Office for National Statistics

Compendium

Results, 2014-based national population projections reference volume

Contact:
Andrew Nash
pop.info@ons.gsi.gov.uk

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1 . Introduction

This chapter presents the main findings from the 2014-based national population projections for the UK. Included are sections on:

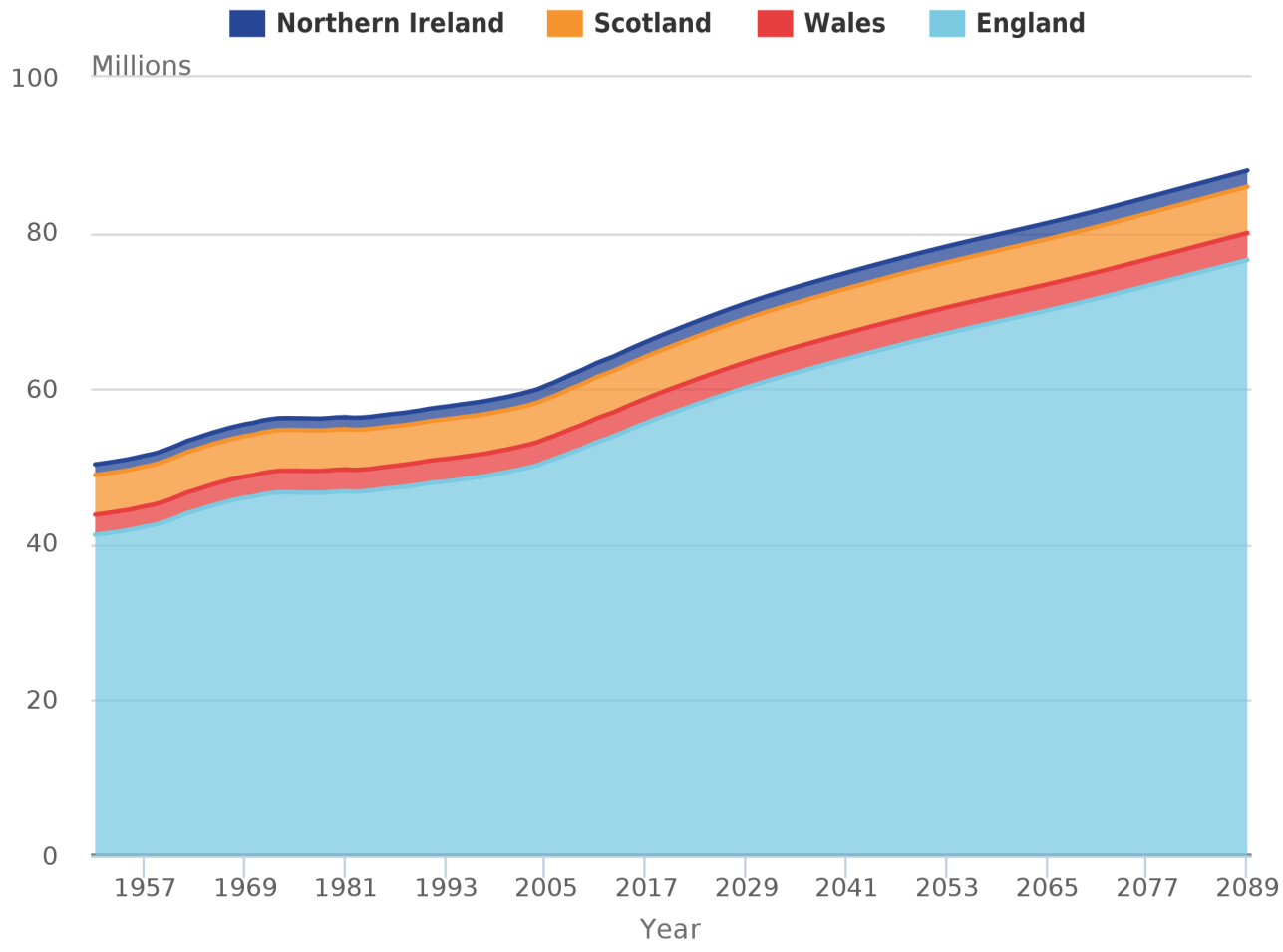
- future size of the population
- age structure
- comparison with the 2012-based population projections

Discussion of the results of the variant projections can be found in Chapter 6.

2 . Future size of the population

The UK population is projected to increase by 9.7 million (15%) over the next 25 years, from an estimated 64.6 million in mid-2014 to 74.3 million in mid-2039. Longer-term projections suggest that the population will continue rising beyond mid-2039, reaching 88.0 million by mid-2089. Figure 2.1 shows the estimated and projected population of the UK and its constituent countries between mid-1951 and mid-2089.

Figure 2.1: Estimated and projected population, UK and its constituent countries, mid-1951 to mid-2089



Source: Office for National Statistics, NRS, NISRA

The population of England is projected to increase by 17% by mid-2039. The population of other UK countries are also projected to increase, but at a slower rate. Northern Ireland is projected to increase by 10%, Scotland by 7% and Wales by 6% over the 25 year period to mid-2039. Beyond mid-2039, the populations of all 4 constituent countries are projected to rise; however, Northern Ireland projects very small year-on-year decreases in the late 2050s and 2060s before increasing to its peak in the longer-term. These small decreases in population are a result of the age and sex structure of the population of Northern Ireland leading to a slightly increased number of deaths, lower number of births and higher net out migration to other countries of the UK during this period.

3 . Births, deaths and migration

Of the 9.7 million projected increase in the population by mid-2039, 4.7 million (49%) is due to projected natural increase (more births than deaths) and 5.0 million (51%) is due to assumed net migration. Table 2.1 contains a breakdown of the components of population change of the UK population projections for the 5 year periods between mid-2014 and mid-2039.

The projected number of births and deaths are themselves partly dependent on the assumed level of net migration. As migration is concentrated at young adult ages, the assumed level of net migration affects the projected number of women of childbearing age and hence the projected number of births. Thus, about 68% of the projected increase in the population over the period mid-2014 to mid-2039 is either directly attributable to future migration (51% of projected growth), or indirectly attributable to future migration through its effect on births and deaths (17% of projected growth).

Table 2.1: Projected components of change, UK, mid-2014 to mid-2039

millions

		2014 to 2019	2019 to 2024	2024 to 2029	2029 to 2034	2034 to 2039
Population at start		64.6	66.9	69.0	71.0	72.7
	Births	3.9	4.0	4.0	4.0	4.1
	Deaths	2.9	2.9	3.0	3.2	3.4
	Natural change	1.1	1.2	1.0	0.8	0.6
	Net migration	1.2	0.9	0.9	0.9	0.9
	Total change	2.3	2.1	2.0	1.7	1.6
Population at end		66.9	69.0	71.0	72.7	74.3

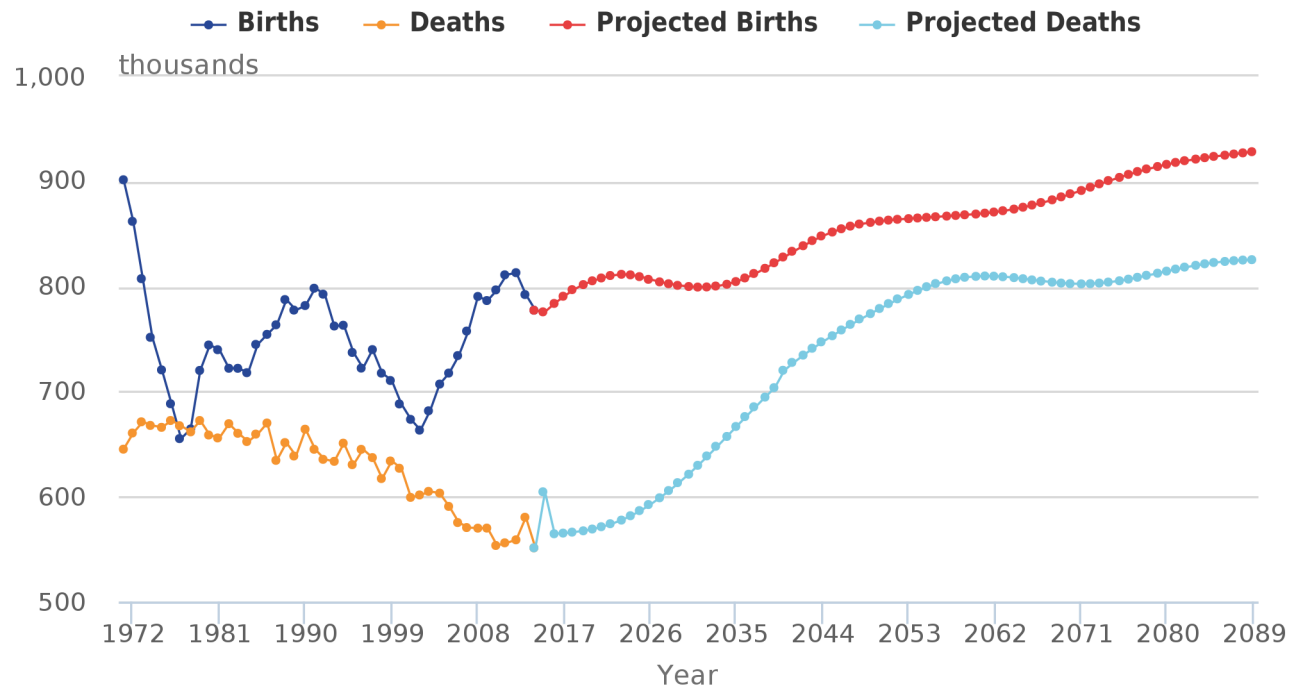
Source: Office for National Statistics

Notes:

1. Figures may not sum due to rounding

With the single exception of the year ending mid-1977, the UK gained population through natural increase every year throughout the 20th century. Figure 2.2 shows the estimated and projected number of births and deaths in the UK since the year ending mid-1971.

Figure 2.2: Estimated and projected births and deaths, UK, year ending mid-1971 to year ending mid-2089



Source: Office for National Statistics

The equivalent charts for the constituent countries of the UK can be found in appendices A to D of the Results report published on 29 October 2015.

The total fertility rate[1] for the UK in the first year of the projection takes into account the provisional estimate of the number of births, leading to a slight decrease in the total fertility rate compared with the previous year. The total fertility rate assumption then increases to 1.89 in the long-term. Figure 2.2 shows that after the initial dip in the year ending mid-2015, births are projected to rise until mid-2023, before declining slightly, then rising again from mid-2032.

The annual number of deaths tends to vary year-on-year but has generally been declining in the last few years. The projected number of deaths in the first year of the projection reflects the provisional estimate of deaths in the year to mid-2015 where a higher than expected number of deaths was recorded, particularly in the first quarter (January to March) of 2015[2,3,4]. The mortality assumption in the year to mid-2016 has been set more in line with previous rates. Thereafter, the number of deaths is projected to rise with the steep increase reflecting deaths to the large cohorts born after the Second World War and those born during the 1960s “baby boom”.

It is assumed that annual net inward migration into the UK will be 185,000 persons per year from the year ending mid-2021 onwards. In the short-term, figures have been formulated to represent a transition from the last year of actual data to the long-term assumption. A short-term armed forces flow has been included to account for the planned return of home armed forces personnel and their dependants from Germany. International migration figures for the first year of the projection were set at a level higher than the mid-2014 estimate as published migration estimates for the first 3 quarters of the year to mid-2015 indicated a likely increase.

4 . Age structure

The age structure of the population is projected to change in future years as a result of past and projected changes in births, deaths and net migration. The main effects are summarised in Table 2.2 and Figure 2.3.

Table 2.2: Projected population by age, UK, mid-2014 to mid-2039

millions

Ages	2014	2019	2024	2029	2034	2039
0-14	11.4	12.0	12.3	12.3	12.3	12.4
15-29	12.6	12.4	12.3	12.6	13.2	13.5
30-44	12.7	12.9	13.6	13.7	13.3	13.2
45-59	13.0	13.4	12.9	12.6	12.7	13.4
60-74	9.7	10.4	11.1	12.0	12.4	12.0
75 and over	5.2	5.8	7.0	7.8	8.7	9.9
75-84	3.7	4.1	4.9	5.4	5.6	6.3
85 & over	1.5	1.7	2.0	2.4	3.2	3.6
All ages	64.6	66.9	69.0	71.0	72.7	74.3
Median age (years)	40.0	40.2	40.9	41.6	42.3	42.9
Under 16	12.2	12.7	13.1	13.1	13.2	13.2
Working age[1]	40.0	42.0	43.0	44.2	44.3	44.6
Pensionable age[1]	12.4	12.2	13.0	13.6	15.2	16.5

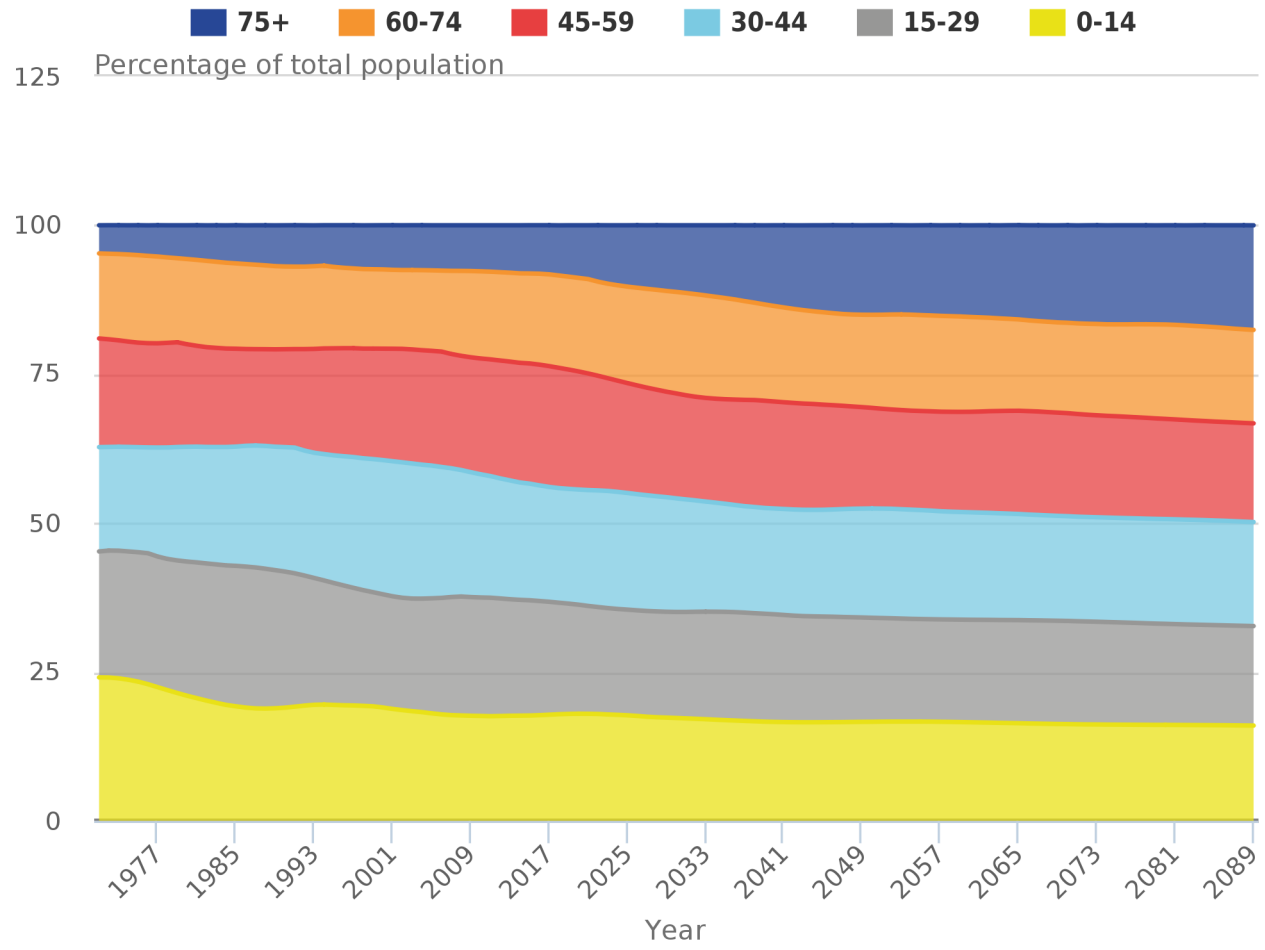
Source: Office for National Statistics

Notes:

1. Working age and pensionable age populations based on State Pension age for given year. Between 2012 and 2018, State Pension age will change from 65 years for men and 61 years for women, to 65 years for both sexes. Between 2019 and 2020, State Pension age will change from 65 years to 66 years for both men and women. Between 2026 and 2027 SPA will increase to 67 years and between 2044 and 2046 to 68 years for both sexes. This is based on SPA under the 2014 Pensions Act

2. Figures may not sum due to rounding

Figure 2.3: Percentage age distribution, UK, mid-1971 to mid-2089



Source: Office for National Statistics

The equivalent charts for the constituent countries of the UK can be found in appendices A to D of the Results report published on 29 October 2015.

The age structure is projected to become gradually older, with the median age of the population increasing from 40.0 years in mid-2014 to 42.9 years in mid-2039. Longer-term projections show continuing ageing, with the median age reaching 44.8 years by mid-2089.

Particularly notable is the projected increase in the population at older ages. By mid-2039, 13% of the population of the UK is projected to be aged 75 and over, compared with 8% in mid-2014. By mid-2089, this figure is projected to increase to 18%. The number of people aged 85 and over is projected to more than double by mid-2039, and the number of centenarians is projected to rise from 14,000 in mid-2014 to 83,000 in mid-2039 – nearly a 6 fold increase. The increase in the number of older people means that by mid-2039, 1 in 12 of the population is projected to be aged 80 or over.

Children and the population of working and pensionable ages

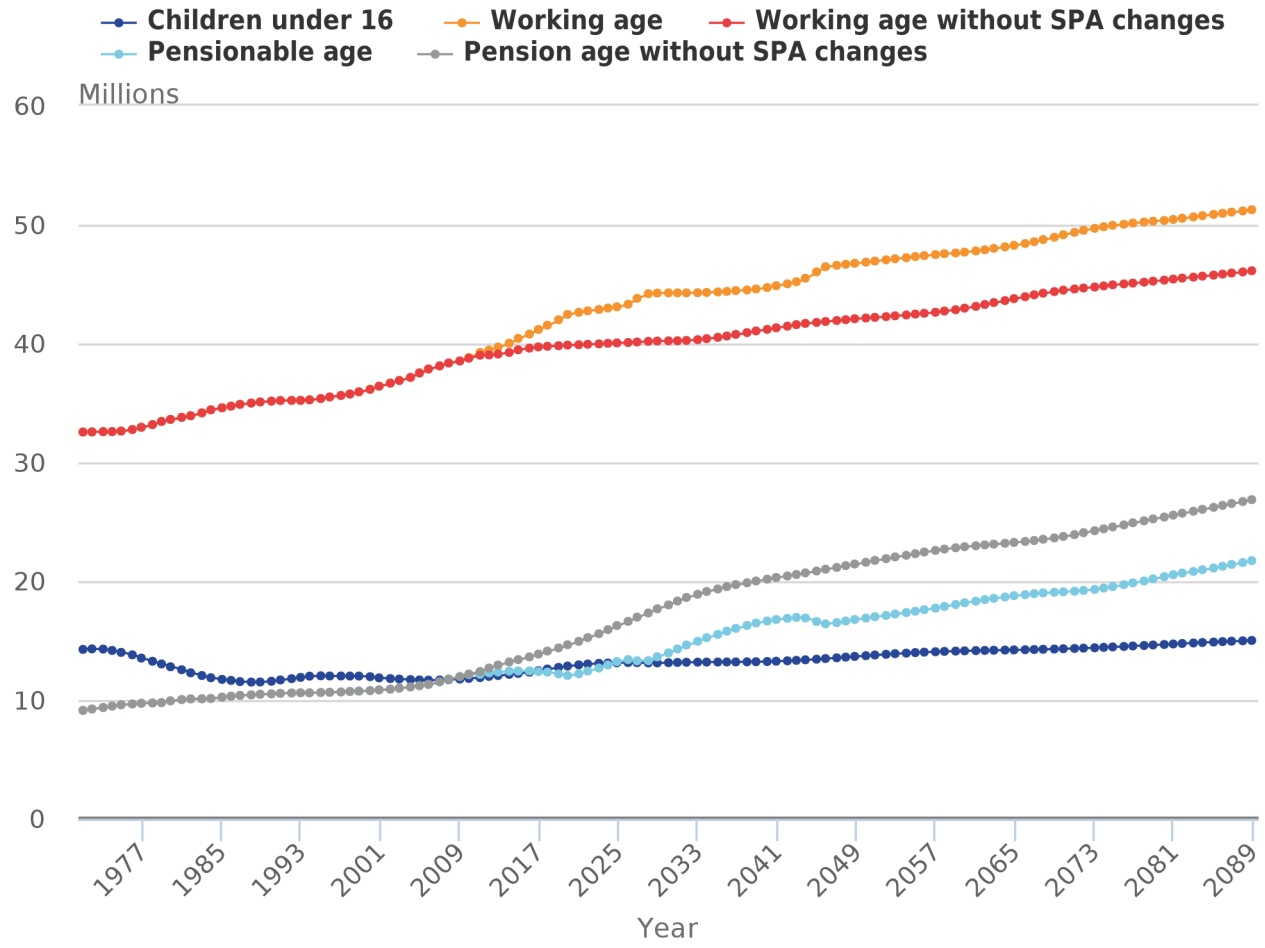
Under legislation introduced by the Pensions Act 1995, women's State Pension age was due to be equalised with men's, rising from 60 years in 2010 to 65 years by 2020. Following this, both women's and men's State Pension age would have increased to 66 years by 2026 under the Pensions Act 2007 and would then rise to 67 years by 2036 and to 68 years by 2046.

Under the provisions of the Pensions Act 2011, this timetable was amended. The State Pension age will change from 65 years for men and 60 years for women to 66 years for both sexes between 2018 and 2020. To enable the increase to 66 to be implemented from 2018, the Act also amended the timetable for equalising women's State Pension age with men's so that women's State Pension age rises more quickly from 2016 to reach 65 by 2018. There will then follow an increase in 2 stages to 68 years for both sexes between 2034 and 2046.

The Pensions Act 2014[5] brought the increase in the State Pension age from 66 to 67 forward by 8 years. The State Pension age for men and women will now increase to 67 between 2026 and 2028.

The 2014-based projections presented in this report and on our website incorporate these changed definitions to State Pension age as they occur during the projection period.

Figure 2.4: Estimated and projected number of children and populations of working and pensionable ages, UK, mid-1971 to mid-2089



Source: Office for National Statistics

Notes:

1. Working age and pensionable age populations based on State Pension age (SPA) for given year. Between 2012 and 2018, State Pension age will change from 65 years for men and 61 years for women, to 65 years for both sexes. Between 2019 and 2020, State Pension age will change from 65 years to 66 years for both men and women. Between 2026 and 2027, State Pension age will increase to 67 years and between 2044 and 2046 to 68 years for both sexes

The definition of the working age population used in this report is people aged between 16 and State Pension age. The size of the working population is affected by a number of different factors. This includes the level of net migration (much of which is young adults), the survivors of births 16 years earlier who enter the working age population and the size of the cohort about to leave the working age population and reach State Pension age.

The working age population is projected to rise by 11.4% from 40.0 million in mid-2014 to 44.6 million by mid-2039 and then reach 51.2 million by mid-2089. If State Pension age had remained at 65 years for men and 60 years for women, the population of working age would have been projected to rise from 39.2 million in mid-2014 to 41.1 million in mid-2039 and 46.1 million by mid-2089.

Despite increases in State Pension age, the population of pensionable age is projected to increase by 32.7% from 12.4 million in mid-2014 to 16.5 million by mid-2039. This increase is projected to continue in the long-term, reaching 21.7 million by mid-2089. Assuming State Pension age remained at 65 years for men and 60 years for women, the population of those of a State Pension age would have been projected to rise from 13.2 million in mid-2014 to 20.0 million by mid-2039, and to 26.9 million by mid-2089 (3.5 and 5.2 million higher, respectively, than with the current changes).

The number of children under the age of 16 is projected to rise by 8.8% between 2014 and 2039, from 12.2 million in mid-2014 to 13.2 million in mid-2039. The number is projected to increase to 15.0 million by mid-2089.

Dependency ratios

Changes to the age structure will over time affect the proportion of dependants in the population. The dependency ratio is the number of children aged under 16 or the number of people of pensionable age (or the sum of the 2) per 1,000 people of working age. These figures provide an indication only of dependency, as in reality, full-time education ends and retirement starts at a range of ages. Research has shown that labour market changes have in the past been a more important factor than demographic trends in influencing real (economic) dependency[6]. Table 2.3 and Figure 2.5 show the estimated and projected dependency ratios for the UK

Table 2.3: Projected dependants per thousand persons of working age, UK, mid-2014 to mid-2039

dependants per thousand of working age

Ages	2014	2019	2024	2029	2034	2039
Under 16	304	303	305	297	298	296
Pensionable age[1]	310	290	301	308	344	370
Total	614	594	606	605	642	666

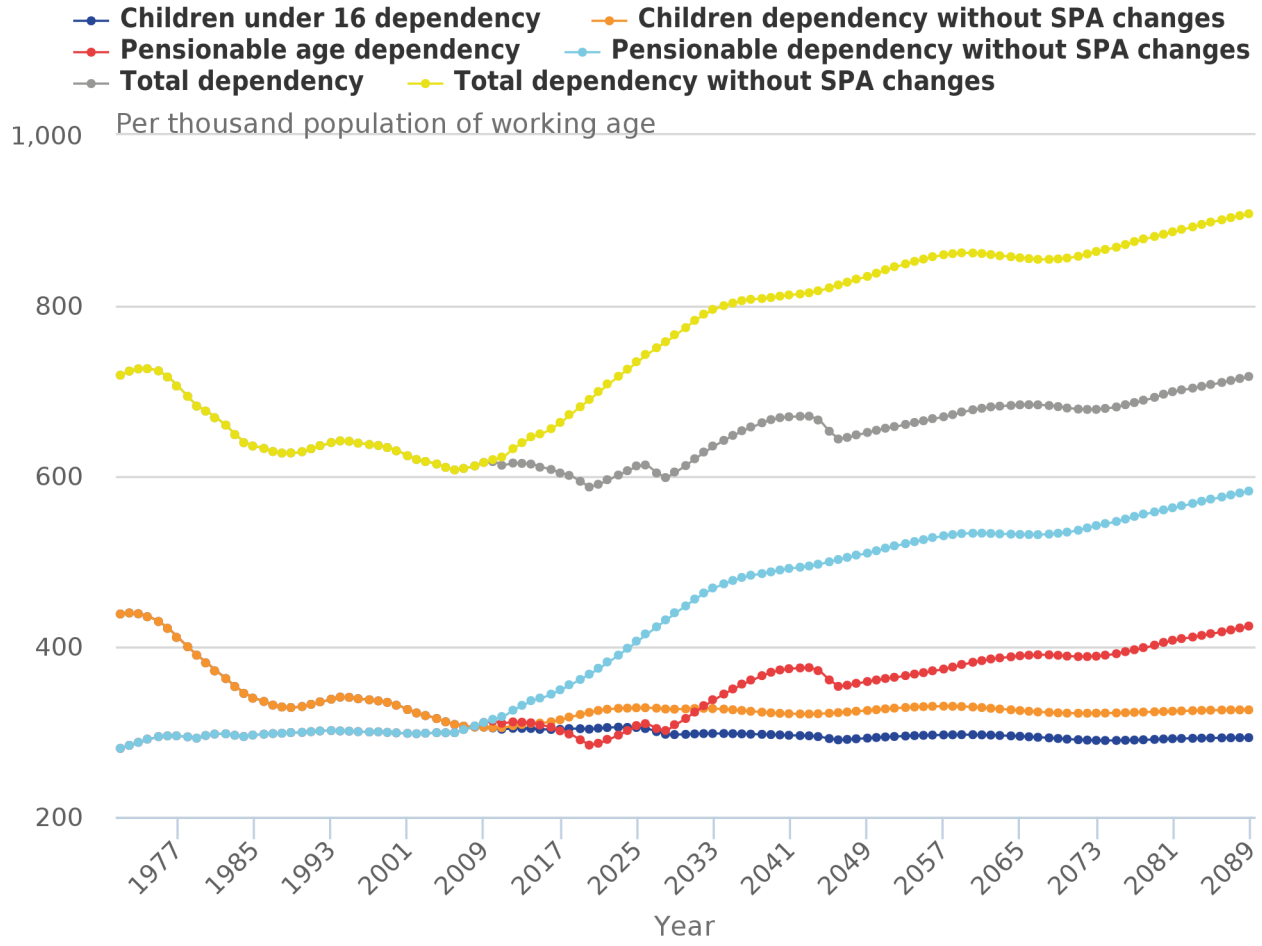
Source: Office for National Statistics

Notes:

1. Working age and pensionable age populations based on State Pension age for given year. Between 2012 and 2018, State Pension age will change from 65 years for men and 61 years for women, o 65 years for both sexes. Between 2019 and 2020, State Pension age will change from 65 years to 66 years for both men and women. Between 2026 and 2027 SPA will increase to 67 years and between 2044 and 2046 to 68 years for both sexes. This is based on SPA under the 2014 Pensions Act

2. Figures may not sum due to rounding

Figure 2.5: Estimated and projected dependency ratios, total, children and pensionable ages, UK, mid-1971 to mid-2089



Source: Office for National Statistics

Notes:

1. Working age and pensionable age populations based on State Pension age (SPA) for given year. Between 2012 and 2018, State Pension age will change from 65 years for men and 61 years for women, to 65 years for both sexes. Between 2019 and 2020, State Pension age will change from 65 years to 66 years for both men and women. Between 2026 and 2027, State Pension age will increase to 67 years and between 2044 and 2046 to 68 years for both sexes

The total dependency ratio (the number of dependants aged under 16 or of pensionable age per 1,000 of the working age population) for the UK was 614 in mid-2014. Over the period until mid-2020 when the State Pension age is set to rise to 66 years for both sexes, the total dependency ratio is projected to decline. The total dependency ratio then rises year-on-year with the exception of the timeframes when State Pension age rises to 67 and 68 years.

The longer-term projections suggest a total dependency ratio of 717 dependants per 1,000 persons of working age by mid-2089, which is similar to the ratios observed in the early 1970s. In the 1970s the majority of dependants were children, whereas longer-term projections comprise more dependants of pensionable age than those aged under 16. Research suggests that the cost of supporting a person aged 65 and over is, on average, greater than the cost of supporting a child[7].

Without the changes to State Pension age, the total dependency ratio would be projected to increase to a much higher level, with 725 dependants per 1,000 people of working age by mid-2024, 809 by mid-2039 and 908 by mid-2089.

The child dependency ratio (the number of children aged under 16 per 1,000 people of working age) declined markedly in the 1970s and 1980s. After some increases observed in the 1990s, it continued to decline to a ratio of 304 children per 1,000 people of working age in mid-2014. The child dependency ratio is projected to fluctuate over the next 75 years, but remain within a relatively narrow range. The highest expected ratio during the projection period (305 children per 1,000 people of working age) is expected in mid-2023, whilst the lowest ratio (290 children) is expected around mid-2074. The changes to State Pension age results in an increase to the working age population. Without these changes, the child dependency ratio would be slightly higher.

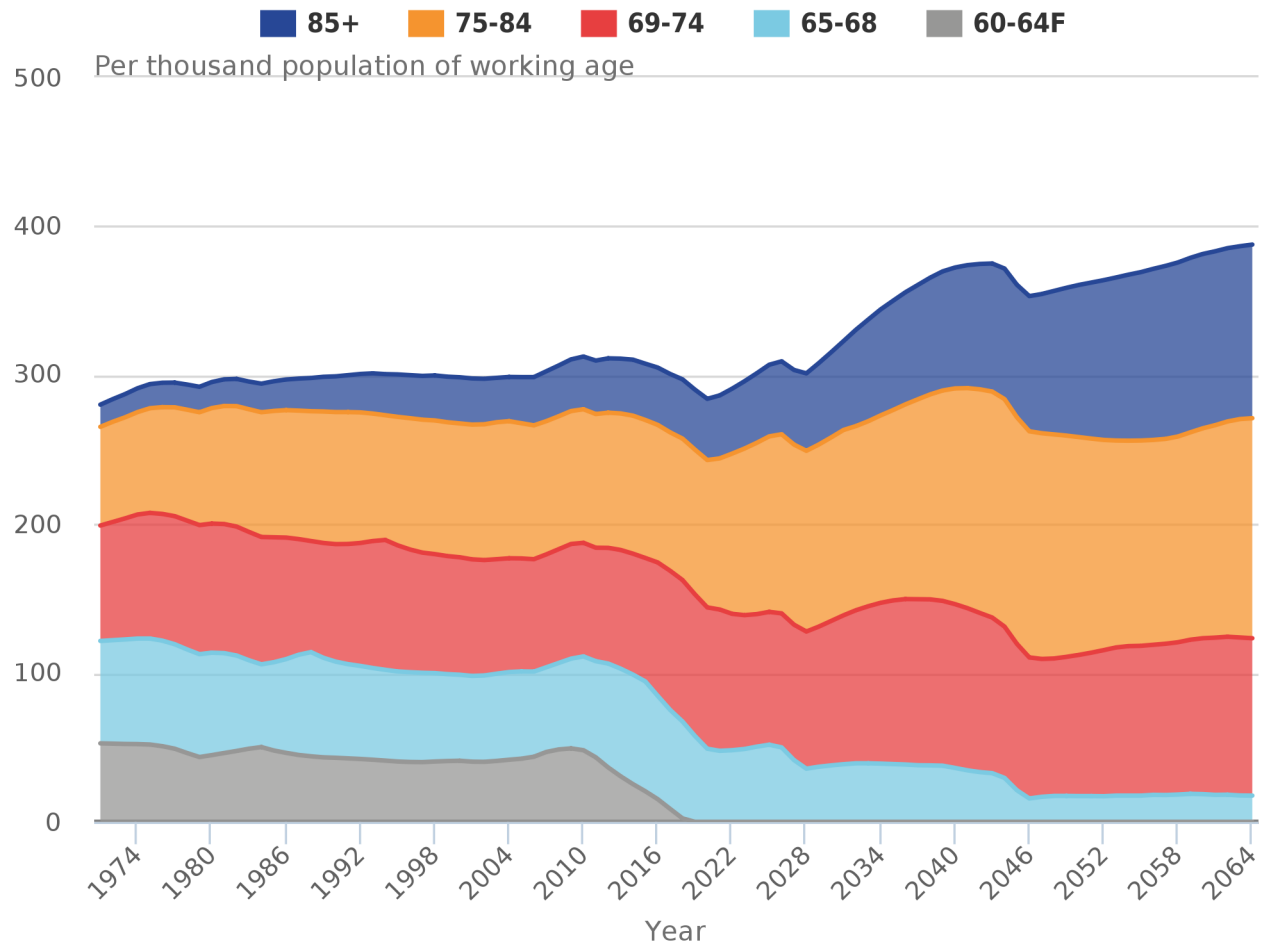
The pensionable age dependency ratio (the number of people of State Pension age per 1,000 people of working age) is affected more by the changes to the State Pension age and shows a very similar pattern to that of the total dependency ratio. The pensionable age dependency ratio is projected to fall from 310 per 1,000 persons of working age in mid-2014 to 284 by mid-2020. It then fluctuates before reaching a ratio of 424 pensioners per 1,000 persons of working age in mid-2089.

Without the changes in State Pension age, the pensionable age dependency ratio would have steadily risen over the projection period, reaching 398 pensioners per 1,000 persons of working age in mid-2024, 487 by mid-2039 and 582 by mid-2089. This is compared to 301, 370 and 424, respectively, based on the projections including the changes made to the State Pension age.

Figure 2.6 splits the pensionable age dependency ratio into 5 age bands (60 to 64 (females only), 65 to 68, 69 to 74, 75 to 84 and 85 and over). The first 2 bands represent the age groups which become part of the working age population by 2046. In mid-2014, persons aged 75 and over represented 42% of the population of pensionable age. This is projected to increase to 60% in mid-2039 and 68% by mid-2064.

Population ageing will be experienced to a greater or lesser extent in all Western countries. A report by Eurostat [8] based on the population projections in 2010 show that the UK will have proportionately fewer older people than most other EU countries over the coming decades.

Figure 2.6: Estimated and projected pensionable age dependency ratio, by age of dependant, UK, mid-1971 to mid-2064



Source: Office for National Statistics

Notes:

1. Working age and pensionable age populations based on State Pension age (SPA) for given year. Between 2012 and 2018, State Pension age will change from 65 years for men and 61 years for women, to 65 years for both sexes. Between 2019 and 2020, State Pension age will change from 65 years to 66 years for both men and women. Between 2026 and 2027, State Pension age will increase to 67 years and between 2044 and 2046 to 68 years for both sexes

5 . Long-term projections to mid-2089

The main focus of the projections is on the period to mid-2039. Longer-term projections have been discussed where appropriate. However, projections become increasingly uncertain the further they are carried forward into the future, as demographic trends change from those being assumed.

The annual number of births is projected to still be increasing in the long-term, reaching around 928,000 by mid-2089. The annual number of deaths is projected to reach around 825,000 by mid-2089. The excess of births over deaths (or “natural change”) is projected to reach a peak of 237,000 in mid-2021, before reducing to a difference of 60,000 in mid-2060. After this point, the excess of births over deaths is projected to rise again on an annual basis to 104,000 in mid-2080, followed by fluctuation further into the projections. In the year ending mid-2089 the excess of births over deaths is projected to be 103,000. These patterns are mainly the result of the current age structure of the UK. The excess of births over deaths, combined with the assumed level of net inward migration, means that the UK population is projected to continue to rise strongly throughout the projection period, reaching 88.0 million by mid-2089.

Population increases are greatest at the older ages. The number of people aged 60 and over is projected to rise throughout the projection period, with nearly twice the number of people aged 60 and over by mid-2089 (29.3 million), compared with mid-2014 (14.9 million). However, the number of persons aged 80 and over is projected to rise even faster, doubling by mid-2039 and increasing to more than 3.5 times the mid-2014 estimate by mid-2089. This will have implications for health and social care resource.

Although these very long-term figures are subject to great uncertainty, they show the consequences that would follow if the long-term assumptions of fertility, mortality and migration were to be realised in practice.

Longer-term projections to mid-2114 are available for the principal projection released on 29 October 2015.

6 . Comparisons with 2012-based projections

The 2014-based population projections are different to the 2012-based projections as the 2014-based figures use the latest available population estimates (mid-2014) as the base year. Further to this, the underlying assumptions about fertility, mortality and migration have been reviewed. Revised assumptions have been adopted for the 2014-based projections.

Changes in assumptions

Table 2.4 shows the long-term fertility, mortality and migration assumptions used in the 2014-based projections compared with those used for the 2012-based projections.

Table 2.4: Long-term principal assumptions for the UK 2014-based national population projections compared with assumptions for the 2012-based projections

	United Kingdom	England	Wales	Scotland	Northern Ireland
Fertility – Long-term average number of children per woman					
2014-based	1.89	1.90	1.90	1.70	2.00
2012-based	1.89	1.90	1.90	1.75	2.00
Mortality - Expectation of life at birth in 2039[1]					
Males 2014-based	84.1	84.3	83.4	82.3	83.3
Males 2012-based	84.3	84.5	83.8	82.2	83.5
Females 2014-based	86.9	87.1	86.4	85.0	86.5
Females 2012-based	87.5	87.8	87.1	85.7	87.0
Net migration[2] – Annual long-term assumption					
2014-based	+185,000	+170,500	+4,000	+9,500	+1,000
2012-based	+165,000	+150,000	+3,000	+12,000	0

Source: Office for National Statistics

Notes:

1. Expectations of life for 25 years ahead given as example year. Note these are period expectations of life based on the mid-year mortality rates assumed for the year 2039 and do not take account of the continuing improvement in mortality projected beyond 2039

2. Net migration includes international migration and cross-border migration between the countries of the UK

Fertility

The long-term assumptions of completed family size for the UK and constituent countries remain the same as the 2012-based projections, except for Scotland where the completed family size is 0.5 children lower in the 2014-based projections compared with the 2012-based projections.

Mortality

The 2014-based projections assume that rates of improvement will converge to 1.2% for most ages in mid-2039 and remain at 1.2% each year thereafter. Those born between 1925 and 1938 are assumed to experience higher rates of improvement than 1.2% in mid-2039, while those born before 1922 are assumed to experience annual rates of improvement below 1.2%. These are the same assumptions for the rates of mortality improvement in the target year as those used in the 2012-based projections (where the target year was mid-2037). The projected period life expectancy at birth for mid-2039 are around 0.2 years lower than in previous projections for males and 0.6 years lower for females. This is because higher mortality rates have been assumed at nearly all ages and lower rates of mortality improvement at most ages over 65 in 2014 compared with those projected for 2014 in the 2012-based projections.

Migration

The long-term assumption for net migration to the UK is +185,000 each year, +20,000 higher than the figure of +165,000 a year projected in the 2012-based projections.

The assumed level of annual net international migration to England is +170,500, which is 20,500 higher than for the 2012-based projections. For Wales and Northern Ireland, it is 1,000 higher at +4,000 and +1,000 a year respectively. The assumption for Scotland is 2,500 lower than in the 2012-based projections at +9,500. These changes reflect the most recent trends in international migration and advice from an expert academic advisory panel.

In the 2014-based projections, the methodology for setting assumptions for the flows between the countries of the UK was changed to using rates rather than a fixed number of migrants. These cross-border rates were applied to the population by age and sex each year taking into account the population size of both the origin and destination country. Using a rates-based method results in the projected number of migrants moving between countries of the UK varying year-on-year. For the 2012-based projections, the movement of people between countries of the UK was assumed to be constant in the long-term.

For the year ending mid-2039, England and Northern Ireland had a projected net outflow of migrants to other countries of the UK of -6,000 and -800 respectively (compared with long-term assumptions of -6,500 and 0 respectively in the 2012-based projections). Whereas Scotland had a projected net inflow of 5,500 and Wales a projected net inflow of 1,300 from other countries of the UK (compared with the 2012-based long-term assumptions of 3,500 and 3,000 respectively).

Base population

Table 2.5 shows the estimated population change between mid-2012 and mid-2014 compared with the projected change from the 2012-based projections. At mid-2014, the estimated population of the UK was 86,000 higher than the projections for mid-2014 in the 2012-based projections.

Table 2.5: Population change, mid-2012 to mid-2014: estimated change compared with 2012-based projected change, UK

thousands

	Mid-year estimates	2012-based projections	Difference	Percentage difference
Population at mid-2012	63,705	63,705	0	0.0
Components of change (2012 to 2014)				
Births	1,570	1,606	-36	-2
Deaths	1,131	1,130	1	0
Natural change	438	476	-38	-
Net migration and other changes[1]	453	330	123	-
Total change	892	806	86	-
Population at mid-2014	64,597	64,511	86	0
England	54,317	54,228	89	0
Wales	3,092	3,095	-3	-0
Scotland	5,348	5,346	1	0
Northern Ireland	1,840	1,842	-1	-0

Source: Office for National Statistics

Notes:

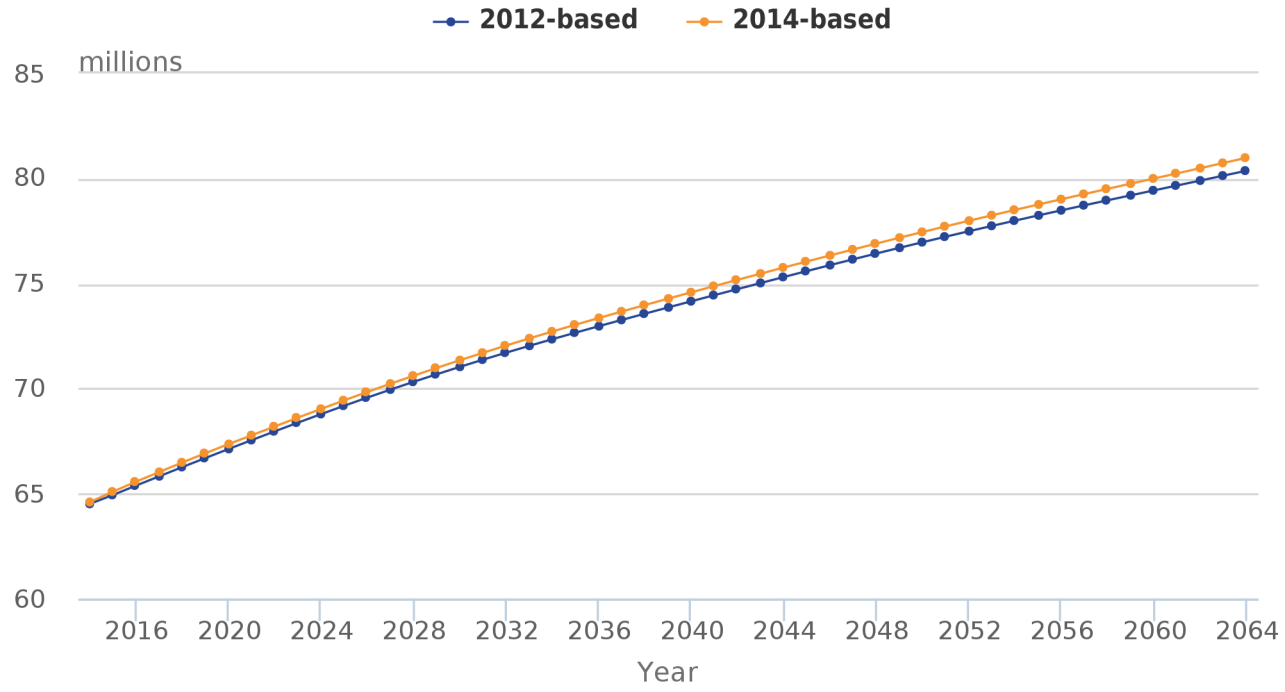
1. Including net movements of Armed Forces and other small changes

2. Figures may not sum due to rounding

Total UK population

The 2014-based population projection for the UK is higher than in the 2012-based projections (Figure 2.7). This is partly attributable to the base 2014 population estimate being 86,000 higher in the 2014-based projection than in the 2012 projections. The remainder of the difference reflects changes in the age structure of the base population (which affects the numbers of projected births and deaths) and changes in assumptions made in the 2014 projections as described previously.

Figure 2.7: 2012-based and 2014-based population projections, UK, mid-2014 to mid-2064



Source: Office for National Statistics

Table 2.6 breaks down the change in the projected population between the 2014-based and 2012-based projections to differences in base population, births, deaths and net migration. Figures are shown 1 year, 10 years and 25 years into the projection.

For the UK, the changed assumptions result in there being around 141,000 fewer births, 198,000 more deaths and 502,000 more net migrants projected over the decade to mid-2024.

Table 2.6: Change in UK projected population compared with 2012-based projections

thousands

				Change due to difference in:		
	2014-based projection	2012-based projection	Total change	Base population	Projected births	Projected deaths	Projected migrants
Population at mid-2015							
England	54,780	54,613	166	89	-30	-47	154
Wales	3,101	3,107	-6	-3	-2	-4	3
Scotland	5,365	5,365	-1	1	-2	-5	5
Northern Ireland	1,851	1,852	-0	-1	-0	-1	3
United Kingdom	65,097	64,938	160	86	-34	-57	165
Population at mid-2024							
England	58,396	58,073	324	89	-93	-165	493
Wales	3,187	3,216	-29	-3	-13	-13	-0
Scotland	5,514	5,564	-49	1	-34	-15	-2
Northern Ireland	1,939	1,935	4	-1	-1	-4	11
United Kingdom	69,036	68,788	249	86	-141	-198	502
Population at mid-2039							
England	63,282	62,718	563	89	-26	-303	803
Wales	3,280	3,332	-52	-3	-17	-25	-7
Scotland	5,701	5,804	-102	1	-73	-24	-7
Northern Ireland	2,021	2,011	10	-1	6	-8	13
United Kingdom	74,284	73,865	419	86	-109	-359	802

Source: Office for National Statistics

Notes:

1. Figures may not sum due to rounding

Table 2.6 shows that in England, the projected population is higher than in the 2012-based projections for all 3 years, but for Wales and Scotland, the projected population is lower than the 2012-based projections for all 3 years. The Northern Ireland 2014-based projection is higher than the 2012-based projection in mid-2024 and mid-2039 and is more or less the same at mid-2015. The largest relative difference is at mid-2039 for Scotland, where the 2014-based population projection is 1.8% lower than the 2012-based projection.

There has been a decrease in projected deaths across years for all countries and an increase in net migration for most countries. There has generally been a decrease in births projected in all countries with the exception of Northern Ireland, where projected births over the 25 years to mid-2039 are higher than the 2012-based projections.

Distribution by age and sex

The change in the projected size of the UK population for selected age groups is shown in Table 2.7. Compared with the 2012-based projections, the projected UK population at mid-2039 in the 2014-based projections is higher for those in the age groups between 0 to 74 mainly reflecting the higher net international migration assumptions in the 2014-based projections. For the older population aged 75 and over, the UK population at mid-2039 is lower in the 2014-based projections than the 2012-based projections, reflecting the lower rates of mortality improvement at most ages over 65 and subsequently lower projected period life expectancy at birth.

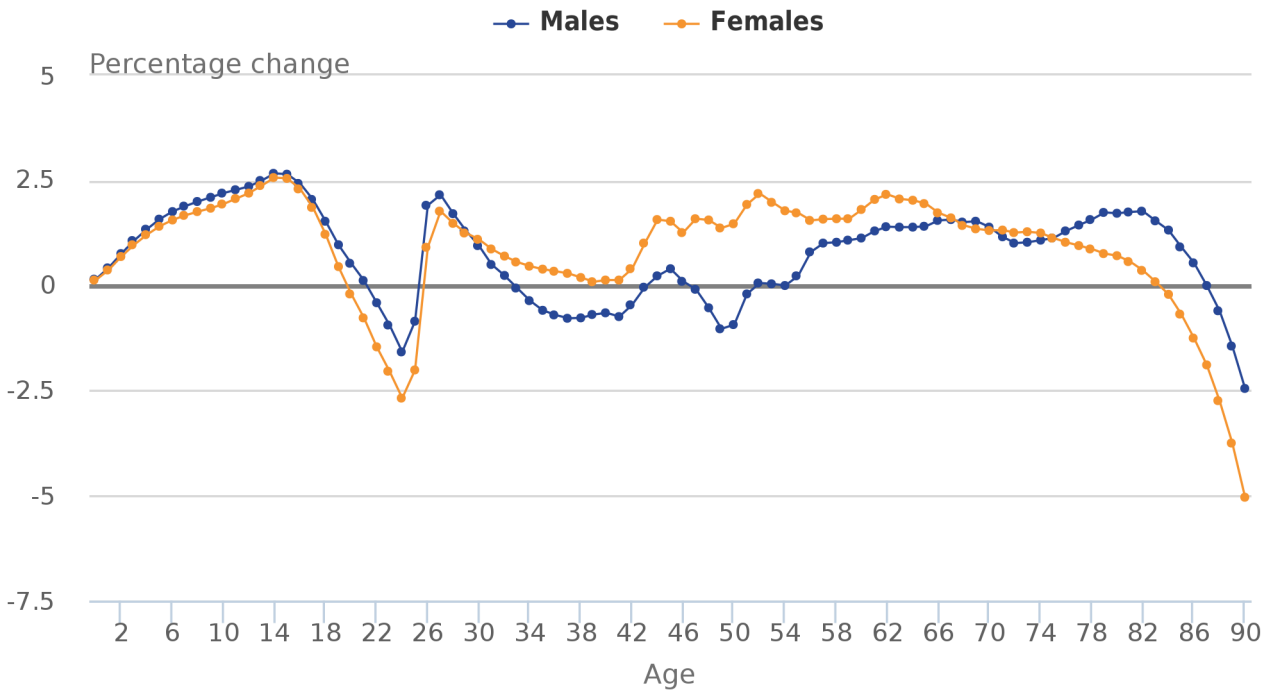
Table 2.7: Change in projected population by age group, UK, 2014-based projections compared with 2012-based projections

	mid-2014		mid-2024		mid-2034		mid-2039	
Age	Thousands	%	Thousands	%	Thousands	%	Thousands	%
Under 16	53	0.4	35	0.3	173	1.3	216	1.7
16-29	-44	-0.4	94	0.8	68	0.6	57	0.5
30-44	29	0.2	65	0.5	15	0.1	19	0.1
45-59	33	0.3	118	0.9	131	1.0	116	0.9
60-74	19	0.2	86	0.8	145	1.2	175	1.5
75 and over	-4	-0.1	-149	-2.1	-166	-1.9	-164	-1.6
All ages	86	0.1	249	0.4	366	0.5	419	0.6

Source: Office for National Statistics

Figure 2.8 shows the changes by individual age and sex. Overall, the male and female projected UK populations are both 0.6% higher than the 2012-based projections.

Figure 2.8: Change in projected population at mid-2039 by age and sex compared with the 2012-based projections, UK



Source: Office for National Statistics

Notes:

1. Where the percentage change is greater than 0, the 2014-based projection is greater than the 2012-based projection

2. Where the percentage change is less than 0, the 2014-based projection is less than the 2012-based projection

The differences observed for particular ages reflect the differences between the base population and underlying assumptions between the 2012-based and 2014-based projections. For example, the reduction in males and females in their early 20s is due to the lower short-term fertility assumptions in the 2014-based projections, leading to a lower number of births to the cohorts reaching their early 20s in mid-2039.

7. References

1. The total fertility rate is a summary of fertility and is defined as the average number of children that would be born per woman if all women lived to the end of their childbearing years and experienced the exact current age-specific fertility rates throughout their lifetime.

2. Excess winter mortality in England and Wales available at: http://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/excesswintermortalityinenglandandwales/previousReleases

3. Excess winter mortality in Scotland available at: http://www.gro-scotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths/winter-mortality

4. Excess winter mortality in Northern Ireland available at: http://www.nisra.gov.uk/demography/default.asp32.htm

5. Pensions Act 2014: http://www.legislation.gov.uk/ukpga/2014/19/contents

6. Johnson P. and Falkingham J. Ageing and economic welfare. Sage publications (1992).

7. Replacement migration: is it a solution to declining and ageing populations? United Nations (2000).

8. Eurostat Statistical Focus: ‘The greying of the baby boomers – A century long view of ageing in European populations’, May 2011, available at: http://ec.europa.eu/eurostat/en/web/products-statistics-in-focus/-/KS-SF-11-023

8. Background notes

1. The 2014-based Population Projections for the UK and constituent countries were published 29 October 2015 (main release) and the extra variants were published 26 November 2015.

2. These National Statistics are produced to high professional standards and released according to the arrangements approved by the UK Statistics Authority.