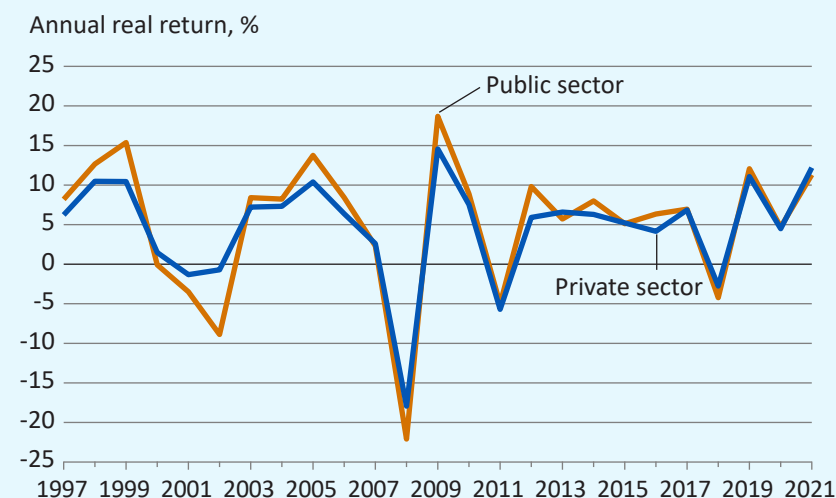
When calculating profit from earnings-related pension investments, the calculation method used is that determined by the Financial Supervisory Authority. Investment returns include the so-called cash income, in other words dividends, interest rates and rent as well as increases and decreases in value of realised and unrealised investments. The return rate is achieved by proportioning these to the capital employed. Real return is arrived at when the impact of consumer pricing on the purchasing power of capital employed is taken into account alongside nominal return.

The return varies from year to year, first and foremost due to changes in value. Despite the prolonged corona pandemic, 2020 was a favourable investment year, particularly as far as equity investments was concerned. Private-sector investments yielded a real return of 12.2 per cent and public sector investments 11.3 per cent. The investment operations of earnings-related pension providers in the private sector differ somewhat from those of public sector pension providers. Private sector pension providers must meet statutory demands for solvency. A key difference in the average investment allocation of the sectors is the private sector's lower exposure to investments in fixed-income securities and shares. At year-end 2021, investments in fixed-income securities and shares in the public sector exceeded those in the private sector by, on average, five percentage points, respectively. In the private sector, on the other hand, the exposure to real estate investments and other alternative investments is higher than in the public sector.

In a review period spanning the last fifteen years (2007–2021), the exposure to investments in shares in the public sector has exceeded that in the private sector by, on average, seven percentage points. The gap has narrowed considerably since the beginning of the review period when public sector investments in shares exceeded those in the private sector by fifteen percentage points, on average. Short-term fluctuation in the value and long-term return expectations of investments in shares are higher than of other assets. This means that the proportion of investments in shares in

Figure 3.8

The average real annual return of earnings-related pension investments in per cent of capital employed in 1997–2021



Private sector: Average profit of pension provider investments used for the year 1997
Public sector: Average profit of Keva investments used for the years 1997–1999

investment portfolios explains the long-term fluctuation in return between the private and public sectors.

Due to annual shifts in investment returns, they are also depicted in terms of average value over several years. Sufficiently comprehensive, comparable return series that cover the entire field begin in 1997. In the private sector, the real average return of twenty-five years was 4.5 per cent per year. In the public sector it was 4.9 per cent.

Source: [The Finnish Pension Alliance TELA](#)

3.9 Internal rate of return on earnings-related pension contributions by generation

The internal rate of return is the interest rate that, when used for discounting, gives equal current values for the pension contributions and benefits for each birth-year cohort. The internal rate of return can thus be interpreted as the return on earnings-related contributions by cohort.

The calculation of the internal rate of return is based on historical data and the long-term projections of the Finnish Centre for Pensions from the year 2022 ([Statutory pensions in Finland: long-term projections 2022. Finnish Centre for Pensions, Reports 05/2022, Summary in English](#)).

Table 3.9 presents the internal real rate of return on the pension contributions of wage-earners insured in accordance with the Employees Pensions Act and the acts preceding it for cohorts born between 1940 and 2000. Almost all statutory earnings-related pensions of private-sector wage-earners are included in the calculation. Only the Seafarer's Pensions Act is excluded.

The operational costs of the pension system are covered with a dedicated part of the pension contribution. The pension system's operating costs are included in the realised and projected pension contribution and thus reduce the internal rate of return.

Pension contributions are tax-deductible, and pension payments received by the pensioner are taxable income. However, taxation is not considered in the calculation of the internal return. This would require that all earnings and pension income are included in the calculation and that there is data on the size distribution of earnings and pension income because of progressive taxation.

Table 3.9

Internal real rate of return on the earnings-related pension contribution of private sector wage earners by year of birth, %

	Year of birth												
	1940	-45	-50	-55	-60	-65	-70	-75	-80	-85	-90	-95	-00
Internal rate of return, %	6.6	5.0	4.0	3.3	2.6	2.2	1.9	1.8	1.8	1.8	1.8	1.8	1.8

The real internal rate of return declines from 6.6 per cent for those born in 1940 to 1.8 per cent for those born in 1975. For subsequent generations the internal rate of return is steady at this level through to those born in 2000. Due to data limitations, the calculation does not include generations born before 1940. The internal rate of return for these generations are estimated to be even higher than those for later generations. The main reason for the decline of the internal rate of return is the rise of TEL/TyEL contribution rates, which in turn is the result of the gradual phasing in of pension benefits as well as population ageing.

Private sector wage-earners' earnings-related pension contributions by birth cohort and gender have been examined in more detail in [Private sector wage-earners' earnings-related pensions by birth cohort and gender. Finnish Centre for Pensions, Reports 09/2015](#).

Earnings-related pension indicators provide a perspective on the current status of earnings-related pension provision as well as on realised and predicted development. The Pension indicators have been grouped according to three central goals: length of working life, pension level and pension financing. The core indicators include central issues in terms of the development of the earnings-related pension provision and the monitoring of the reforms. The complementary indicators offer, as their name reveals, additional insight.

Finnish Centre for Pensions, Reports

The Finnish Centre for Pensions, an expert on earnings-related pensions, is a statutory body that develops pension provision and produces joint services for all parties to the scheme. In the Reports series, we publish reviews, surveys and projections that serve the assessment and development of pensions.



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