

PART I
Chapter 1

Pensionable Age and Life Expectancy, 1950-2050

Around half of OECD countries have already begun increasing pension ages or plan to do so in the future: 18 countries for women and 14 countries for men. Recent increases in pensionable ages have often proved controversial because of their greater visibility to politicians and voters.

By 2050, the average pensionable age in OECD countries will reach nearly 65 for both sexes: an increase of nearly 2.5 years for men and 4 years for women on 2010. However, life expectancy is projected to grow faster than these increases in pension age. Life expectancy at pensionable age is forecast to increase by about 3 years for men and 2.5 years for women between 2010 and 2050.

Rapid ageing of the population around the world is a major challenge to affordability of pensions and financial sustainability of retirement-income systems. This problem has been reinforced by a long period during which increases in life expectancy were continually under-estimated by experts.¹

This special chapter explores trends in one key parameter of the pension system: the age of eligibility for mandatory pension benefits.² The “retirement age” is the most visible parameter of the pension system. As such, it sends a clear signal for people in choosing when to cease work. Increases in pension age have often proved among the more contentious elements of pension reforms, compared with other, less visible, changes to retirement-income provision. The following section discusses some of the issues in defining pensionable age, which is not always as clear cut a concept as one might imagine.

Section 1.2 then presents a new dataset of the evolution of pension eligibility age covering a period of a century, looking back to 1950 and forwards to 2050. The main finding is that average pensionable age in OECD³ countries dropped by nearly two years during the second half of the 20th century to 62.5 for men and 61.1 for women. Legislation already in place will increase it almost to 65 for both sexes by 2050.

The relationship between pension age and life expectancy – both observed in the past and forecast into the future – is examined in Section 1.3. The analysis shows how the expected duration of retirement has been, and is likely to be, affected by changes in pension age and by the near-continuous growth in life expectancy observed in the past. Between 1960 and the turn of the century, life expectancy after pensionable age is shown to have grown from 13.4 to 17.3 years for men and 16.8 to 22.1 years for women on average in OECD countries. However, life expectancy after normal pension age is projected to reach 20.3 and 24.6 years (for men and women respectively) in 2050, despite many OECD countries having already legislated for phased increases in the pension age in the future.

1.1. Defining “pensionable age”

Pensionable age is defined here as the age at which people can first draw full benefits (that is, without actuarial reduction for early retirement). Normal pension ages in most countries are clearly set out in legislation. However, it may be possible to retire earlier than the normal age without an “actuarial” reduction in pension benefits (to reflect the longer duration of benefit payment). Typically, this requires that certain contribution requirements are met (see the indicator of “Normal, early and late retirement” in Part II.1). Some countries do not have a “normal” pension age, instead defining a range of ages at which the pension may first be drawn. The definition adopted here is designed to be comparable between countries.

As in the rest of this report, a full career is defined as an individual starting work at age 20 and contributing in every year from that time. In countries where there are different retirement-income programmes for different groups of workers, the data relate to the main, national scheme for private-sector workers. The analysis does not take account of earlier retirement ages or more favourable treatment of, for example, public-sector

employees or workers in specific hazardous or arduous occupations.⁴ Where pension ages differ with women's marital status or the number of children that they have had, pension ages are shown for childless, unmarried women.⁵

Country-specific issues when it comes to defining pension age are addressed in detail in Box 1.1, which explains the reasoning behind the approach adopted here.

Box 1.1. Defining pensionable age: Country-specific issues

Recent reforms in **France** gradually increased the number of covered years for a full benefit from 37.5 years to 40 years in 2008 and 41 years in 2012. (Note that this volume was prepared before the increase in the standard pension age from 60 to 62 was legislated.) Assuming individuals start work at age 20, pensionable age as defined here will move from 60 to 61 in 2012 on the OECD measure (from 20 + 40 to 20 + 41 years). (Again, a further phased increase in the number of contribution years to 42 has been agreed since the detailed analysis was prepared.)

A similar difficulty arising with analysis of **Turkey**: the abolition of the standard retirement age in 1969 meant that the sole constraint on receipt of a full pension was the required 25 years of contributions. Pensionable age for Turkey during the 1970s and 80s was around age 45 (20 + 25 years) on the standard assumption of entry at age 20. This will change in the future as the standard retirement age has been reinstated and will be gradually increased.

The standard retirement age in **Hungary** was 62 for men and 58 for women in 2002 (reaching a unisex age of 62 in 2009). However, a full pension was accessible as early as 60 for men (with a minimum of 38 covered years) and 55 for women (with 37 years of contributions). Recent reforms have tightened the rules for early retirement. For men born after 1950 and women after 1958, early retirement without reduction will no longer be allowed. Consequently the pensionable age (as defined here) and standard retirement age will coincide for these cohorts.

Similarly, the statutory retirement age in **Belgium** is 65 but actuarially unreduced benefits are available from age 60 with 35 years' contributions. Also, in **Greece** the normal pension age is 65 but unreduced benefits are now paid from any age with 37 years of contributions, giving a pensionable age of 57 (20 + 37) on the definition used here. The recent reform, however, will restrict access to early retirement to age 60 in the future.

The phased increase in the statutory pension age – from 65 to 67 beginning in 2035 – in **Germany** will open up a difference between this and the OECD definition of pensionable age. It will still be possible to claim a full pension after the reform with 45 years of contributions. Thus, pensionable age on the OECD definition will remain at 65 (that is, 20 + 45 years).

In **Italy**, statutory pension ages in the long term will be 65 for men but 60 for women. However, the notional-accounts scheme means that benefits for women retiring at age 60 will be actuarially reduced to reflect the longer expected duration over which the benefit will be paid compared with drawing the pension from age 65. The earlier statutory pension age for women of age 60 is treated here as preferential access to early retirement and not as a difference in pensionable age. The normal pension age will be increased in line with life expectancy from 2015. But it will still be possible to retire at any age with 40 years of contribution.

In most cases, the pensionable age applies to all individuals at a particular point in time. Where the phasing-in of changes in pension ages affects different date-of-birth cohorts differently, it is easy to convert these into the ages that particular people will reach pension age. In others – **Italy** and **Turkey**, for example – different conditions apply depending on the number of years of contributions achieved at a certain date or the age of first entry into the pension system. Following the conventions outlined above, the relevant pension age has been computed for individuals with a full contribution history from age 20.

The final question is how to deal with countries that do not set a normal pension age in their main schemes. In **Finland** and **Sweden**, for example, there is no fixed age for public, earnings-related benefits. However, access to resource-tested schemes – the national and guarantee pensions respectively – is restricted to age 65 and above. This is used as pensionable age here.

1.2. Trends in pensionable ages over a century

Figures 1.1 and 1.2 and Tables 1.1 and 1.2 show the development of pensionable ages in OECD countries over time. The data begin in 1949, by which time all OECD countries bar Korea and Turkey already had some sort of public, retirement-income provision in place. Historical trends in pension ages from 1949 to 2010 and future pension ages on current plans up to 2050 together give a century of pensionable ages for 30 OECD countries.

Up to 2010, pension ages were constant for both men and women in only six countries: Finland, Iceland, Mexico, the Netherlands, Spain and the United Kingdom. Pension ages for men remained the same (while those for women changed) in Australia, Austria, Belgium, Hungary, Portugal and Switzerland. Only in Poland did the pension age for women remain unchanged while that for men was raised.

Looking forward, 11 OECD countries plan to increase pension ages for both men and women: Australia, the Czech Republic, Denmark, France, Greece, Hungary, Italy, Korea, Turkey, the United Kingdom and the United States.⁶ A further two – Austria and the Slovak Republic – will increase pensionable ages for women to equalise those of men during that period. Switzerland will increase women's pension age but it will still be one year below men's. These changes have already been legislated but will be phased in over the coming years.

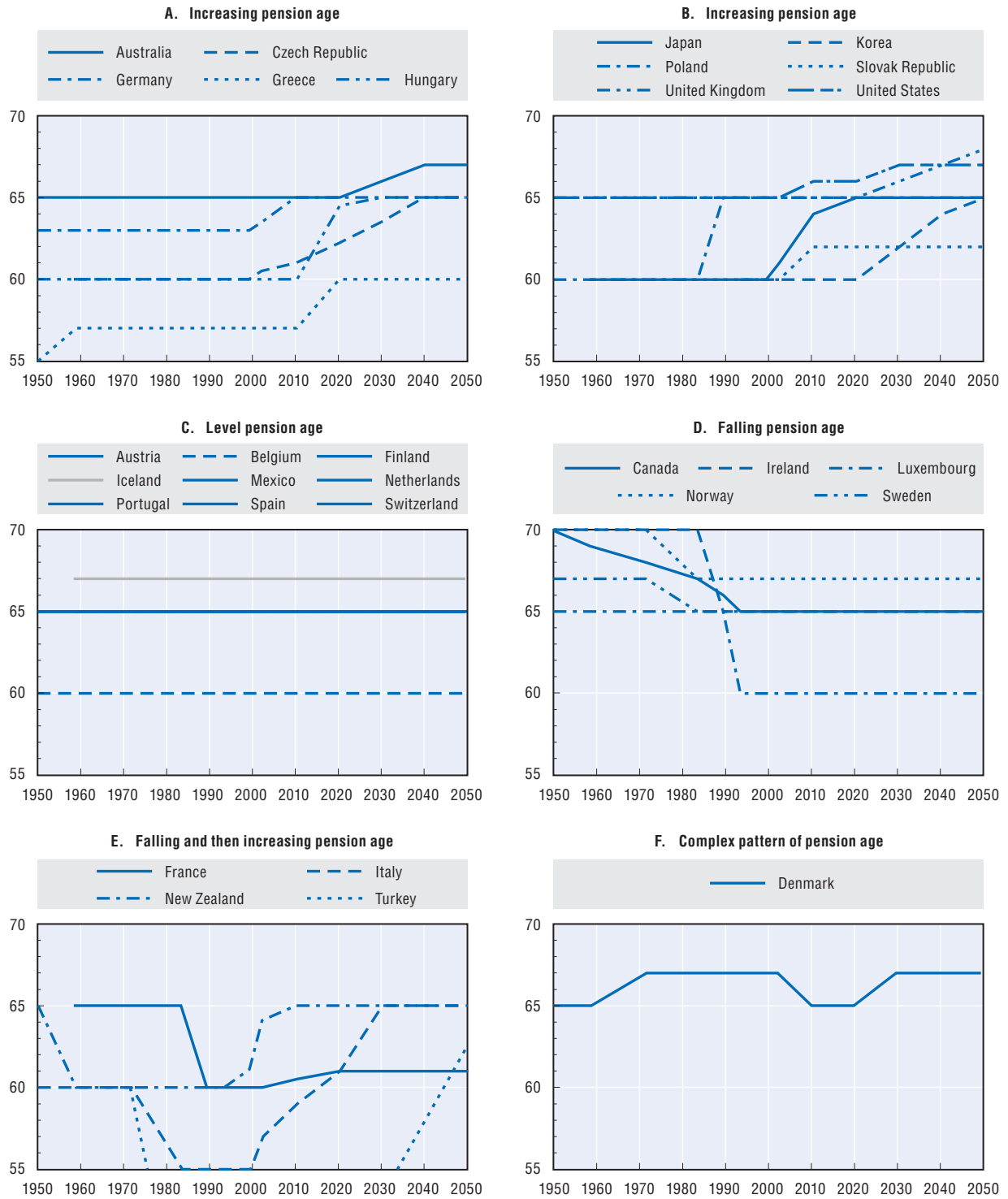
Figure 1.1 shows the time series of pensionable ages for men, country-by-country. (The data underlying the charts is given in Table 1.1). The charts group the countries into five different time series patterns. By far the most common pattern – illustrated in Panels A and B at the top of Figure 1.1 – is for an increase in pension age over time. For example, Australia, the United Kingdom and the United States had pension ages for men of age 65 for much of the period since 1950. But increases to 67 or 68 are now underway or are planned for the future. Poland increased its pensionable age from 60 to 65 for men: the Czech Republic and Hungary are in the process of following suit.

The left-hand side of the middle row of Figure 1.1 (Panel C) confirms that, for men, there has been no change in pension age since 1950, nor is any currently planned in the period 2010-50, in nine OECD countries. This is the second most common pattern of pensionable ages over time. Most stick at 65 over this period, but Iceland has retained a pension age of 67 while Belgium provides full-career workers with early retirement at age 60 without reduction in benefits.

The right-hand chart in this middle row (Panel D) shows the pattern for five countries that reduced the pension age in the past. In Canada, Ireland and Norway, for example, pensionable age was as high as age 70 in the earlier part of the period studied. The other reductions were from 67 to 65 in Sweden and from 65 to 60 in Luxembourg (for unreduced early-retirement benefits). Declines in pension age typically took place many years ago, with the most recent being completed by the early 1990s.

The penultimate group of countries – at the bottom, left-hand side of Figure 1.1 (Panel E) – show a U-shaped pension age for men over time. This is the result of a reduction in the past, followed by a period of no change, and now a reversal of earlier declines that is already being phased in or has been announced. For example, France cut pensionable age from 65 to 60 in the 1980s. However, the increase in the contribution requirement for a full benefit to 41 years from 2012 raises the OECD measure of pensionable age above 60. New Zealand cut pension age from 65 to 60 some time ago, only to return quickly to 65 around the turn of the century. The most striking development was in Turkey: the statutory retirement age of 60 was abolished and replaced with a requirement of around 25 years'

Figure 1.1. Pensionable age in OECD countries, men, 1950-2050

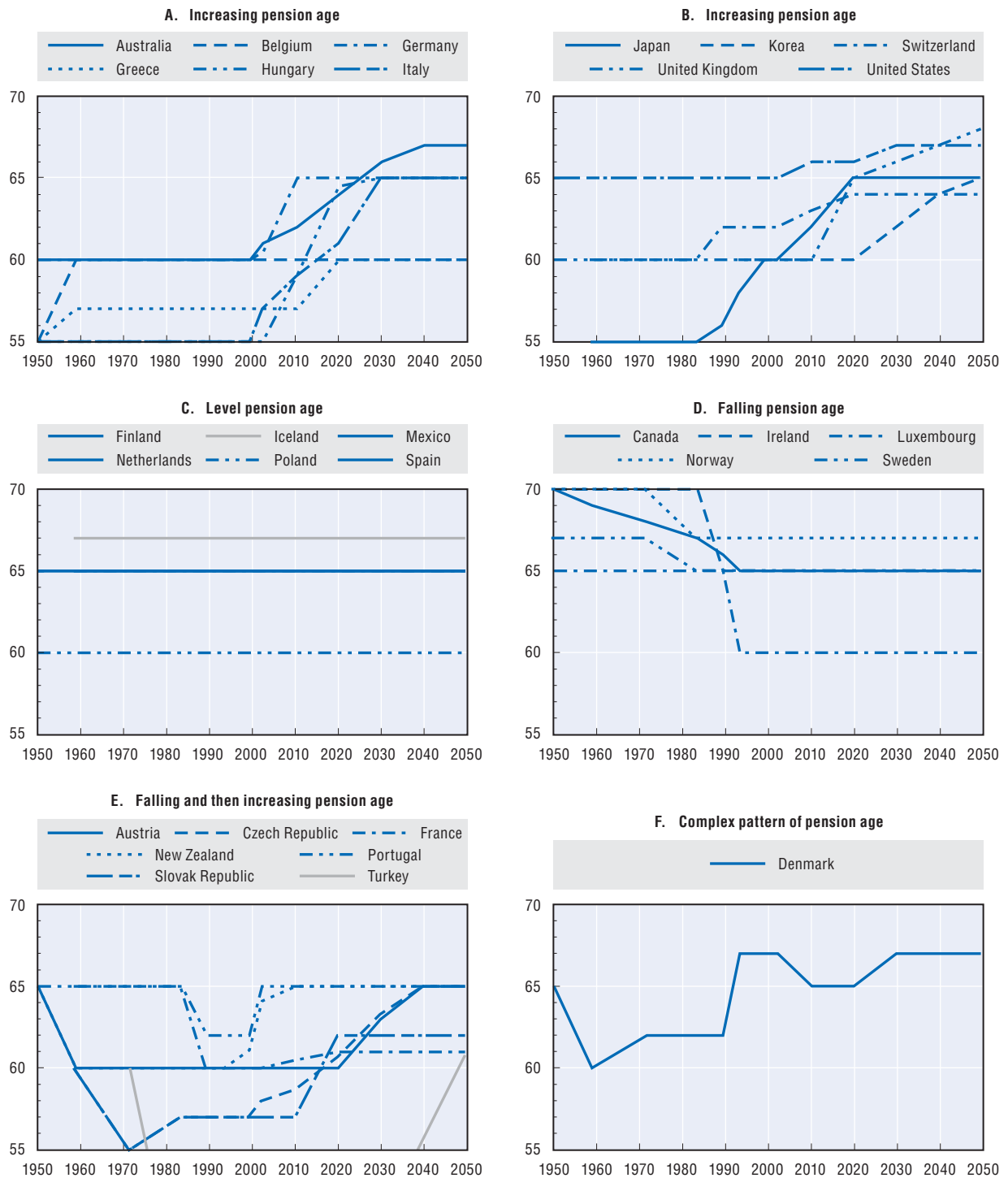


Note: Changes in pensionable age are based on the data points in Table 1.1. The lines do not therefore show year-to-year changes. Data for Turkey when the pension age is less than 55 are not shown.

Source: National officials, OECD calculations and Turner (2007).

StatLink <http://dx.doi.org/10.1787/888932370151>

Figure 1.2. Pensionable age in OECD countries, women, 1950-2050



Note: Changes in pensionable age are based on the data points in Table 1.1. The lines do not therefore show year-to-year changes. Data for Turkey when the pension age is less than 55 are not shown.

Source: National officials, OECD calculations and Turner (2007).


StatLink <http://dx.doi.org/10.1787/888932370170>

Table 1.1. Men's pensionable age in OECD countries, 1949-2050

	1949	1958	1971	1983	1989	1993	1999	2002	2010	2020	2030	2040	2050
Australia	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	66.0	67.0	67.0
Austria	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Belgium	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Canada	70.0	69.0	68.0	67.0	66.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Czech Republic		60.0	60.0	60.0	60.0	60.0	60.0	60.5	61.0	62.2	63.5	65.0	65.0
Denmark	65.0	65.0	67.0	67.0	67.0	67.0	67.0	67.0	65.0	65.0	67.0	67.0	67.0
Finland		65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
France		65.0	65.0	65.0	60.0	60.0	60.0	60.0	60.5	61.0	61.0	61.0	61.0
Germany	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.5	65.0	65.0	65.0	65.0	65.0
Greece	55.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	60.0	60.0	60.0	60.0
Hungary	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	64.5	65.0	65.0	65.0
Iceland		67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0
Ireland	70.0	70.0	70.0	70.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Italy	60.0	60.0	60.0	55.0	55.0	55.0	55.0	57.0	59.0	61.0	65.0	65.0	65.0
Japan		60.0	60.0	60.0	60.0	60.0	60.0	61.0	64.0	65.0	65.0	65.0	65.0
Korea						60.0	60.0	60.0	60.0	60.0	62.0	64.0	65.0
Luxembourg	65.0	65.0	65.0	65.0	65.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Mexico		65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Netherlands	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
New Zealand	65.0	60.0	60.0	60.0	60.0	60.0	61.1	64.1	65.0	65.0	65.0	65.0	65.0
Norway	70.0	70.0	70.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0
Poland	60.0	60.0	60.0	60.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Portugal	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Slovak Republic		60.0	60.0	60.0	60.0	60.0	60.0	60.0	62.0	62.0	62.0	62.0	62.0
Spain	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Sweden	67.0	67.0	67.0	67.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Switzerland		65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Turkey			60.0	45.0	45.0	45.0	45.0	44.0	44.9	48.6	53.1	57.7	62.3
United Kingdom	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	66.0	67.0	68.0
United States	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	66.0	66.0	67.0	67.0	67.0
Average	64.3	63.9	63.8	62.9	62.7	62.4	62.4	62.6	62.9	63.5	64.1	64.4	64.6

Note: Germany refers to West Germany for the period 1949-2002. Czechoslovakian data are used for the Czech and Slovak Republics where appropriate. Where there is more than one value per calendar year, these have been averaged. The recent amendment, in the United Kingdom, to the rate of increase in pension age is not reflected in the table.

Source: National officials, OECD calculations and Turner (2007).

StatLink  <http://dx.doi.org/10.1787/888932372089>

contributions to receive a full pension, which translates into a pension age of 44-45 on the OECD definition. (This pensionable age is such an outlier that it is not shown in the chart for much of the time.)

Finally, Denmark is shown alone in the bottom right of Figure 1.1 (Panel F). It is unique in increasing pension age from 65 to 67, cutting it back to 65 and then increasing it again to 67 by 2027. Denmark will link pension age to life expectancy after 2027, but the impact of this policy is not shown.⁷


Figure 1.1 illustrates significant differences in the pace at which pension ages changed. Falls in pension ages were generally rapid (Panels D and E of Figure 1.1). Increases in pensionable age, in contrast, have tended to be phased in more gradually. For example, the Italian reform only affected workers who had been in the system for 18 years or less; the new system will only be fully in place once labour-market entrants of 1995 and beyond have retired. Under reforms in Turkey, the new retirement age of 65 will only be reached for

Table 1.2. **Women's pensionable age in OECD countries, 1949-2050**

	1949	1958	1971	1983	1989	1993	1999	2002	2010	2020	2030	2040	2050
Australia	60.0	60.0	60.0	60.0	60.0	60.0	60.0	61.0	62.0	64.0	66.0	67.0	67.0
Austria	65.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	63.0	65.0	65.0
Belgium	55.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Canada	70.0	69.0	68.0	67.0	66.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Czech Republic		60.0	55.0	57.0	57.0	57.0	57.0	58.0	58.7	60.7	63.3	65.0	65.0
Denmark	65.0	60.0	62.0	62.0	62.0	67.0	67.0	67.0	65.0	65.0	67.0	67.0	67.0
Finland		65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
France		65.0	65.0	65.0	60.0	60.0	60.0	60.0	60.5	61.0	61.0	61.0	61.0
Germany	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.5	65.0	65.0	65.0	65.0	65.0
Greece	55.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	60.0	60.0	60.0	60.0
Hungary	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	59.0	64.5	65.0	65.0	65.0
Iceland		67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0
Ireland	70.0	70.0	70.0	70.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Italy	55.0	55.0	55.0	55.0	55.0	55.0	55.0	57.0	59.0	61.0	65.0	65.0	65.0
Japan		55.0	55.0	55.0	56.0	58.0	60.0	60.0	62.0	65.0	65.0	65.0	65.0
Korea						60.0	60.0	60.0	60.0	60.0	62.0	64.0	65.0
Luxembourg	65.0	65.0	65.0	65.0	65.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Mexico		65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Netherlands	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
New Zealand	65.0	60.0	60.0	60.0	60.0	60.0	61.1	64.1	65.0	65.0	65.0	65.0	65.0
Norway	70.0	70.0	70.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0
Poland	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Portugal	65.0	65.0	65.0	65.0	62.0	62.0	62.0	65.0	65.0	65.0	65.0	65.0	65.0
Slovak Republic		60.0	55.0	57.0	57.0	57.0	57.0	57.0	57.0	62.0	62.0	62.0	62.0
Spain	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Sweden	67.0	67.0	67.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Switzerland		60.0	60.0	60.0	62.0	62.0	62.0	62.0	63.0	64.0	64.0	64.0	64.0
Turkey			60.0	45.0	45.0	45.0	45.0	40.0	41.0	45.2	50.4	55.6	60.8
United Kingdom	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	65.0	66.0	67.0	68.0
United States	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	66.0	66.0	67.0	67.0	67.0
Average	62.9	62.3	61.9	61.3	61.0	61.0	61.1	61.3	61.8	62.9	63.7	64.1	64.4

Note: Data shown in **bold** type indicates that pension ages are different for women than men. Germany refers to West Germany for the period 1949-2002. Czechoslovakian data are used for the Czech and Slovak Republics where appropriate. Where there is more than one value per calendar year, these have been averaged. The recent amendment, in the United Kingdom, to the rate of increase in pension age is not reflected in the table.

Source: National officials, OECD calculations and Turner (2007).

StatLink  <http://dx.doi.org/10.1787/888932372108>

people retiring after 2050, since an increase from age 60 to 65 will be phased in for labour-market entrants from 2008 onwards. In contrast, New Zealand and Poland increased pension ages much more rapidly.

Turning to women's pension ages, exactly one half of OECD countries have had at some time a different pension age for women from men. This is demonstrated in the detailed data of Table 1.2: where women's pension age is lower than men's – it is never higher – the data are shown in bold face. These cases account for 28% of the data points in Table 1.2.⁸ The difference in pensionable age between the sexes is most commonly five years. It is never larger than five years and averages 3.8 years.

Figure 1.2 repeats the country-country time-series analysis of Figure 1.1, this time for women. Again, countries have been grouped into five time-series patterns.

The first row of Figure 1.2 (Panels A and B) shows the time series for 11 countries where women's pension ages were flat and then increased. Of these countries, only in Greece, Korea and the United States have women's pension ages always been the same as men's. In five other countries in this group, women's pensionable ages were below those for men and so have increased further. These comprise Australia, Germany, Hungary, Italy and the United Kingdom. In Belgium and Switzerland, women's pension ages have increased while men's remained the same. Finally, Japan increased pensionable ages for both sexes from 60 to 65, but the increase was a little earlier in time for men than for women.

In the second row of Figure 1.2 at the left-hand side (Panel C), both men's and women's pension ages have remained the same since 1950 and will remain the same until 2050 in Finland, Iceland, Mexico, the Netherlands and Spain. Only Poland, of this group, plans to maintain differential pension ages for women in the long term, with an increase in pension age for men from 60 to 65 while women's pension age remains at 60.

There have never been different pension ages for men and women in the five countries in Panel D. Women's pension age – as for men's – fell in the past but there are no current plans to increase it in the future.

Panel E shows seven countries where pension ages for women fell in the past and have, in most cases, since increased. Future increases are already legislated in Austria, the Czech and Slovak Republics, and Turkey to equalise pension ages between men and women and, in some cases, then increase pension age for both sexes. Portugal equalised pension ages between men and women in the past, while France and New Zealand have always had equal pension ages, with the same pattern of pension age over time applying to men and women. Finally, Panel F shows the more complex time series pattern of pension age in Denmark. Through the 1960s, 1970s and 1980s, pension age for women was below that for men.

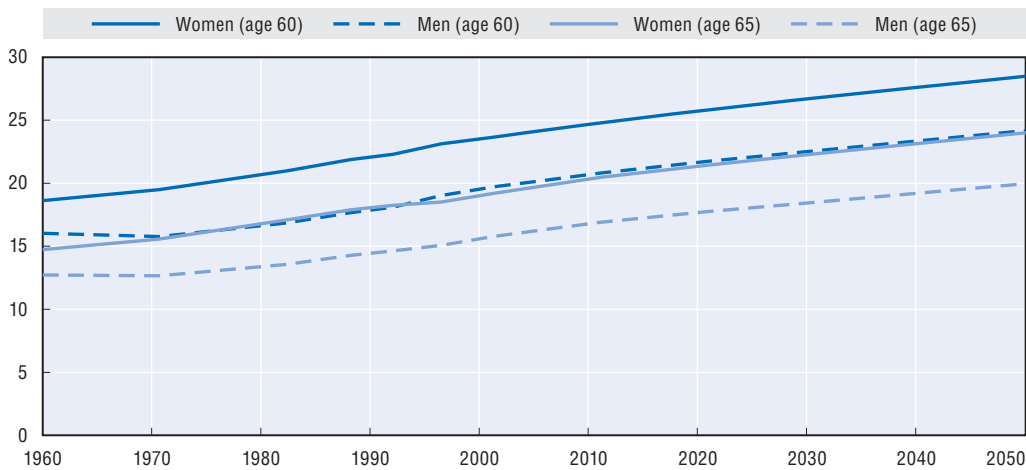
1.3. Expected duration of retirement: Life expectancy at pensionable age

Reductions in pension age up to 1993 in many OECD countries came at the same time as rapid increases in life expectancy. In the early part of the 20th century, most of the gains in total life expectancy were due to lower mortality at younger ages: at birth, during childhood and at working age. But in the second half of the 20th century, mortality risk at retirement ages has also fallen significantly. Between 1960 and 2010, OECD-average life expectancy at age 65 increased by around 3.9 years for men and 5.4 years for women (Figure 1.3). Increases in life expectancy at age 60 were larger than at age 65.


The United Nations population division projects further increases in life expectancy between 2010 and 2050. These amount to 3.1 additional years for men and 3.6 years for women at age 65. As in the past, the lengthening of life expectancy at age 60 is greater, but by a smaller margin than observed between 1960 and 2010.

Data on national pension ages from Section 1.2 above are now combined with information on developments in mortality and life expectancy. The calculations give the number of years of additional years of life after normal pension age (on average⁹) between countries and over time. This concept is here called “expected retirement duration” for short. Since this illustrates the length of the period over which pension benefits must be paid, it is an important determinant of cost of paying for pensions.

Figure 1.3. Life expectancy at age 60 and 65 by sex, OECD average, 1960-2050



Source: Historical data on life expectancy from the OECD Health Database 1960-95. Recent data and projections of life expectancy in the future based on the United Nations Population Division Database, *World Population Prospects – The 2008 Revision*.

StatLink  <http://dx.doi.org/10.1787/888932370189>

Tables 1.3 and 1.4 provide detailed national calculations for men and women respectively. In 2010, the period in retirement to death from normal pension age is 18.5 years on average for men. For women, the expected duration in retirement from normal pension age averages 23.3 years, nearly five years longer than for men. The longest retirement durations for men in 2010 – over 20 years – are found in seven countries where the pension age is age 60 or lower: Belgium, France, Greece, Italy, Korea, Luxembourg and Turkey. Long retirement durations for women in 2010 – above 25 years – are also found in countries with low pension ages, such as Austria, Belgium, France, Greece, Italy and Korea.

In contrast, retirement durations are the shortest for men in Poland and the Slovak Republic, reflecting the short life expectancy in these countries: at age 65, for example, life expectancy for men at age 65 is 14.4 and 13.8 years respectively, compared with an OECD average of 16.9 years and 18.8 years or more in Iceland, Japan and Switzerland. Other countries with short retirement durations for men in 2010 include those with pension ages already above age 67: Iceland and Norway. There are also short expected retirement durations for women in these countries plus the United States. However, different pension ages for the sexes in Hungary, Poland and the Slovak Republic mean that these do not feature among those with the shortest life expectancy at pension age for women (whereas they do for men). Moreover, life expectancy at age 60 or age 65 is closer to the OECD average for women than it is for men.

Figures 1.4 and 1.5 summarise the pattern in life expectancy at pensionable age over time for different countries, again for men and women separately. These figures group countries by the degree to which pension age has changed over the period from 1960 to 2050.


To explore the impact of life-expectancy changes over time, it is useful first to focus on the countries that saw no change in pension age over the period analysed. This group comprises nine countries for men, as shown in the bottom row of Figure 1.4 (Panels E and F). Average expected duration in retirement increased for these countries from 13.2 years for men in the 1960s to 17.8 years in 2010. With no future increase in pension age

Table 1.3. Life expectancy after pensionable age in the OECD, 1958-2050, men

	1958	1971	1983	1989	1993	1999	2002	2010	2020	2030	2040	2050
Australia	12.5	12.5	14.2	14.7	15.7	16.6	17.5	18.6	19.5	19.3	19.0	19.7
Austria	12.0	12.0	13.1	14.3	14.7	15.7	16.0	17.5	18.7	19.5	20.3	21.1
Belgium	15.3	15.3	16.6	17.6	18.1	19.2	19.4	21.1	22.3	23.1	24.0	24.8
Canada		10.7	12.8	14.4	15.8	16.3	17.1	18.3	19.1	19.9	20.7	21.4
Czech Republic	15.4	14.2	14.3	14.8	15.7	16.9	16.5	17.0	16.9	17.8	17.2	18.1
Denmark	13.7	11.7	11.9	12.2	12.0	13.0	13.4	16.4	17.1	15.8	16.5	17.2
Finland	11.5	11.4	13.0	13.9	14.1	15.2	15.5	16.8	17.6	18.3	19.1	19.8
France	12.5	13.0	14.2	18.8	19.4	20.2	20.5	21.7	22.4	23.3	24.0	24.8
Germany	14.2	14.1	15.2	16.0	16.5	17.6	17.2	17.0	17.9	18.7	19.5	20.3
Greece	19.9	20.7	21.6	22.4	22.7	23.1	22.7	24.0	21.8	22.5	23.3	24.1
Hungary	15.6	15.1	14.5	14.8	14.5	14.9	15.6	16.5	14.4	14.5	15.4	16.3
Iceland			13.5	14.0	14.7	14.9	15.8	16.8	17.5	18.3	19.1	19.8
Ireland	7.6	7.7	7.9	13.1	13.4	14.1	15.2	16.9	17.7	18.5	19.2	20.0
Italy		16.7	17.1	23.6	24.2	25.4	23.8	22.8	21.7	19.4	20.1	20.9
Japan	14.8	16.6	19.0	20.0	20.2	20.9	20.9	19.8	19.6	20.3	21.0	21.6
Korea					16.2	17.5	18.7	20.2	21.1	19.9	19.6	19.3
Luxembourg	12.5	11.4	12.9	13.8	17.8	19.0	19.2	20.8	22.1	23.0	23.8	24.6
Mexico	14.2	15.3	15.5	16.2	16.1	16.4	16.4	17.2	17.9	18.3	18.6	18.9
Netherlands	13.9	13.3	13.7	14.3	14.4	15.1	15.7	17.3	18.1	19.0	19.8	20.6
New Zealand		15.7	16.8	17.9	18.8	19.0	17.9	18.1	19.0	19.7	20.5	21.2
Norway	9.5	8.9	12.5	12.7	12.8	13.7	14.3	15.7	16.6	17.3	18.1	18.9
Poland	15.9	15.0	15.7	14.3	14.2	15.0	13.9	14.4	14.9	15.6	16.4	17.2
Portugal	12.4	11.8	13.4	14.3	14.2	15.0	15.5	16.3	17.1	17.8	18.5	19.2
Slovak Republic	16.6	15.5	15.3	15.3	16.1	15.9	16.1	14.9	15.7	16.6	17.6	18.6
Spain	13.1	13.7	14.9	15.6	15.9	16.2	16.6	17.9	19.0	19.9	20.6	21.4
Sweden	11.7	12.0	14.7	15.4	15.5	16.4	16.8	17.9	18.8	19.5	20.3	21.1
Switzerland	12.9	13.3	14.6	15.5	15.9	16.9	17.5	18.9	20.0	20.8	21.6	22.4
Turkey		14.6	29.2	29.9	30.5	31.1	31.5	31.1	28.4	24.5	21.0	22.5
United Kingdom	11.9	12.3	13.2	13.8	14.2	15.4	16.0	16.9	17.7	17.5	17.2	16.9
United States	12.8	13.2	14.4	15.0	15.3	16.1	16.7	16.8	17.3	16.8	17.2	17.7
Average	13.4	13.5	15.0	16.2	16.7	17.4	17.7	18.5	18.9	19.2	19.6	20.3

Note: Life-expectancy is calculated using data from 1960 for the pensionable ages applicable in 1958.

Source: Data on pensionable ages over time from Table 1.1. Historical data on life expectancy are taken from the OECD Health Database 1960-95. Recent data and projections of life expectancy in the future based on the United Nations Population Division Database, World Population Prospects – The 2008 Revision.

StatLink  <http://dx.doi.org/10.1787/888932372127>

as on current plans, men's retirement duration in these countries will expand further to a projected 20.9 years in 2050. The equivalent analysis for the five countries where women's ages have not changed (Figure 1.5, Panel E), shows an increase from 15.5 years in 1960 to 20.8 years in 2010 and 24.1 years in 2050. This illustrates that a policy of "no change" on pension age does not, in practice, mean there are no changes: it means an ever extending average period in retirement and so a continual increase in pension costs.


Turning to the countries where pension ages have changed over time, the top rows for Figures 1.4 and 1.5 show countries with relatively large adjustments. The increase in pensionable ages in Italy will significantly reduce expected retirement duration: from a peak of over 25 years for men to around 20 years at the end of the forecast horizon. For women, expected retirement duration peaked at 30 years in 1999 and is projected to fall to 25.5 years in 2050.

Table 1.4. **Life expectancy after pensionable age in the OECD, 1958-2050, women**

	1958	1971	1983	1989	1993	1999	2002	2010	2020	2030	2040	2050
Australia	19.4	20.0	22.4	22.8	23.7	24.5	24.2	24.3	23.7	22.6	22.5	23.3
Austria	18.6	19.0	20.6	22.1	22.6	23.7	23.8	25.1	26.1	24.6	23.6	24.5
Belgium	18.5	19.3	21.1	22.5	23.1	23.9	23.6	25.8	27.0	28.0	28.9	29.8
Canada		14.5	17.2	18.7	19.9	20.1	20.4	21.4	22.3	23.1	24.0	24.8
Czech Republic	18.5	23.3	21.4	22.1	23.0	24.1	23.1	23.8	23.1	22.3	21.6	22.5
Denmark	19.3	18.6	19.6	19.9	15.6	16.1	16.6	19.8	20.8	19.6	20.3	21.0
Finland	13.7	14.4	17.5	17.8	18.0	19.5	19.3	21.0	22.0	22.9	23.8	24.7
France	15.6	16.8	18.4	24.0	24.6	25.3	25.4	26.5	26.9	27.8	28.7	29.5
Germany	18.1	19.0	20.8	21.8	22.5	23.7	23.3	20.7	21.7	22.6	23.5	24.4
Greece	21.5	22.5	23.7	25.2	25.6	26.1	25.3	27.1	25.3	26.3	27.4	28.3
Hungary	22.6	23.2	23.5	24.2	24.2	24.7	25.4	22.6	19.0	19.4	20.3	21.1
Iceland			16.5	17.0	17.0	17.2	18.3	19.2	20.2	21.1	22.0	22.9
Ireland	9.4	10.0	10.6	16.5	17.0	17.6	18.6	20.6	21.6	22.5	23.4	24.3
Italy		25.2	26.5	28.1	28.8	29.9	28.1	27.4	26.3	23.7	24.6	25.5
Japan	22.8	25.0	27.7	28.3	25.9	26.3	27.4	26.7	25.2	26.0	26.9	27.7
Korea					20.8	22.2	23.2	25.2	26.2	25.1	24.6	24.5
Luxembourg	14.5	14.7	16.8	17.8	22.9	24.2	23.7	24.9	25.9	26.8	27.7	28.6
Mexico	14.6	16.0	17.2	17.9	17.9	18.0	18.2	19.4	20.4	21.0	21.5	21.9
Netherlands	15.3	16.2	18.3	18.9	18.8	19.1	19.1	20.4	21.2	22.0	22.8	23.5
New Zealand		19.8	21.1	22.0	22.7	22.6	20.9	20.9	21.8	22.6	23.4	24.3
Norway	11.1	11.9	16.7	16.7	16.8	17.5	17.7	18.9	19.9	20.8	21.7	22.5
Poland	18.7	18.9	19.9	19.9	20.1	21.0	21.8	23.1	24.0	24.9	25.8	26.6
Portugal	14.5	14.2	16.5	19.8	19.8	20.8	18.8	20.2	21.2	22.1	22.9	23.6
Slovak Republic	18.4	23.7	22.3	22.8	23.7	23.6	23.8	24.9	21.0	22.0	23.0	23.9
Spain	15.3	16.3	18.2	19.2	19.8	20.3	20.6	21.8	22.8	23.6	24.4	25.1
Sweden	13.3	14.9	18.5	19.1	19.1	19.9	20.0	21.1	21.9	22.7	23.4	24.2
Switzerland	19.0	20.5	22.9	22.3	22.6	23.2	23.4	24.1	24.0	24.9	25.8	26.6
Turkey		16.0	30.8	31.9	32.5	33.1	37.2	36.9	34.7	30.9	27.2	23.2
United Kingdom	18.9	19.8	21.0	21.5	21.9	22.7	23.3	24.5	21.2	21.1	22.0	21.9
United States	15.8	17.1	18.6	18.8	18.9	19.1	19.1	19.3	20.2	20.1	21.0	21.9
Average	17.0	18.2	20.2	21.4	21.7	22.3	22.5	23.3	23.2	23.4	23.9	24.6

Note: Life-expectancy is calculated using data from 1960 for the pensionable ages applicable in 1958.

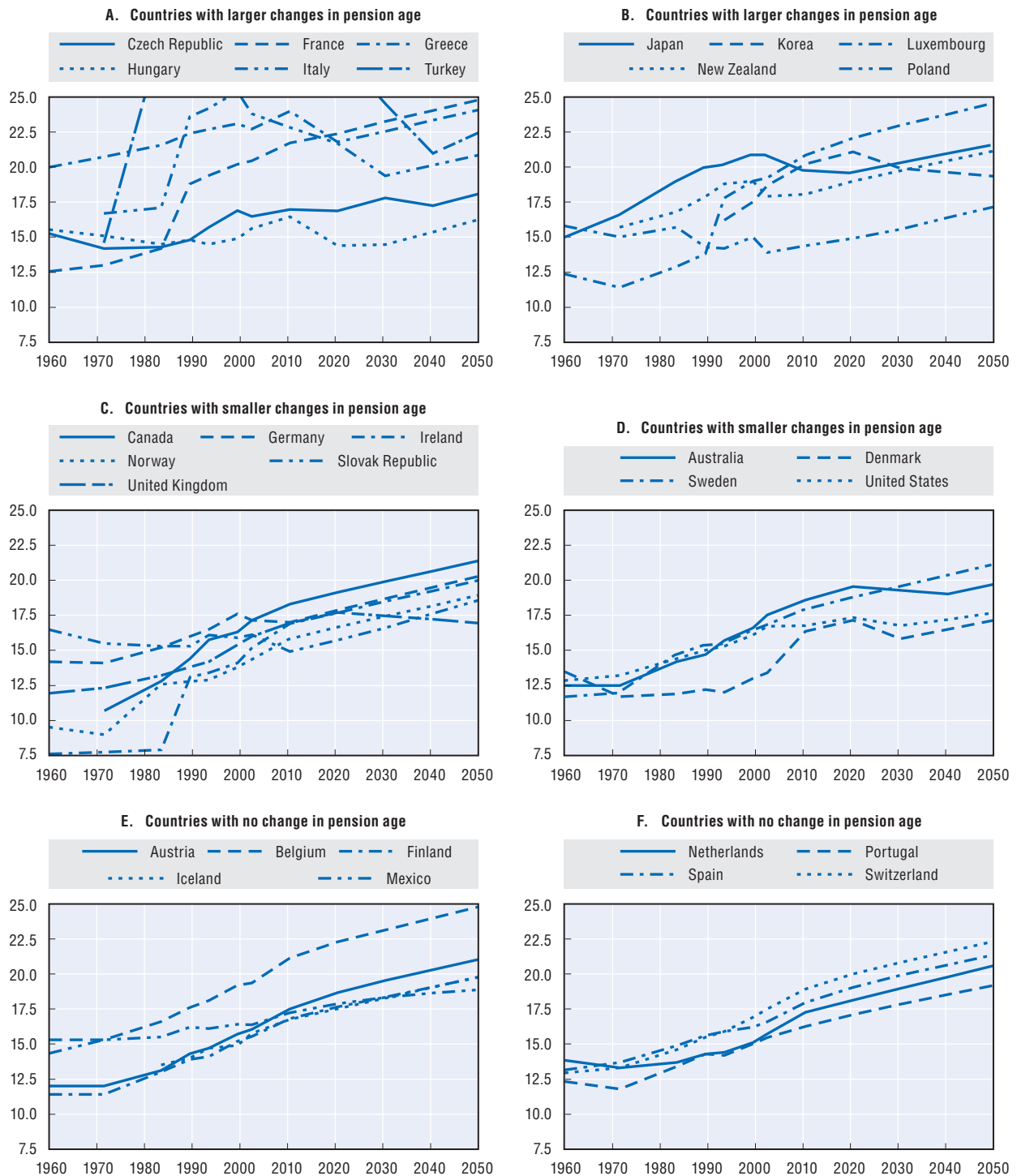
Source: Data on pensionable ages over time from Table 1.2. Historical data on life expectancy are taken from the OECD Health Database 1960-95. Recent data and projections of life expectancy in the future based on the United Nations Population Division Database, *World Population Prospects – The 2008 Revision*.

StatLink  <http://dx.doi.org/10.1787/888932372146>

With the possibility of retiring at any age with 20-25 years of contributions, the expected duration of retirement in Turkey is way off the scale of the charts. For men, the peak value is 32 years and for women, 37 years (both occurring in 2002). This means that a woman with a full contribution history from age 20 could draw a pension for nearly twice as many years as the time she spent paying into the system. For men, the expected duration of drawing a pension could be nearly 30% longer than the period they spent contributing.

In some other cases where pension ages have been increased, the expected duration in retirement will remain broadly stable for significant periods. In Greece, for example, life expectancy at pensionable age for men is projected to remain in the range 22-24 years from 1993 to 2050. Similarly, in the Czech Republic, retirement duration for men is expected to be around 17 years from 1999 to 2040. A comparable pattern is observed for men in Hungary, Korea, New Zealand and Poland. In Australia and the United Kingdom, increases in pension age for women from 60 to 67 and 68 respectively are sufficient to ensure that expected duration of retirement in 2050 is about the same as it was in 1993.

Figure 1.4. Life expectancy at pensionable age in OECD countries, men, 1950-2050



Note: Values have been capped at 25 years, which means that expected retirement duration in Turkey is off the scale.

Source: Data on pensionable ages over time from Table 1.1. Historical data on life expectancy are taken from the OECD Health Database 1960-95. Recent data and projections of life expectancy in the future based on the United Nations Population Division Database, World Population Prospects – The 2008 Revision.


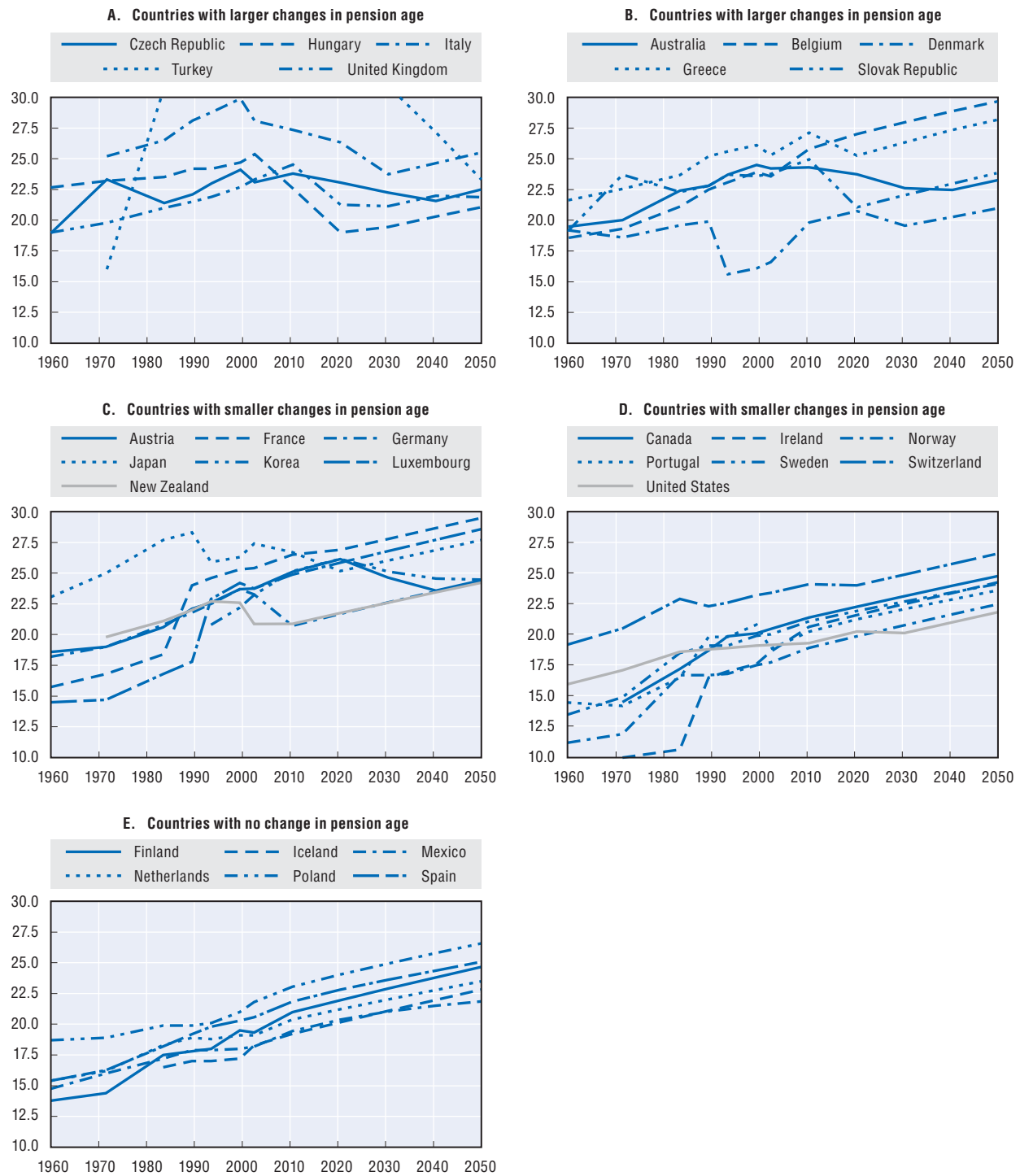
StatLink  <http://dx.doi.org/10.1787/888932370208>

Figure 1.5. Life expectancy at pensionable age in OECD countries, women, 1950-2050



Note: Values have been capped at 30 years, which means that expected retirement duration in Turkey is off the scale.

Source: Data on pensionable ages over time from Table 1.2. Historical data on life expectancy are taken from the OECD Health Database 1960-95. Recent data and projections of life expectancy in the future based on the United Nations Population Division Database, World Population Prospects – The 2008 Revision.

StatLink <http://dx.doi.org/10.1787/888932370227>

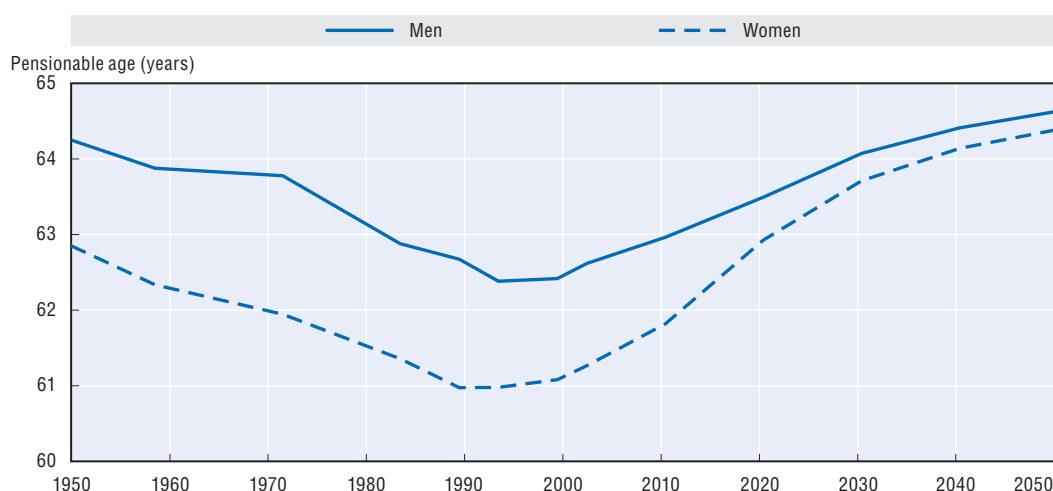
However, men's pension age started at 65 in both countries. In the United Kingdom, expected duration of retirement for men is projected to fall to its 2010 level by 2050. But the increase in Australia for men is insufficient to prevent a continued increase in life expectancy at pensionable age.

1.4. Conclusions and policy implications

The pension age is the most visible parameter of the retirement-income system. It has an impact on the financial incentives to retire at different ages, which are analysed in more detail in Chapter 3 of Part I ("Pension incentives to retire"). As a signal, it can also have an important effect on people's retirement decisions.

The long-term survey of policy revealed a period of significant decline in pension ages in the latter half of the 20th century (Figure 1.6). Between 1950 and 2010, ten countries reduced pensionable age for men at some point and 13 did so for women. The average pension age in 30 OECD countries fell from 64.3 years in 1949 to a nadir of 62.4 years in 1993 for men, a drop of nearly two years. For women, the fall over the same period was also just below two years, from 62.9 to 61.0 years in 1993.

Figure 1.6. **Average pensionable age in OECD countries by sex, 1950-2050**



Source: National officials, OECD calculations and Turner (2007).

StatLink  <http://dx.doi.org/10.1787/888932370246>

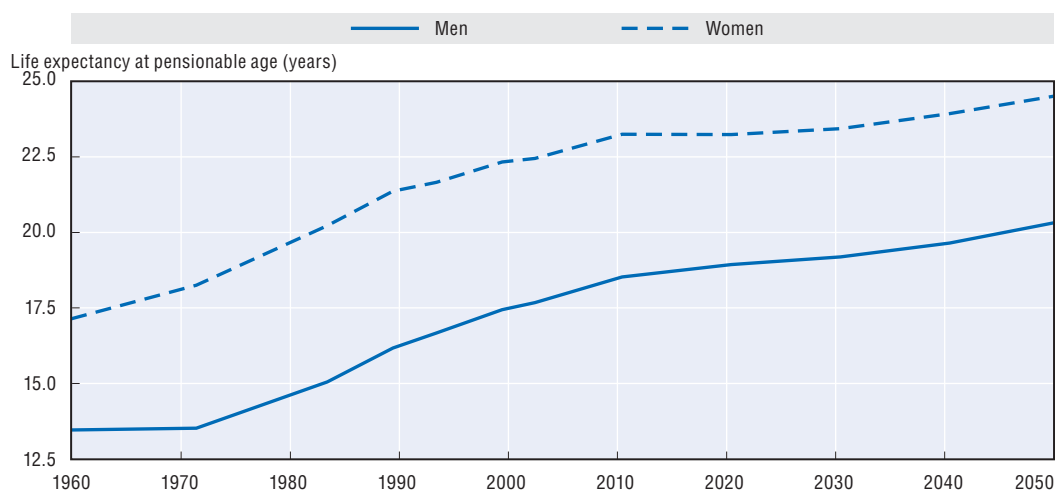
Beginning in the 1990s and after, governments started taking action to reverse the trend and put in place legislation that has already increased or will increase pensionable age up to 2050. From a low point in 1993, 14 countries have increased or plan to increase pension ages for men and 18 for women. Already by 2010, average pension ages have increased by 0.5 years for men and 0.8 years for women from the low point.

Looking forward, current plans will increase the average pensionable age to 64.6 years for men and 64.4 years for women in 2050. The slightly lower average pension age for women is because Poland and Switzerland still have legislation in place to keep differential ages in the long term and equalisation of men's and women's pension ages in Turkey will not be complete by 2050.

Despite these increases, it is noticeable that the average pension age for men will only reach the same level as 1950 by 2040. Increases in pension age are larger and often earlier for women than for men, reflecting the equalisation of pension ages between the sexes in 12 of the 15 countries that have had different pensionable ages at some point. However, even for women, the pensionable age will only reach the level it was in 1950 from 2020 onwards.

Life expectancy has seen a near-continuous increase in the latter half of the 20th century; and most estimates show continued growth in the future. Over the period from 1960 to the low-point for pension ages in 1993, the amount of time a man of pension age could expect to live grew from 13.4 to 16.7 years (Figure 1.7). Over 40% of the growth in expected retirement duration was a result of falling pension ages, with a small majority coming from longer life expectancy. For women, the increase in expected duration of retirement from 1960 was 4.7 years, to reach 21.7 years in 1993. For women, 70% of the growth was a result of longer life expectancy and 30% from lower pension ages.

Figure 1.7. **Life expectancy after pensionable age by sex, 1960-2050**



Source: Data on pensionable ages over time from Table 1.2. Historical data on life expectancy are taken from the OECD Health Database 1960-95. Recent data and projections of life expectancy in the future based on the United Nations Population Division Database, *World Population Prospects – The 2008 Revision*.

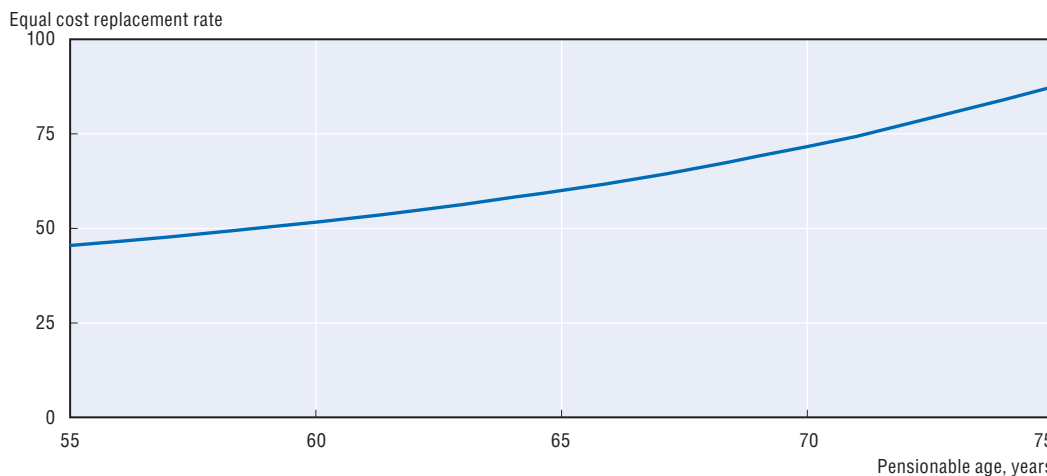
StatLink  <http://dx.doi.org/10.1787/888932370265>

In the recent period of 1993-2010, the expected duration of retirement has increased more slowly than before: 1.6 additional years for women taking it to 23.3 years and 1.8 extra years for men, increasing to 18.5 years. The slower growth for women reflects the fact that pension ages increased more rapidly than men's over this period. If pension ages had not increased, expected retirement duration would have been 0.8 years longer for women and 0.4 years for men in 2010.


Looking forward to 2050, expected retirement duration in the coming four decades is projected to grow at a much slower rate than observed in the five decades from 1960 to 2010. On average in OECD countries, women in 2050 are projected to have a life expectancy of 24.6 years at pensionable age, compared with 20.3 years for men. Only five OECD countries – Hungary, Italy, Korea, Turkey and the United Kingdom – have increased pension ages sufficiently to stabilise or reduce the expected duration of retirement between 2010 and 2050 for both men and women. Australia, Austria and the Czech and Slovak Republics will do so for women alone (due to equalisation of pension ages).

In some countries, the debate about a later pensionable age has been framed not only in terms of sustainable pension-system finances but also higher pension levels for retirees than would otherwise be affordable. There is a trade-off between benefit levels and pension age. The terms of this trade-off can be demonstrated by using annuity rates to calculate pension replacement rates at different ages for a given budget constraint on the pension provider. Such a hypothetical scenario is illustrated in Figure 1.8 using the OECD pension models. It shows that delaying retirement by five years from age 65 allows for a pension replacement rate of 72%, compared with 60% at 65. (The rate of 60% was chosen because it is approximately the average replacement rate for people with mean earnings in OECD countries.) Conversely, earlier retirement means that the given budget needs to be spread over a longer period. In this case, retiring five years earlier, at age 60 would result in a replacement rate of 52%.

Figure 1.8. **The trade-off between the replacement rate and pensionable age**



Source: OECD pension models. Annuity rates calculated from mortality data by age from the United Nations Population Division Database, *World Population Prospects – The 2008 Revision*.

StatLink  <http://dx.doi.org/10.1787/888932370284>

Other reforms to pension systems should be borne in mind when interpreting the results presented above. First, around half of OECD countries have taken measures over the past decade, other than increases in pension age, to encourage people to work longer. These include tighter qualifying conditions for early retirement, larger pension decrements for early retirees and larger benefit increments for later retirement. These reforms are discussed in more detail in Chapter 3 in Part I on “Pension incentives to retire”.¹⁰ A second significant set of reforms are addressed in Chapter 5 in Part I on “Linking pensions to life expectancy”. Most of these new pension schemes will automatically reduce benefits as life expectancy increases so that the lifetime value of pensions from these schemes will remain broadly constant. These changes can therefore be seen as a partial substitute for increases in pension age in ensuring retirement-income provision is financially sustainable.

What happens next? Almost half of OECD countries will increase pension ages over the coming four decades. But in many, the policy is a case of “running to stand still”: in only a few will increases in pension age be sufficient to offset future growth in life expectancy,

let alone claw-back some of the past extension of life. The expected duration of retirement in 2050 is projected to be 25 years for women and 20 years for men 7-8 years or 50% longer than it was in 1960.

In some countries, the pension-policy discourse is already suggesting the possibility of further increases in pension ages to mitigate the impact of continuing rises in life expectancy. For example, the former head of the pension-reform commission in the United Kingdom, Lord Turner, has floated the idea of a further increase in pension age to 70 beyond the increase to 68 already planned. In other countries, the debate over the future pension age has only just started, but if past experience is any guide, many are likely to follow those that have already announced increases in pension ages.

Notes

1. See the discussion in Whitehouse (2007).
2. This special chapter summarises the more detailed analysis in Chomik and Whitehouse (2010).
3. At the time of drafting this special chapter, new member countries, such as Chile, Estonia, Israel and Slovenia, had not yet joined the Organisation and so they have not been included in this analysis.
4. See Zaidi and Whitehouse (2009) for a discussion of such rules.
5. Such differences have applied to the Czech Republic and the former Czechoslovakia, Denmark and Switzerland at various times.
6. Germany also plans to increase the statutory pension age from 65 to 67, but, for the reasons explained in Box 1.1, the OECD measure of the pensionable age is not affected.
7. See Chapter 5 in Part I on “Linking pensions to life expectancy”.
8. There are 390 data points, comprising 30 countries and up to 13 points in time.
9. The measures of life expectancy are for a given country’s population as a whole. Differences in life expectancy within countries between different socio-economic groups are analysed in Whitehouse and Zaidi (2008). The key finding of that paper is that socio-economic differentials in mortality in OECD countries are much smaller for people of pension age than they are at working age.
10. See also Whitehouse et al. (2009), the chapters on pension reforms in OECD (2007, 2009) and Ebbinghaus (2006).

References

- Chomik, R. and E.R. Whitehouse (2010), “Trends in Pension Eligibility Ages and Life Expectancy, 1950-2050”, *Social, Employment and Migration Working Paper*, No. 105, OECD Publishing, Paris.
- Ebbinghaus, B. (2006), *Reforming Early Retirement in Europe, Japan and the USA*, Oxford University Press, Oxford.
- OECD (2005), *Pensions at a Glance: Public Policies across OECD Countries*, OECD Publishing, Paris.
- OECD (2006), *Live Longer, Work Longer*, OECD Publishing, Paris.
- OECD (2007a), *Pensions at a Glance: Public Policies across OECD Countries*, OECD Publishing, Paris.
- OECD (2007b), “Public Sector Pensions and the Challenge of an Ageing Public Service”, *Working Paper on Public Governance*, No. 2, OECD Publishing, Paris.
- OECD (2008), *Employment Outlook*, OECD Publishing, Paris.
- OECD (2009), *Pensions at a Glance: Retirement-Income Systems in OECD Countries*, OECD Publishing, Paris.
- Palacios, R.J. and E.R. Whitehouse (2006), “Civil-service Pension Schemes Around the World”, *Pension Reform Primer Series, Social Protection Discussion Paper*, No. 06/02, World Bank, Washington DC.
- Queisser, M. and E.R. Whitehouse (2006), “Neutral or Fair? Actuarial Concepts and Pension-System Design”, *Social, Employment and Migration Working Paper*, No. 40, OECD Publishing, Paris.

- Turner, J. (2007), "Social Security Pensionable Ages in OECD Countries: 1949-2035", *International Social Security Review*, Vol. 60, No. 1, pp. 81-99.
- Whitehouse, E.R. (2007), "Life-Expectancy Risk and Pensions: Who Bears the Burden?", *Social, Employment and Migration Working Paper*, No. 60, OECD Publishing, Paris.
- Whitehouse, E.R. and A. Zaidi (2008), "Socio-Economic Differences in Mortality: Implications for Pension Policy", *Social, Employment and Migration Working Paper*, No. 71, OECD Publishing, Paris.
- Whitehouse, E.R., A.C. D'Addio, R. Chomik and A. Reilly (2009), "Two Decades of Pension Reform: What has been Achieved and What Remains to be Done?", *Geneva Papers on Risk and Insurance*, Vol. 34, pp. 515-535.
- Zaidi, A. and E.R. Whitehouse (2009), "Should Pension Systems Recognise Hazardous and Arduous Work?", *Social, Employment and Migration Working Paper*, No. 91, OECD Publishing, Paris.



From:
Pensions at a Glance 2011
Retirement-income Systems in OECD and G20 Countries

Access the complete publication at:
https://doi.org/10.1787/pension_glance-2011-en

Please cite this chapter as:

OECD (2011), "Pensionable Age and Life Expectancy, 1950-2050", in *Pensions at a Glance 2011: Retirement-income Systems in OECD and G20 Countries*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/pension_glance-2011-5-en

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.