



Pension Indicators 2016

FINNISH CENTRE FOR PENSIONS,
REPORTS



Pension Indicators 2016

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Helsinki 2016

ISSN 1798-7490 (online)

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. The Finnish Centre for Pensions first introduced indicators for the monitoring and evaluation of pension provision in 2013. *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 collection of indicators is intended for decision-makers and other parties interested in the future development of earnings-related pension provision. There is more information relating to indicators on the website of the Finnish Centre for Pensions and its various publications.

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 supplementary indicators offer, as their name reveals, additional insight.

The indicators of this review have been compiled by Mikko Kautto, Jari Kannisto, Marja Kiviniemi, Juha Knuuti, Jukka Lampi, Heidi Nyman, Kaarlo Reipas, Ismo Risku and Janne Salonen of the Finnish Centre for Pensions, as well as Reijo Vanne of The Finnish Pension Alliance TELA.

Helsinki, October 2016

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1 Length of the working life

1.1 Core indicators

- 1.1.1 Expected effective retirement age
- 1.1.2 Duration of active working life and duration of employment
- 1.1.3 Employment rate
- 1.1.4 Working life length of new retirees

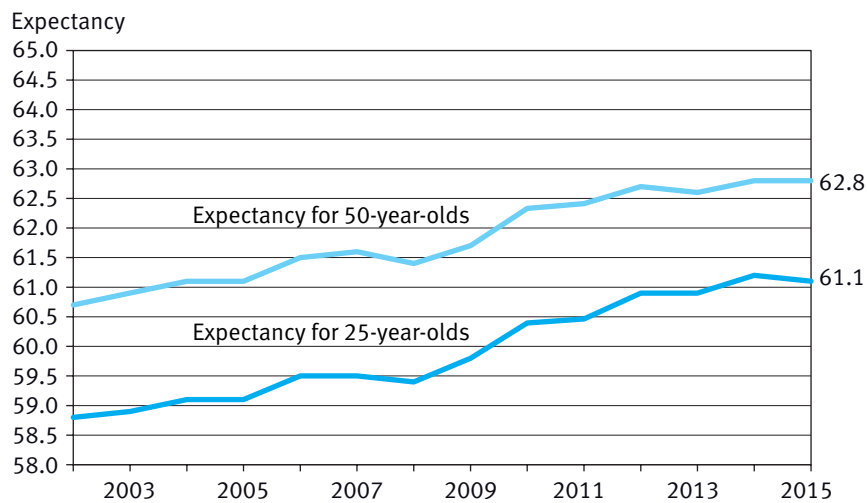
1.1.1 Expected effective retirement age

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 does not change. Part-time 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.

Figure 1.1.1a.

Expected effective retirement age in 2002–2015, all retirees on earnings-related pension.

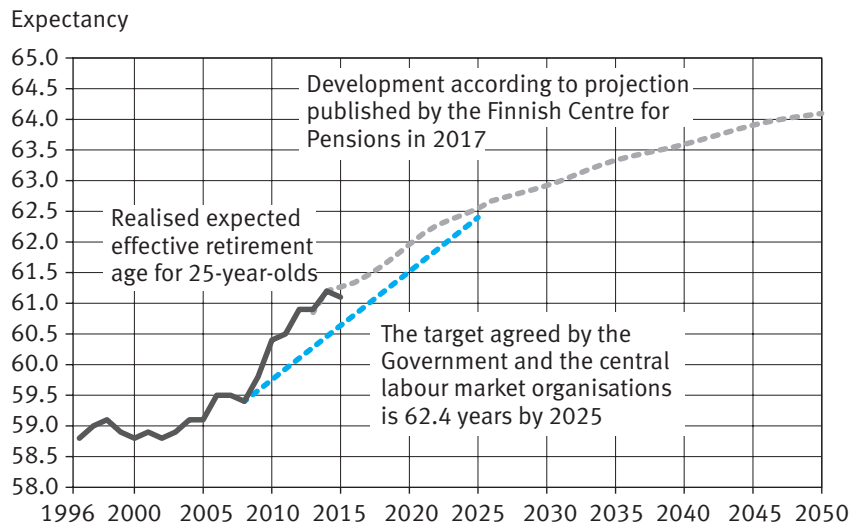


The expectancy for a 25-year-old has risen by 2.2 years from the level prior to the previous pension reform (2003). In 2015 the expected effective retirement age for a 25-year-old was 61.1 years, which is 0.1 years lower than the previous year. If the individual was still insured for earnings-related pension provision at the age of 50 and not retired, the expected effective retirement age in 2015 was 1.7 years higher, i.e. 62.8 years. The expectation for this 50-year-old was the same as in the previous year.

Additional information: *Effective retirement age in the Finnish earnings-related pension scheme. Statistics from the Finnish Centre for Pensions 03/2016.*

Figure 1.1.1b.

Expected effective retirement age in 1996–2050: realisation, goal and projection.



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 62.4 years by 2025. In order to implement the retirement age goal, government proposals to change the earnings-related pension acts were confirmed in January 2016. New earnings-related pension acts will come into force on 1 January 2017.

Still at the beginning of the 2000s, the expected effective retirement age was around 59 years. The expectancy rose moderately over the years 1996–2004. After 2005 the expectancy has risen significantly. This rapid change, especially after 2009, is partly due to the discontinuation of the unemployment pension. In order for set goals to be reached, the expectancy should continue to rise from the level of 2015 by 1.3 years by 2025. The impact evaluation of the 2017 pension reform, carried out by the Finnish Centre for Pensions, calculates that as a result of the reform, the expected effective retirement age would rise to the desired level around the year 2025 (*Effects of the 2017 earnings-related pension reform: projections based on the government bill*. Finnish Centre for Pensions, Reports 08/2015).

1.1.2 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 work force shares of the year in question would prove to be permanent.

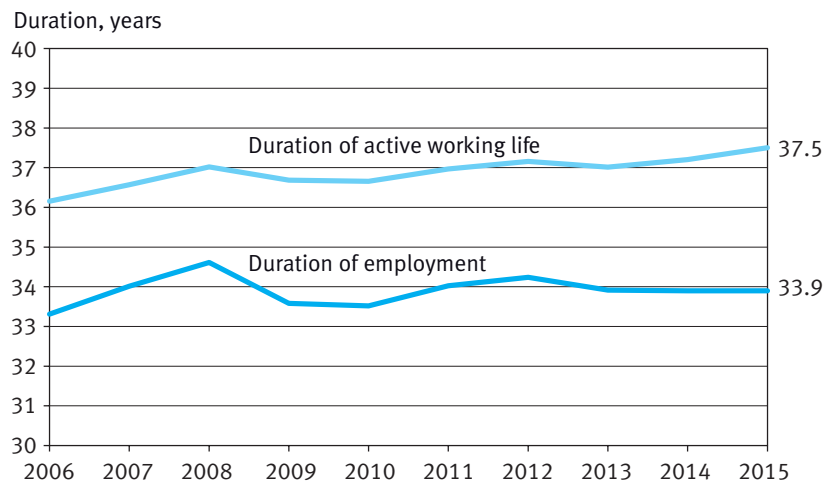
The *duration of employment* depicts the average years that a 15-year-old person can be expected to be in employment or self-employment during the remaining years of life, if the rates of employment during the year in question would prove to be permanent. Its annual values are cyclical in the same way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

The calculations are based on data from the workforce research of Statistics Finland. The variables used are workforce share and employment rate. More detailed definitions can be found at the website of Statistics Finland, http://stat.fi/til/tyti/index_en.html.

The calculations have been carried out at the Finnish Centre for Pensions.

Figure 1.1.2.

Duration of active working life and duration of employment for a 15-year-old in 2006–2015.



The duration of employment has risen from 33.3 to 33.9 years over the period 2006–2015. The duration was reduced in 2009 but has since remained relatively stable.

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

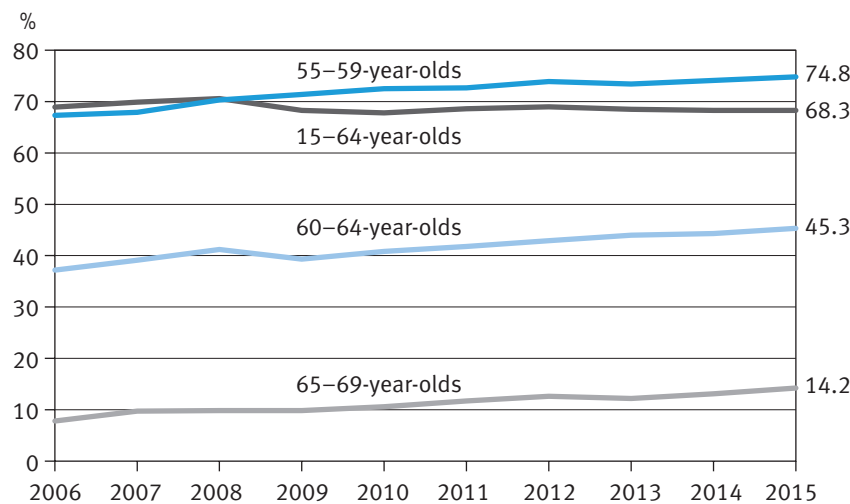
1.1.3 Employment rate

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 receiving monetary salary for at least an hour or fringe benefits for work, or profit if self-employed, or someone who has been temporarily off work. More detailed definitions are available from Statistics Finland: http://stat.fi/til/tyti/index_en.html.

Figure 1.1.3.

Employment rate by age group in 2006–2015.



The employment rate rose in the 2000s, right up until the financial crisis of 2008. Development has been particularly favourable in the age cohorts of those who have turned 55.

Since 2008, the employment rate of 55–59-year-olds has been higher than that of the entire population of working age. The employment rate of this age cohort has experienced a rising trend and was higher in 2015 than ever before during the 2000s (74.8 per cent). The employment rate rose by 0.7 percentage points from the previous year.

The employment of 60–64-year-olds and 65–69-year-olds has also improved significantly. In these age groups, the employment rate has increased after the financial crisis to a record level in the 2000s. The employment rate for 60–64-year-olds rose to 45.3 per cent, and for 65–69-year-olds to 14.2 per cent in 2015. Both rose one percentage points from the previous year.

Despite the favourable development of the employment of persons who have turned 55, the employment rate of the whole population has stagnated. The employment rate of the entire population aged 15–64 has remained clearly below 70 per cent, and a return to the employment rate of 2008 does not seem likely in the near future. In 2015 the employment rate decreased by 0.2 percentage points. The last time the employment rate was at that level was in 2005.

1.1.4 Working life length of new retirees

By *length of working life* is here meant the duration of the time, in months or years, of coverage by the earnings-related pension scheme. In such cases, working life only includes employment insured for earnings-related pensions or self-employment. In this review, a person is considered to have been at work during a specific month, if he or she has been employed or self-employed and insured for earnings-related pensions during said month, according to register information.

The working life is considered to have begun at the earliest from the beginning of the month following the 18th birthday, as that is the time when pension accrual currently starts. Since the review ends with retirement, the working life does not comprise work carried out alongside receiving a pension, if the pension in question is not part-time pension. The information is based on the statistical registers of the Finnish Centre for Pensions.

Table 1.1.4.

The length of working lives of retirees in 2015, years.

	Average	Median
All new retirees in 2015		
Both sexes	32.7	36.9
Men	33.4	37.8
Women	32.0	36.1
Those retiring on an old-age pension in 2015		
Both sexes	35.5	38.8
Men	36.3	39.4
Women	34.7	38.1

In 2015, the length of working lives of new retirees prior to retirement was 32.7 years on average. Although the length of working lives became a little shorter last year, it has grown by almost a year in just a few years; slightly less so for men than for women. Since the distribution of working life length is strongly askew, the median depicts the length of working life better than the average value. According to the median, over half of all new retirees on an earnings-related pension in 2015 had worked for at least 36.9 years prior to retirement. The median has risen by approximately half a year in just a few years.

Since some of the new retirees have left working life behind due to disability, which shortens working lives, it is natural that we should review those retiring on an old-age pension and their working lives separately. The length of working lives of those retiring directly on old-age pension in 2015 was 35.5 years on average, and the median was 38.8. In other words, half of all new old-age retirees worked for 38.8 years before retiring.

The working lives of men retiring on an old-age pension were 1.6 years longer than those of women. The difference between men and women is slightly smaller when considering all new retirees (1.4 years). Parental leave and periods of caring for a child are most likely the reason for differences between men and women in this case. However, the effective retirement age cannot explain this difference, as men and women retire at the same age on average. In 2015, the average retirement age was 60.7 years and the median 63.1 years.

1 Length of the working life

1.2 Complementing indicators

- 1.2.1 The expected effective retirement age, median and average value
- 1.2.2 Expected effective retirement age of 60- and 62-year-olds
- 1.2.3 Share of insured that have retired on an earnings-related pension
- 1.2.4 Age-standardized incidence of disability pensions
- 1.2.5 Duration of active working life in the Nordic countries and the EU
- 1.2.6 Employment rate of 55–67-year-olds
- 1.2.7 Employment rate of 20–29-year-olds
- 1.2.8 Employment rate of 55–64-year-olds in the Nordic countries and the EU

1.2.1 The 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.

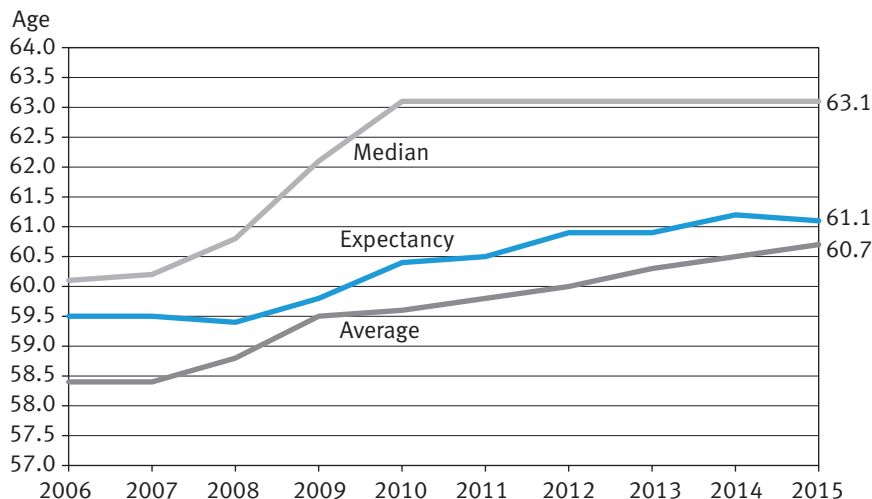
The *median* is the age that 50% of retirees are younger than and 50% are older than.

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

Those starting to receive a part-time pension are not considered as having retired.

Table 1.2.1.

The expected effective retirement age, median and average value in the earnings-related pension scheme in 2006–2015.



The effective retirement age has risen in the 2000s, based on all indicators presented. The increase has been especially strong following the pension reform.

The average value and median depict the effective retirement age in a certain year. They should not be used to make interpretations of changes occurring over time. The age structure of the population has strongly affected the effective retirement age in the 2000s. The large age cohorts have reached old-age retirement age, and raise the effective retirement age simply by being so numerous. Once they have retired, the impact of these large age cohorts on the indicators will grow less, which again affects the average value and median by lowering them. Only changes in retirement behaviour can affect the expectancy.

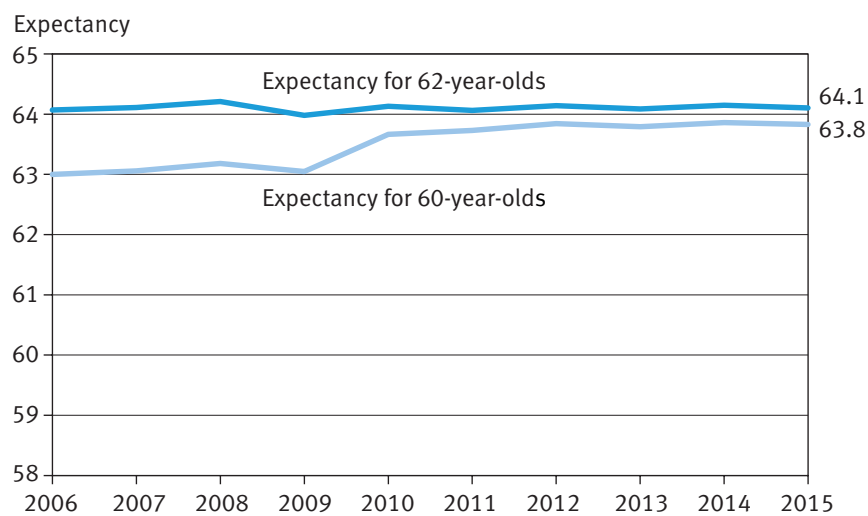
1.2.2 Expected effective retirement age of 60- and 62-year-olds

The *expected effective retirement age* 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. Part-time 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.

Figure 1.2.2.

Expected effective retirement age for 60 and 62-year-olds in 2006–2015, all retirees on earnings-related pension.



The figure shows the expected development of two age groups on the brink of retirement age. The development of the expectancy for 60-year-olds has risen by over a year during the last nine years. The great peak in 2010 can be explained by the fact that the unemployment pension was abolished then.

The expected effective retirement age of 62-year-olds has remained fairly stable throughout the time period. It decreased in 2005, when the lower limit for flexible old-age retirement age became 63 years of age. Since then it has climbed back up to approximately 64 years.

The expected effective retirement ages of 60-year-olds and 62-year-olds are closer to each other than before. In recent years, the gap has narrowed clearly as an increasingly fewer number of people retire at age 60 or 61.

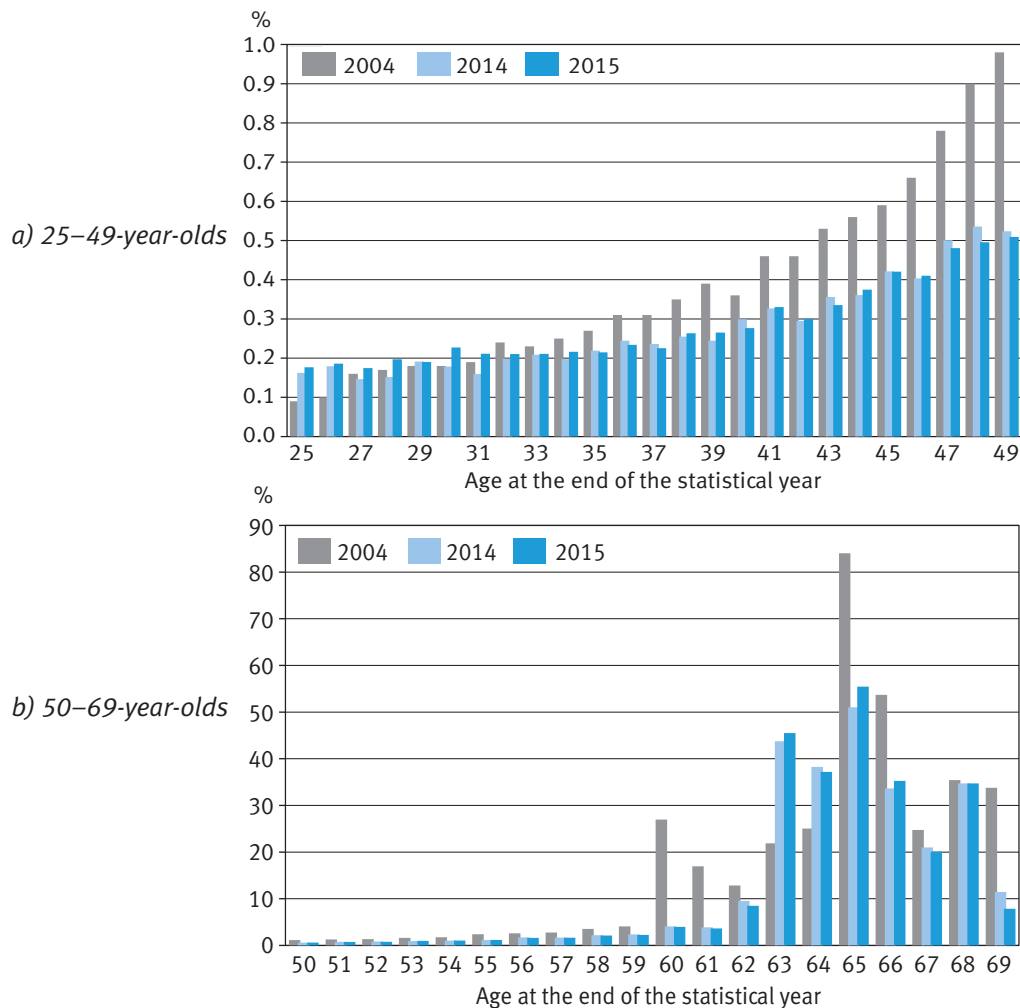
Additional information: [Effective retirement age in the Finnish earnings-related pension scheme. Statistics from the Finnish Centre for Pensions 03/2016.](#)

1.2.3 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 expected retirement age.

Figure 1.2.3.

Share of insured that have retired on an earnings-related pension, 2004, 2014 and 2015.



Please note the different scaling in figures a and b.

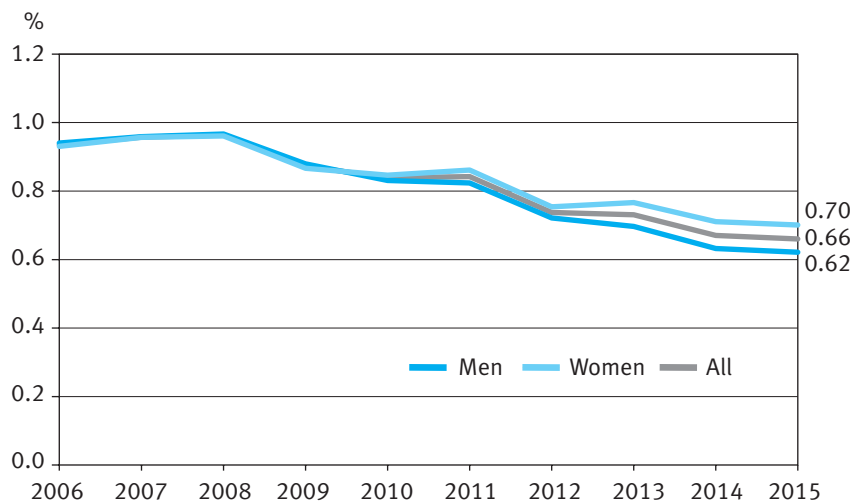
After 2005, the share of new retirees on an earnings-related pension has clearly dropped in the age groups of those under 63. The exception is those under the age of 30, where no decline is noticeable. After 2005, a new group of people with short working lives, mostly young, have come under the right to earnings-related pension. Previously they were left entirely outside the earnings-related pension scheme, and in reality their pension security is still based on national pension security, in addition to which they now receive a small earnings-related pension. The decrease in options for early retirement, especially the termination of the unemployment pension, can be seen clearly where the older working population is concerned. This is especially true in the age cohorts of 60 and 61-year-olds, for whom retirement used to be much more common than it is now.

1.2.4 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.

Figure 1.2.4

Age-standardized incidence of disability pensions for 25–62-year-olds in the earnings-related pension scheme in 2006–2015 by gender, %.



The incidence of disability pensions have decreased about by 0.3 percentage points over the entire time period, and more for men than for women. Since 2010, starting pensions for females has been slightly greater than for males.

The incidences have remained virtually the same in number for those under 45, meaning that the decrease has happened in older age cohorts. In 2015, 21 per cent of all new retirees on a disability pension were younger than 45. Over half were aged between 55–62.

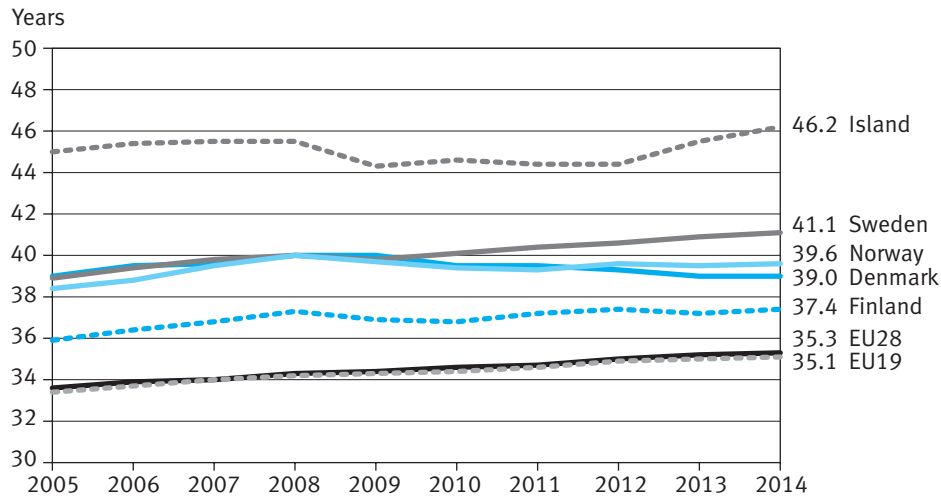
In 2015, a total of 18,600 persons insured for earnings-related pension retired on a disability pension. The most common reasons for retirement on a disability pension are musculoskeletal disorders and mental and behavioural disorders. Those retiring based on musculoskeletal diseases accounted for 35 per cent, and those retiring for reasons of mental health for 28 per cent.

1.2.5 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: <http://ec.europa.eu/eurostat/tgm>.

Figure 1.2.5.

Duration of active working life of a 15-year-old in the Nordic countries and the EU in 2005–2014.



The duration of active working life has increased throughout the European Union. In the Nordic countries, the expected duration of active working life began decreasing in Norway, Denmark and Iceland in the wake of the 2008 financial crisis. Iceland has, in recent years, returned to the path of growth.

In Finland, the active working life duration is shorter than in the other Nordic countries. The difference to Sweden was 3.7 years in 2014.

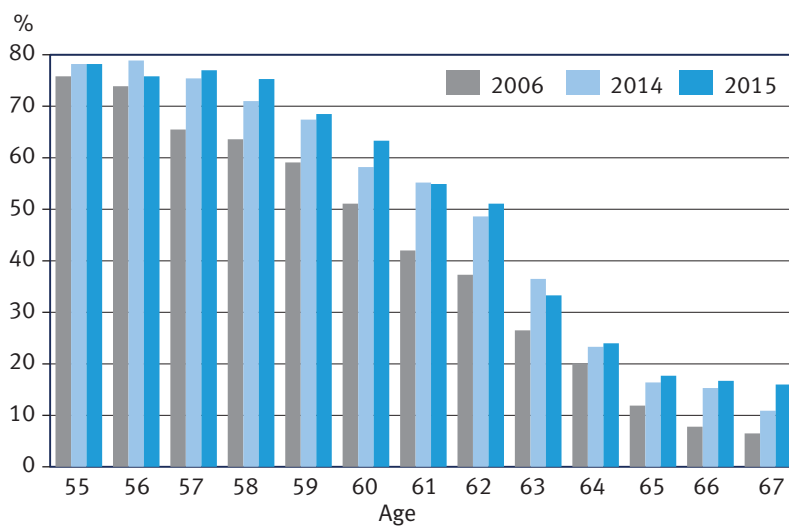
1.2.6 Employment rate of 55–67-year-olds

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

As employed is considered a person who, during the week of research, was in gainful employment and receiving monetary salary for at least an hour, or fringe benefits for work, or profit if self-employed, or someone who has been temporarily off work. More detailed definitions are available from Statistics Finland: http://stat.fi/til/tyti/index_en.html.

Figure 1.2.6.

The employment rate of 55–67-year-olds, 2006, 2014 and 2015.



In the last few years, the employment rate has risen among the older workforce. In ten years the employment rate has risen clearly in all age cohorts of 55 and over. This positive development continued also last year. Although the employment rate of the 65–67-year-olds is still on a relatively low level, it has nearly doubled since 2006.

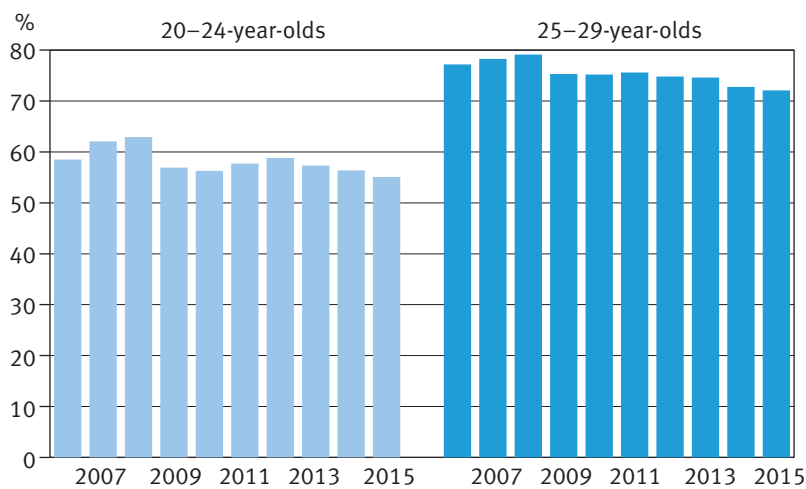
1.2.7 Employment rate of 20–29-year-olds

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

As employed is considered a person who, during the week of research, was in gainful employment and receiving monetary salary for at least an hour, or fringe benefits for work, or profit if self-employed, or someone who has been temporarily off work. More detailed definitions are available from Statistics Finland: http://stat.fi/til/tyti/index_en.html.

Figure 1.2.7.

The employment rate of 20–29-year-olds in 2006–2015.



The employment rate of young people dropped in the early 2000s. From 2004 onwards, the employment rate of young people rose steadily up until the 2008 financial crisis. The crisis was reflected especially in the 2009 employment rate of young people. Economic development was modest last year, and the employment rate of young people continued to drop in 2015 by over half a percentage point. In 2015 the employment rate of young people aged 20–24 was 55.1 per cent, and 72.1 per cent for 25–29-year-olds.

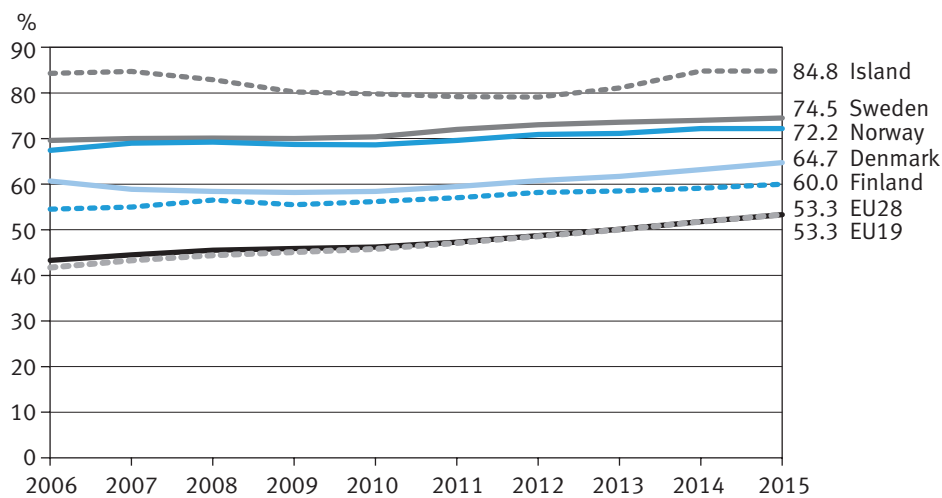
1.2.8 Employment rate of 55–64-year-olds in the Nordic countries and the EU

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. For more details, please visit Eurostat at http://epp.eurostat.ec.europa.eu/portal/page/portal/labour_market/introduction.

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

Figure 1.2.8.

The employment rate of 55–64-year-olds in the Nordic countries and the EU in 2006–2015.



In the EU, the employment rate of 55–64-year-olds has increased in the 2000s. This is the case also in the Nordic countries, with the exception of Iceland, where, during the entire research period, the employment rate has clearly been the highest among the Nordic countries, at roughly 80 per cent. Finland caught up with the other Nordic countries before the financial crisis, and since then the employment rates of 55–64-year-olds in Finland and Denmark have been on roughly the same level.

In the last few years, the development of employment in Finland has been weak, whereas employment rates have improved in the other Nordic countries. Denmark is now pushing full steam ahead, while Sweden and Norway already have an employment rate among the elderly workforce that is well over ten percentage points higher than that of Finland. At least some of the differences between the Nordics can be explained by part-time work, which is a lot more common in Sweden and Norway than in Finland.

Although the employment rate of 55–64-year-olds has risen in Finland, the difference compared to the median in the EU has become smaller. In 2015 the increase in the employment rate of the ageing population in the EU and European economic area was nearly double that of Finland.

In the Nordic region in 2015, the employment rate increase was strongest in Denmark and Finland. In Sweden the increase was small, and in Iceland and Norway there was no change compared to the previous year.

2 Level of pensions

2.1 Core indicators

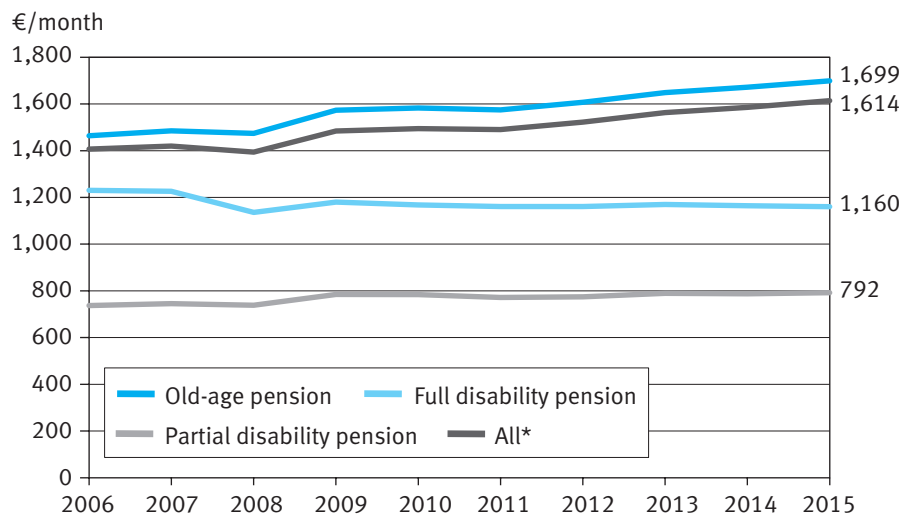
- 2.1.1 Average total pension in one's own right
- 2.1.2 Average total pension in one's own right in relation to average earnings
- 2.1.3 Average total pension in relation to average earnings in 2015–2080
- 2.1.4 Pension replacement rate
- 2.1.5 Calculation of the development of theoretical pension replacement rates

2.1.1 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 workers' compensation insurance, traffic insurance, military accident insurance and pensions according to the Military Injuries Act as well as front-veterans' supplements, child increases and guarantee pensions paid by Kela (the Social Insurance Institution).

Figure 2.1.1.

The average total pension in one's own right by pension benefit in 2006–2015, in 2015 currency.



* Contains unemployment pensions up until 2014.

From 2008 onwards, the national pension no longer contains pensioners' housing and care allowance components. From 2011 onwards, the national pension contains the guarantee pension component.

The average total pension of old-age pension recipients has seen a real growth of 16 per cent during the time period.

The average total pension of those receiving a full disability pension has remained at the same level throughout most of the period under review. In 2006 and 2007 it was slightly higher, since individual early retirement pensions still existed at the time. Their level was on average better than the actual disability pensions.

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. Partial disability pensions are, however, relatively speaking better than full pensions. The total average pension of those receiving partial disability pension was 68 per cent of the total pension of those receiving a full disability pension.

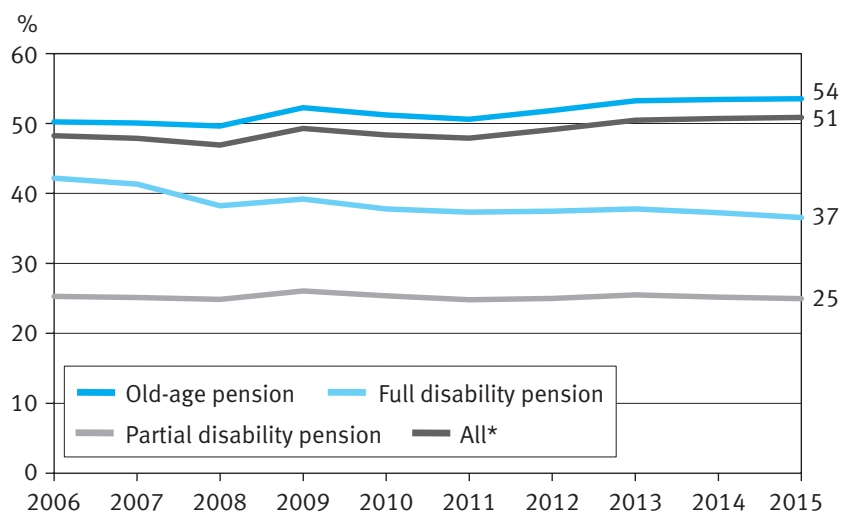
2.1.2 Average total pension in one's own right in relation to average earnings

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 workers' compensation insurance, traffic insurance, military accident insurance and pensions according to the Military Injuries Act as well as front-veterans' supplements, child increases and guarantee pensions paid by Kela (the Social Insurance Institution).

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: http://www.stat.fi/til/tjt/kas_en.html

Figure 2.1.2.

The average total pension in one's own right in 2006–2015, in percentage of the annual average earnings of the year in question by pension benefit.



* Contains unemployment pensions up until 2014.

From 2008 onwards, the national pension no longer contains pensioners' housing and care allowance components. From 2011 onwards, the national pension contains the guarantee pension component.

The income ratio of all pension recipients and the working population has remained around 50 per cent throughout the entire period under review. There was a slight decline in the latter half of the 2000s, but towards the end the level once again rose to what it had been at the start of the review period. The income ratio has remained virtually the same due to the development in old-age pensions. The average old-age pension in relation to the average income of the working population has remained around 50 per cent, and even exceeded it in the last few years. Moderate changes in average earnings have also affected the development of the income ratio in recent years.

The status of recipients of a full disability pension in relation to people still in the labour market has weakened during the period under review. For recipients of disability pension, the income ratio to the working population decreased from 42 per cent to 37 per cent. The income ratio between recipients of a partial disability pension to the working population was approximately 25 per cent throughout the period under review.

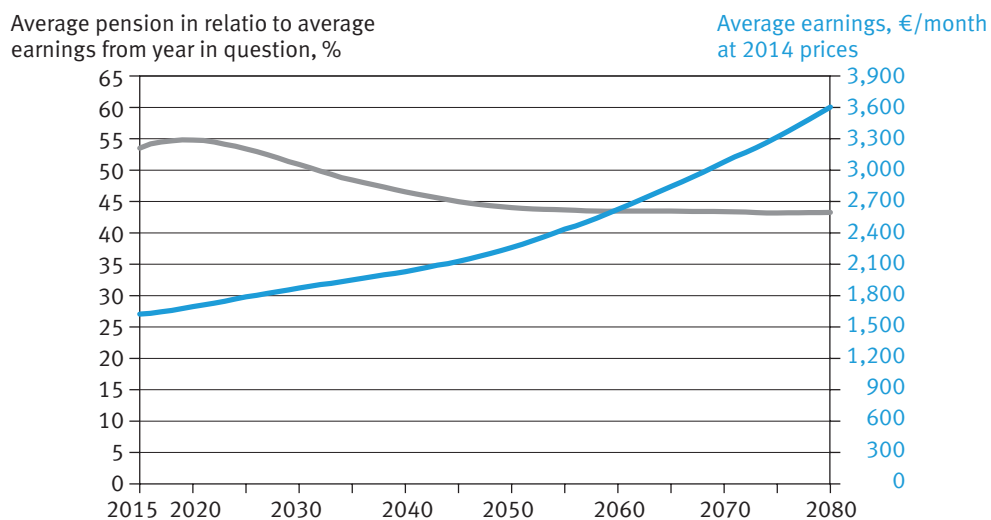
2.1.3 Average total pension in relation to average earnings, 2015–2080

The estimated development of the average total pension in one's own right from 2015 to 2080 is based on the Finnish Centre for Pensions' estimates of the impacts of the 2017 pension reform (*Effects of the 2017 earnings-related pension reform: projections based on the government bill. Finnish Centre for Pensions, Reports 08/2015*). New long-term estimates will be published in the autumn of 2016.

The average total pension in one's own right depicts the average total pension of persons resident in Finland and receiving old-age, disability or unemployment 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 workers' compensation insurance, traffic insurance, military accident insurance and pensions according to the Military Injuries Act, as well as front-veterans' supplements, child increases and guarantee pensions paid by Kela (the Social Insurance Institution).

Figure 2.1.3.

The average total pension in one's own right in 2014 currency and percentage rates from the average earnings of each year in 2015–2080.



During the projection period, the purchasing power of the average pension will more than double. In other words, at the 2014 price level, the pension will rise from just over EUR 1,600 to roughly EUR 3,600 per month. The growth in pension purchasing power is mainly the result of an increase in the general earnings level.

In 2015, the average pension was slightly more than half the average earnings of the insured. The ratio of earnings-related pensions to the earnings level is still growing somewhat, due to slow growth in average earnings and the earnings-related pension scheme maturing. From the 2020s onwards, the growth in pension levels will, however, lag behind the growth in earnings level. This is mainly due to the life expectancy coefficient. Additionally, the 1990s removal of public sector accruals higher than those in the private sector and the increase in employee pension contributions serve to lower the ratio of the average pension to the average income. The pensions paid by Kela are tied to the index with 50 per cent weight on wage growth and 50 per cent consumer price inflation. For this reason, the pensions of Kela grow more slowly than the earnings level.

2.1.4 Pension replacement rate

In this instance, the *pension replacement rate* is defined as depicting the earnings-related pension percentage share of the earnings level preceding retirement, of a person 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 2014 and had earnings from work during the years 2012 and 2013. 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 screened out approximately half of all new retirees. Many left outside the review retired as a result of disability or unemployment.

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

Table 2.1.4.

The pension replacement rates of those retiring from work in 2015.

	Replacement rate					
	Average	Lowest decile i.e. 10%	The lower quartile i.e. 25%	Median i.e. 50%	The upper quartile i.e. 75%	Highest decile i.e. 90%
All new retirees						
Both sexes	61	32	49	59	69	83
Men	66	39	52	61	72	89
Women	58	29	45	57	66	77
Wage earners						
Both sexes	59	31	48	59	67	77
Men	62	38	52	60	69	80
Women	56	29	45	57	66	75

The pension replacement rate for people retiring in 2015 who were part of the research was 61 per cent on average. The replacement rate varies greatly. If earnings from the last working years differ significantly from the average earnings of one's whole working life, the replacement rate may be very high or it may be very low. The replacement rate median was 59 per cent, and that describes the pension replacement rate fairly well. Every second replacement rate was between 49–69 per cent. The replacement rate was slightly higher for males than for females.

The replacement rate for wage earners was slightly lower than that of the self-employed. The divergence was also smaller than for the self-employed. In 2015, the replacement rate of the wage earners was 59 per cent on average. The median was also 59 per cent.

The basic figures of the presented replacement rates are, by nature, quite stable. Over the last few years they have barely changed at all.

2.1.5 Calculation of the development of theoretical pension replacement rates

By *theoretical pension replacement rate* is meant 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, it can be seen how the rules determining the level of pension 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. 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. The same earnings profile has been used in the EU when calculating the theoretical replacement rate indicator.

The projections used in the calculation are based on the Finnish Centre for Pensions' estimates of the impacts of the 2017 pension reform. Below we describe the theoretical replacement rates of three different cohorts born in 1953, 1962 and 1985. The calculation provides a replacement rate for the same cohort according to retirement age. The working life is expected to be equally long for the different cohorts.

Table 2.1.5.

Pension replacement rates for persons born in 1953, 1962 and 1985 according to the pension reform coming into force in 2017.

Retirement age	Replacement rate		
	Born in 1953	Born in 1962	Born in 1985
63	50.2		
64	54.1		
65	57.9	49.7	
66	61.9	53.4	
67	65.9	57.1	49.2
68	70.0	61.0	52.8

The lowest retirement age for those born in 1962 is 65, and for those born in 1985, 67 years.

Theoretical pension replacement rates are lowered as we go from the oldest cohort to the youngest. According to the population forecast, life expectancy will be extended, meaning that the life expectancy coefficient will lower the pension level and replacement rate. Working longer improves the replacement rates in each cohort.

2 Level of pensions

2.2 Complementing indicators

- 2.2.1 Average total pension in one's own right and share of pension income per decile
- 2.2.2 Pension replacement rate distribution
- 2.2.3 Income of pensioner households
- 2.2.4 The low income of pensioners

2.2.1 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 share of pension recipient deciles in the pension income depicts the pension income share 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 workers' compensation insurance, traffic insurance, military accident insurance and pensions according to the Military Injuries Act as well as front-veterans' supplement, child increase and guarantee pensions paid by Kela (the Social Insurance Institution).

Figure 2.2.1a.

The average total pension of pension deciles of recipients of pension in one's own right in 2006–2015, in 2015 currency.

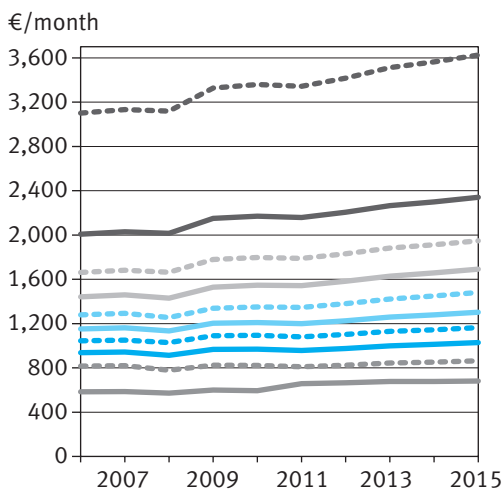
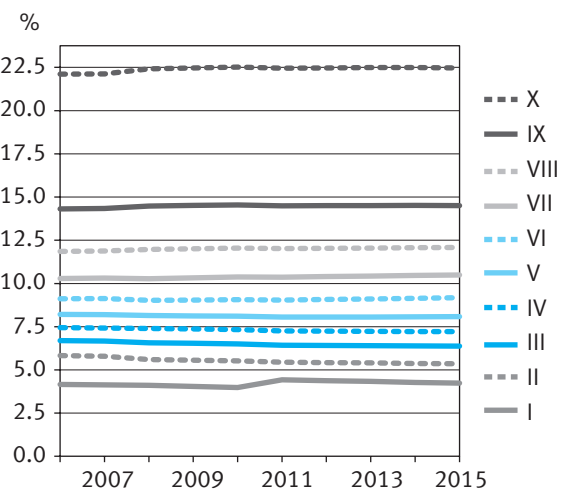


Figure 2.2.1b.

Share of deciles of recipients of pension in one's own right in the pension income in 2006–2015, %.



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 EUR 500, and in the lowest by approximately EUR 100.

The income share of the lowest decile is less than five per cent, while it is over 20 per cent in the uppermost decile. The three lowest deciles, in other words 30 per cent of pension recipients, receive approximately 15 per cent of the pension income, while the share of the three highest deciles is half.

The distribution of pension income has remained very stable during the period under review.

2.2.2 Pension replacement rate distribution

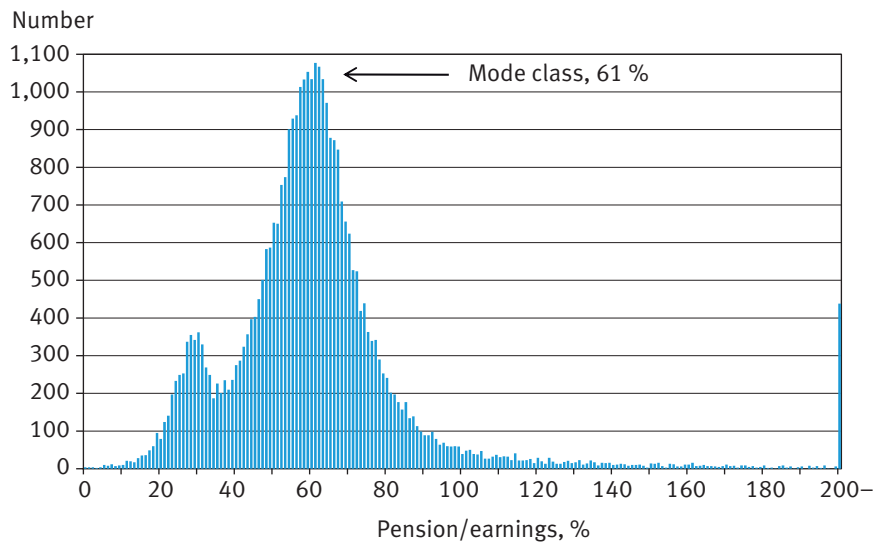
The pension replacement rate here depicts the earnings-related pension percentage share of the earnings level preceding retirement, of a person retired on an earnings-related pension. The earnings-related pension includes all pensions in one's own right paid as earnings-related pensions. The earnings 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 2014 and had earnings from work during the years 2012 and 2013. 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 screened 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 2.1.4

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

Figure 2.2.2.

The ratio of pension to preceding earnings of those retiring on an earnings-related pension in 2015.



The ratio of pension to preceding earnings varies a lot for the newly retired. 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 mark. The concentration at the 30 per cent mark can be explained by the partial disability pensions. The partial disability pension is half the amount of a full pension.

2.2.3 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. By income is meant 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: http://tilastokeskus.fi/til/tjt/index_en.html.

Figure 2.2.3a.

Domestic household income in 2005–2014, the average, in 2014 currency.

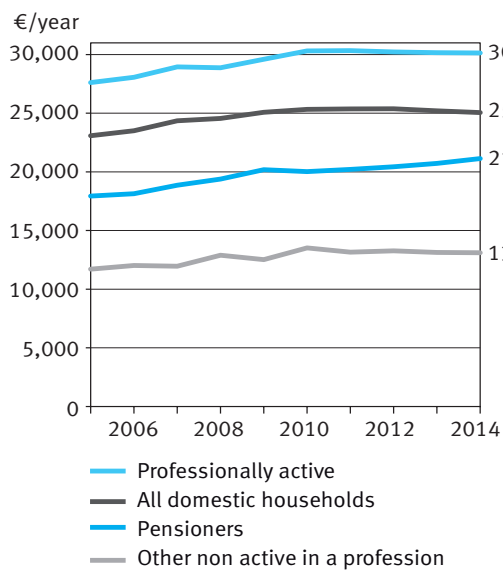
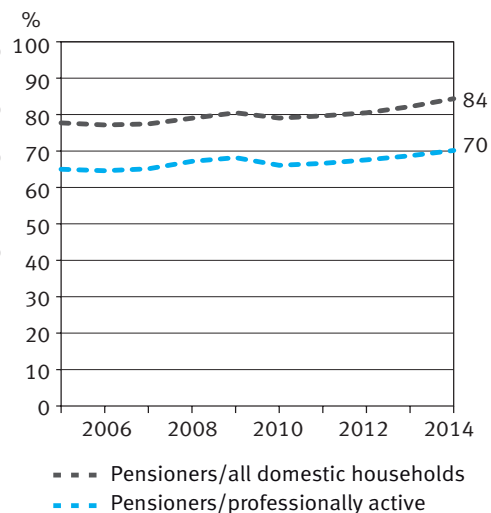


Figure 2.2.3b.

Income of pensioner households in relation to wage earners and all domestic households in 2005–2014.



In 2014, the average income of those living in pensioner households, measured as equivalent income, was EUR 21,100 per year, i.e. roughly EUR 1,800 per month. Those who fared best were professionally active households, where the real income was EUR 30,100. In a weaker position, with annual incomes of EUR 13,100 on average, were persons living in other domestic households: in practice students and the long-term unemployed.

Compared to 2005, real growth in the income of pensioner households was 18 per cent. In relation to those who are professionally active, the income of pensioner households has ranged between 65–70 per cent. Economic fluctuations are reflected in this ratio. During periods of uptrends, the position of pensioner households compared to the professionally active will usually weaken, and correspondingly improve during periods of decline. Compared to the population as a whole, the income of pensioner households has varied between 77–84 per cent. In 2014, the ratio was 84 per cent.

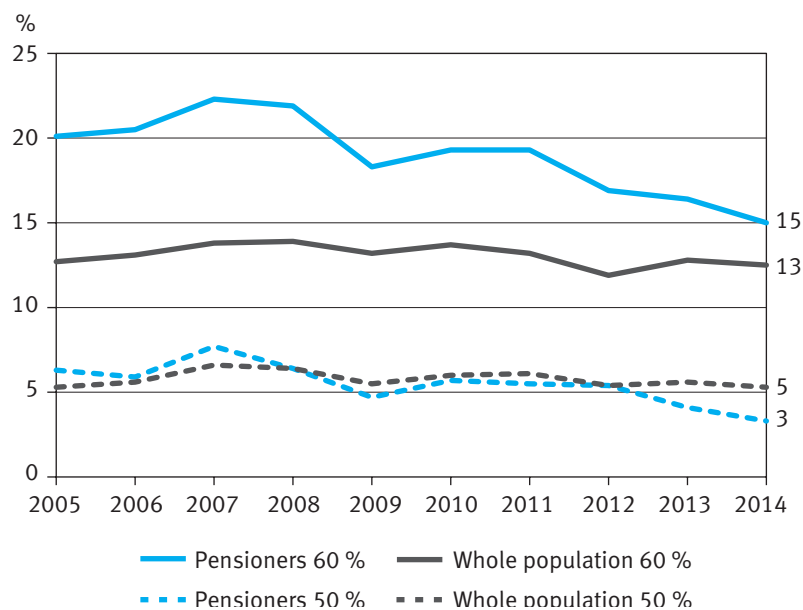
2.2.4 The low income of pensioners

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 disposable money 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 financial 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: http://tilastokeskus.fi/til/tjt/index_en.html.

Figure 2.2.4.

The low income rate of pensioners and the entire population at the low income limit of 60 and 50 per cent in 2005–2014.



In 2014 the pensioner low income rate was 15.0 per cent when calculated based on the 60 per cent limit, which is about 2 percentage points higher than for the population as a whole. Compared to 2005, the pensioner low income rate has dropped by five percentage points whereas it has remained intact for the population as a whole. The occasional shift in 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 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, pensioner low income rate is practically the same as for the population as a whole.

3 Pension expenditure and financing

3.1 Core indicators

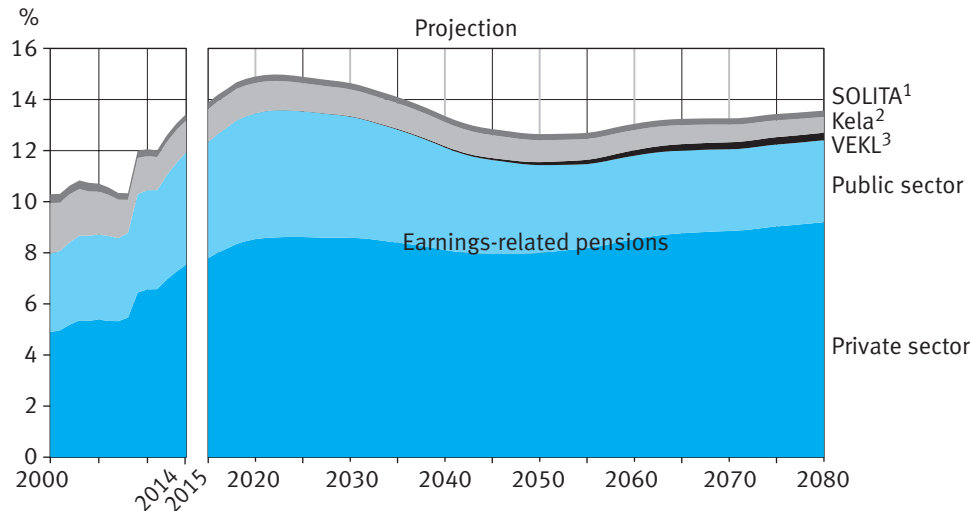
- 3.1.1 Statutory pension expenditure in relation to the gross domestic product
- 3.1.2 Earnings-related pension expenditure in relation to the sum of earnings
- 3.1.3 Expenditure and contribution rates under the Employees Pensions Act
- 3.1.4 Accrued pension rights and the funding ratio

3.1.1 Statutory pension expenditure in relation to the gross domestic product

The estimate is based on the Finnish Centre for Pensions' estimates of the impacts of the 2017 pension reform (*Effects of the 2017 earnings-related pension reform: projections based on the government bill. Finnish Centre of Pensions, Reports 08/2015*). New long-term estimates will be published in the autumn of 2016.

Figure 3.1.1.

Statutory pension expenditure in relation to the gross domestic product in 2000–2080, %.



¹ Acts on military accidents, military injuries, traffic accident and workers' compensation.

² Comprises national pensions and guarantee pensions.

³ The act on pension state funds replacing pensions during periods of care for child younger than 3 years or during studies.

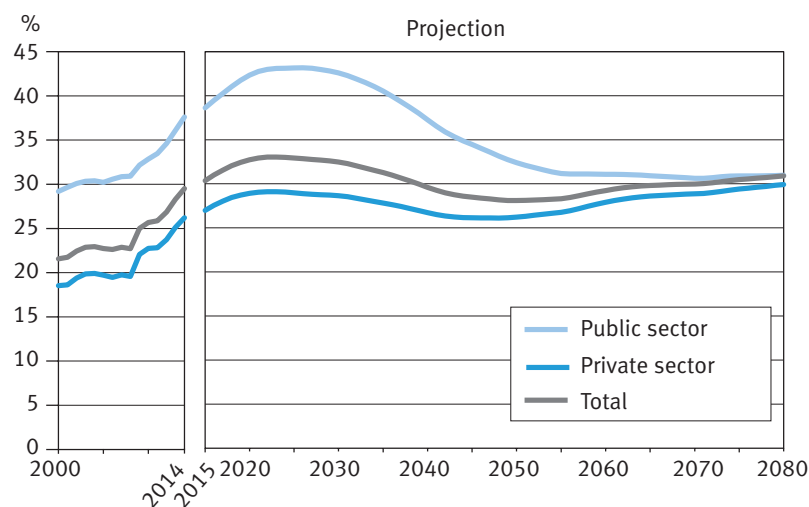
Prior to the recession that began in the autumn of 2008, the statutory pension expenditure was approximately 10 per cent of GDP. The GDP dropped in 2009 but pension expenditure increased, meaning that the ratio of pension expenditure to GDP grew strongly. The relative amount of expenditure is expected to grow until the early 2020s, at which time pension expenditure will account for just under 15 per cent of GDP. In the next few years, the growth in expenditure will largely be due to the rise in average pension in relation to average earnings. Thereafter, over the next 30 years, the ratio of pension expenditure to GDP will decline to some 13 per cent. This will primarily be due to delayed retirement and a reduction in average pension in relation to average earnings. In the latter half of the century, the rate of delayed retirement will slow down and the growing share of the pensioner population will cause a slight growth in pension expenditure in relation to GDP.

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

Estimate of the development of earnings-related pension expenditure in relation to the financial bases, in other words the sums of earnings per economic sector based on the Finnish Centre for Pensions' estimates of the impacts of the 2017 pension reform (*Effects of the 2017 earnings-related pension reform: projections based on the government bill*, Finnish Centre for Pensions, Reports 08/2015). New long-term estimates will be published in the autumn of 2016.

Figure 3.1.2.

Earnings-related pension expenditure in relation to the sum of earnings in 2000–2080, %.



The development of pension expenditure in relation to income from work is different in the public and private sectors. In the private sector, the expenditure ratio will rise by approximately 2 percentage points to just under 30 per cent by 2020. Thereafter, the expenditure ratio of the private sector will revert to 26 per cent mid-century, after which it will begin to grow slightly. In 2015, the earnings-related pension expenditure of the public sector was roughly 39 per cent in relation to the wage sum of the public sector, and the expenditure will rise by almost 5 percentage points by 2030. After that, the expenditure ratio will slowly return to a level of roughly 30 per cent.

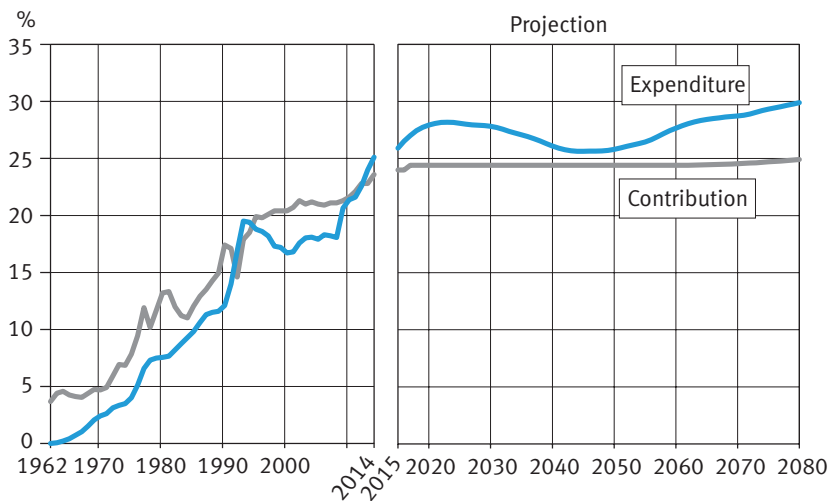
The expenditure ratio of the public sector, that has remained high for years, is the result of two factors. Historically the pension benefits were more generous in the public sector than in the private sector. Furthermore privatizations have resulted in employees transferring to the private sector. In the long term, expenditure ratios between the public and private sectors will converge close to each other, since the current benefit rules are almost identical. 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 pension expenditure does not, however, include sector-specific expenditure. For this reason, the expenditure ratio of all earnings-related pensions is as great as the expenditure ratio of the public sector at the end of the projection period.

3.1.3 Expenditure and contribution rates under the Employees Pensions Act

The realised and projected development of pension expenditure and contributions in the private sector in relation to the corresponding wage sum is based on the Finnish Centre for Pensions' estimates of the impacts of the 2017 pension reform (*Effects of the 2017 earnings-related pension reform: projections based on the government bill*. Finnish Centre for Pensions, Reports 08/2015). New long-term estimates will be published in the autumn of 2016.

Figure 3.1.3.

Expenditure and contribution rates under the Employees Pensions Act in 1962–2080.



Since the introduction of the Employees' Pensions Act (TEL), the growth in pension expenditure for private sector employees has almost continuously outpaced the growth in the payroll due to the gradual commencement of benefits and the aging of the population. This development path will change course over the next few years, and in 2020–2050 the ratio of pension expenditure to payroll will decline by just under two percentage points. The change will be due to delayed retirement and a reduction in average pension in relation to average earnings. In the latter half of the century, the rate of delayed retirement will slow down and the growing share of the pensioner population will lead to growth in the ratio of pension expenditure to payroll.

The spike in the expenditure percentage in the 1990s was caused by the constricted payroll during the recession. Correspondingly, after 2009, the share of expenditure has increased rapidly under the weak economic development conditions and growing pension expenditure.

Partial funding has been used in the earnings-related pensions of wage-earners in the private sector. This is evident such that the pension contribution has exceeded the pension expenditure up until the first half of the current decade. In future, the contribution can be kept lower than the expenditure by using the return from the accrued pension funds. The estimated contribution development is not, in the long term, based on the dismantling of pension assets; rather, the pension assets at the end of the calculation period in relation to payroll are higher than they were at the beginning of the projection period.

3.1.4 Accrued pension rights and the funding ratio

By capital value of pensions accrued up to a certain point is meant the amount of money that would be sufficient to fund pensions accrued up to that certain point in time. This requires taking into account the return receivable on the funds (discount rate).

The estimates for 2011–2012 are based on the long-term projections of the Finnish Centre for Pensions from the year 2013 (*Statutory pensions in Finland: long-term projections 2013, Finnish Centre for Pensions, Reports 03/2014*). The values for 2013 and 2014 have been produced at the Finnish Centre for Pensions while following the same principles. The impact of the 2017 pension reform has, for the first time, been taken into account in the pension rights accrued in 2014.

Table 3.1.4.

Pension funds, accrued pensions rights and the funding ratio in 2011–2014, with a real discount rate of 2.5 per cent. The money amounts are at current prices.

	The Employees Pensions Act				All			
	2011	2012	2013	2014	2011	2012	2013	2014
Pension funds, billion €	89.7	96.4	103.7	109.6	136.3	149.7	162.2	173.6
Accrued pension rights, billion €	376.1	397.7	407.3	416.4	649.3	684.7	699.5	716.8
Funding ratio, %	23.9	24.2	25.5	26.3	21.0	21.9	23.2	24.2

By amount of earnings-related pension funds is meant the current value of the investments assets of earnings-related pension institutions by the end of each year. The annual fluctuation in investment returns strongly affects the amount of earnings-related pension funds. The growth in pension funds during 2012–2014 can largely be explained by good investment returns.

The value of accrued pensions has been calculated using a 2.5 per cent real discount rate. The value of earnings-related pensions accrued by the end of 2014 is, taken together, a total of just over EUR 700 billion, which is approximately three and a half times the GDP for 2014.

The funding ratio is the earnings-related pension funds divided by the capital value of accrued pensions. This key figure shows to what degree pensions already accrued can be financed using pension funds already accrued, and returns available from these funds in future. The funding ratio of the entire earnings-related pension scheme has been good 20 per cent, and that of the Employees Pensions Act slightly higher.

3 Pension expenditure and financing

3.2 Complementing indicators

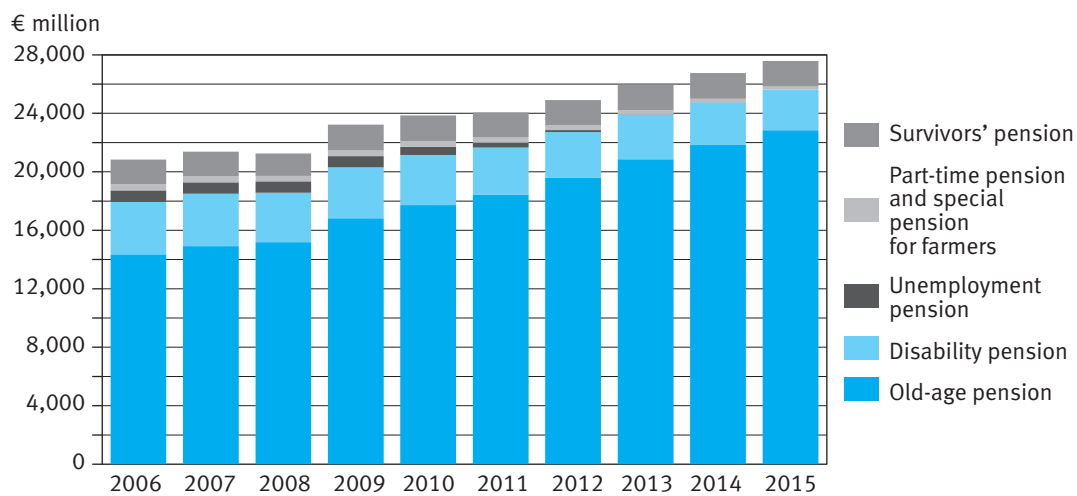
- 3.2.1 Earnings-related and national pension expenditure
- 3.2.2 Earnings-related pension contribution rates
- 3.2.3 Earnings-related pension funds in relation to the sum of earnings
- 3.2.4 Investment returns
- 3.2.5 Internal rate of return on earnings-related pension contributions by generation

3.2.1 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 (the Social Insurance Institution). Unemployment pensions have not been paid out since 2014. The national pension expenditure also includes front-veterans' supplements, child increases and guarantee pensions.

Figure 3.2.1.

The earnings-related and national pension expenditure by pension benefit in 2006–2015, in 2015 currency.



Since 2008, national pension no longer comprises housing and care allowances for pensioners.

The figure do not include front veterans' supplements, child increases or guarantee pensions paid by Kela, as they are not included in the pension expenditure by pension benefit.

In 2015, earnings-related and national pensions totalled almost EUR 27.8 billion, of which the share of the earnings-related pensions was EUR 25.3 billion and that of the national pensions was EUR 2.5 billion. The share of old-age pensions in the overall pension expenditure was 83 per cent, that of disability pensions was 10 per cent and that of survivors' pensions, about 6 per cent.

In addition to national pensions, Kela paid guarantee pensions at a sum of EUR 162 million and front veterans' supplements and child increases of EUR 31 million in 2015.

3.2.2 Earnings-related pension contribution rates

The table presents the average pension contribution rates during the years 2007–2016. Contribution rates according to the pension acts of wage earners contain the shares of both employers and employees. Contribution shares are calculated on the wage paid to the employee.

The employee contribution is dependent on age and is higher for those 53 years of age and above. In 2015, the contribution rate of those younger than 53 is 5.7 and 7.2 for those 53 and older. Regarding the MEL contribution, employee shares are now the same as for other wage earners. Before 2016, employers and employees each paid half of the MEL contribution, regardless of the employee's age. Aside from age, the pension contributions of entrepreneurs and farming entrepreneurs are affected by the income from work. Grant recipients have been insured according to MYEL (the Farmer's Insurance Act) since 2009.

Table 3.2.2.

Average earnings-related pension contribution rates in 2007–2016 according to pension act.

Year	TyEL ¹	MEL	YEL	MYEL ²	MYEL ³	VaEL	KuEL ⁴	KiEL
2007	21.1	22.0	19.5	10.7		24.7	28.4	31.2
2008	21.1	22.0	19.3	10.6		24.7	28.1	31.1
2009	21.3	22.0	19.6	10.8	10.3	25.0	28.2	31.5
2010	21.6	22.0	20.1	11.1	10.5	25.1	28.4	31.8
2011	22.1	22.2	20.2	11.3	10.9	24.9	28.7	31.8
2012	22.8	22.4	21.1	11.8	11.0	25.0	29.1	33.3
2013	22.8	22.6	20.9	12.9	13.4	24.9	29.6	33.7
2014	23.6	22.8	21.8	13.4	13.0	26.5	29.8	34.1
2015	24.0	22.8	22.6	13.4	13.3	26.4	29.8	34.3
2016 ⁶	24.0	22.8	22.5	13.3	13.2	24.1	29.4	30.5

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

² Farming entrepreneurs.

³ Grant recipients.

⁴ The KuEL contribution contains contribution components based on wages and pension expenditure.

⁵ Contribution rates of the Evangelical Lutheran Church Pension Act do not contain a pension fund contribution, which was 4.0% of the church tax in 2016 and 1.2% of the church tax during the years 2013–2015.

⁶ The contribution rates of 2016 are estimated average contributions.

TyEL The Employees Pensions Act

MEL The Seafarer's Pensions Act

YEL The Self-Employed Person's Pensions Act

MYEL The Farmers' Pension Insurance Act

VaEL The State Employees Pensions Act

KuEL The Municipal Pension Act

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

The pension funds in the table are the technical reserves that the pension providers have reported in their balance sheets, to which the valuation gain or loss of the assets has been added. YEL and MYEL technical reserves have been used as pension funds according to these acts. Where the public sector pension providers are concerned, investment assets have been used. The sums of wages and earnings are based on the information reported by the pension providers to the Finnish Centre for Pensions.

Table 3.2.3.

The earnings-related pension funds in relation to the sum of earnings in 2007–2015, %.

Year	TyEL	MEL	YEL	MYEL	VaEL	KuEL	KiEL	Other public	All
2007	188.0	288.4	3.9	2.0	189.8	196.6	177.1	377.3	178.5
2008	150.8	236.0	3.6	1.7	158.4	152.6	141.2	376.0	143.3
2009	177.2	283.3	3.4	1.9	182.3	179.9	167.1	393.0	167.3
2010	190.8	319.6	3.3	2.5	212.0	199.9	189.9	405.5	182.6
2011	176.6	303.8	3.0	3.0	209.3	194.6	183.5	412.1	171.5
2012	185.5	326.4	2.8	3.7	232.1	215.6	202.7	417.0	183.1
2013	198.4	334.8	2.7	4.6	247.2	231.1	222.5	431.2	195.7
2014	209.0	359.5	2.7	5.6	270.2	253.8	243.0	434.7	208.9
2015	215.4	390.7	2.7	7.2	289.4	267.2	257.5	439.5	217.5

TyEL The Employees Pensions Act

MEL The Seafarer's Pensions Act

YEL The Self-Employed Person's Pensions Act

MYEL The Farmers' Pension Insurance Act

VaEL The State Employees Pensions Act

KuEL The Municipal Pension Act

KiEL The Evangelical Lutheran Church Pension Act

Other public: Pension rule of the Bank of Finland, pension rule of the Social Insurance Institution, pension rule of the regional government of Åland

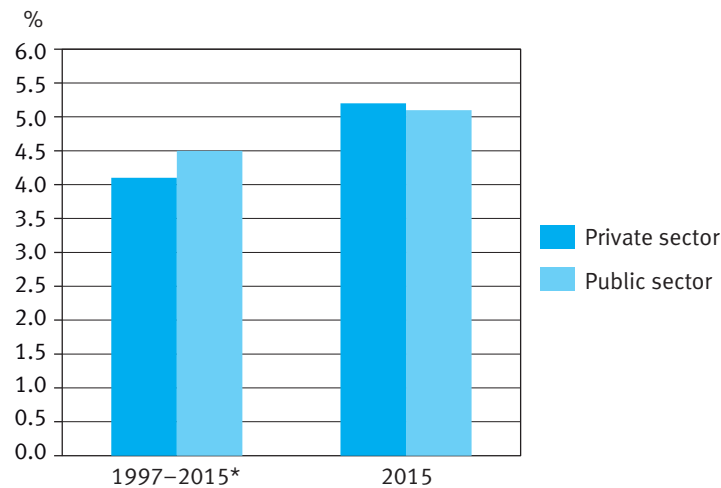
Pension funds increased until the financial crisis of 2008, when the value of the funds dropped strongly. Also, due to weak economic development internationally, stock markets fell and bent the investment profits as well as pension funds in 2011, but since then the amount of funds in relation to the wage sum has grown annually.

3.2.4 Investment returns

When calculating profit from earnings-related pension investments, the calculation method used is that determined by the Financial Supervisory Authority. Investment profits 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 profit rate is achieved by proportioning these to the capital employed. Real profit is arrived at when the impact of consumer pricing on the purchasing power of capital employed is taken into account alongside nominal profit.

Figure 3.2.4.

The average real annual profit of earnings-related pension investments in per cent of the capital employed in 1997–2015.



*The private sector: Average profit of pension provider investments used for the year 1997.

The public sector: Average profit of Keva investments used for the years 1997–1999.

Profits vary from year to year, first and foremost due to changes in value. The year 2015 was a good investment year. Private-sector investments produced a real profit of 5.2 per cent, and those of the public sector, 5.1 per cent. The investment operations of earnings-related pension providers in the private sector carried a slightly lower risk than those of the public sector. Private-sector actors are obligated to meet statutory demands for solvency.

Due to annual shifts in investment profits, they are also depicted in terms of average value over several years. Sufficiently comprehensive, comparable profit series that cover the entire field begin in 1997. In the private sector, the real average profit of nineteen years was 4.1 per cent per year. In the public sector it was 4.5 per cent.

Source: <http://www.tela.fi>

3.2.5 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 a combination of historical data and a projection. The historical data covers the years 1962–2013. In some details, where the realised development is concerned, estimates have had to be used, but these estimates have little significance on the overall picture. As of 2014, the internal rate of return is based on the Finnish Centre for Pensions' long-term projection. This projection is based on the 2017 pension reform. (*Laskelmia vuoden 2017 työeläkeuudistuksen vaikutuksista. Eläketurvakeskuksen raportteja 02/2015*).

Table 3.2.5 presents the internal real rate of return on the earnings-related contributions of insured wage-earners in accordance with the Employees Pensions Act and the acts preceding it for cohorts born between 1940 and 2000. In practice, all statutory earnings-related pensions of private-sector wage-earners are included in the calculation. Only the Seafarer's Pensions Act is excluded.

Table 3.2.5

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

	Year of birth												
	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000
Internal rate of return, %	6.5	4.9	4.0	3.3	2.8	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3

The pension system's operating costs are included in the realised and projected pension contribution, and are thus a factor that reduces the internal return. Pension contributions are tax-deductible, and pension payments received by the pensioner are taxable income. Taxation is not, however, taken into account in the calculation of the internal return.

The real internal rate of return declines from 6.5 per cent for those born in 1940 to 2.3 per cent for those born in 1970. Due to limitations in the availability of data, the calculation does not include those born before 1940. The internal rate of return for those generations would be even higher than those born in 1940 or later. Older cohorts receive high returns mostly due to low historical pension contribution rates. The contribution rates have increased gradually over time, and therefore younger cohorts face lower internal rates of return. The gradual maturing of the pension system and the ageing population will drive the contributions upwards. The real internal rate of return will be stable, at 2.3 per cent, for those born in 1970 and later.

In autumn 2015, the Finnish Centre for Pensions published a report reviewing the earnings-related pension contributions and benefits of wage earners in the private sector according to generation (*Yksityisalojen palkansaajien työeläkkeet syntymävuoden ja sukupuolen mukaan. Eläketurvakeskuksen raportteja 09/2015*).



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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 the pension provision.



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