

Compendium

Frequently asked questions



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1 . Introduction

This article answers likely questions on the 2016-based national population projections, published on 26 October 2017.

2 . What are the national population projections?

The national population projections (NPPs) provide statistics on the potential future size and age structure of the UK and its constituent countries. They are based on the estimated population at 30 June 2016. They are produced using the internationally accepted cohort component methodology, which accounts for the impact over time of births, deaths and migration.

The main purpose of the NPPs is to support national planning in a number of different fields – for example fiscal planning, pensions, education and health.

Our main (principal) projection is based on assumptions considered to best reflect recent patterns of fertility, life expectancy and migration. These are derived from analysis of data, as well as expert advice. However, it is not possible to know how these patterns may change in future. To reflect this uncertainty we also produce a number of variant population projections, based on alternative future scenarios.

3 . What are the main messages of the projections?

We have summarised the main messages from the projections at the start of our [statistical bulletin](#), which then looks at the statistics in more detail.

4 . What population is covered by the projections?

The projections cover usually resident population. This includes all long-term international migrants (people changing their country of usual residence for at least one year). However, it does not include short-term migrants who come to or leave the UK for less than a year.

5 . How far ahead do the projections go?

Because projections become increasingly uncertain further into the future, our bulletin only focuses on the first 25 years up to mid-2041. Some users require projections over a longer period for modelling purposes so we have published the principal projection and all variants for a 100 year period up to mid-2116. However, we urge great caution when using projections this far into the future.

6 . What assumptions underlie the latest projections?

For the 2016-based principal population projection we have assumed:

- a long-term assumption of annual net migration to the UK of 165,000 per year (from the year ending mid-2023 onwards)
- a long-term average completed family size of 1.84 children per woman
- period life expectancy at birth in 2041 of 83.4 years for men and 86.2 years for women, with constant rates of mortality improvement assumed thereafter

The long-term assumptions above are complemented by short-term assumptions designed to allow a realistic convergence to the long-term assumption. Detailed information on the assumptions is available in the [methodology compendium](#).

7 . Net international migration has been high since the previous projection, so why have you reduced the long-term assumption?

In the 2014-based projections we assumed that, in the long term, net migration to the UK would be 185,000 per year. We derived this value using a rolling 25-year average, which gave more weight to values later in the series.

For the 2016-based projections we moved to using a straight 25-year average. This is a simpler approach and also avoids the assumption that the most recent values are necessarily the strongest informants of the future. This leads to our new long-term net migration assumption of 165,000 per year. We assume this level from the year ending mid-2023 onwards.

8 . Do the assumptions take Brexit into account?

These are projections, not forecasts. This means we do not attempt to predict the impact of future political or economic changes, not least because it is very difficult to be sure of even the broad demographic impact.

In simple terms, therefore, we do not take Brexit into account. However, because the shorter-term international migration assumptions use the very latest demographic information, they do reflect the decline in net international migration that has occurred since the Brexit vote in June 2016.

9 . Is the projected growth in the population because there are more births than deaths, or because of migration?

The projected growth is caused by both these factors. This is a complex area and more detail is provided in the "How do births, deaths and migration affect the projections?" section of the [bulletin](#).

10 . What changes have been made to the methodology?

In broad terms the methods are the same as previously, although the values of the assumptions have changed. However:

- the long-term international migration assumptions are now based on a straight 25 year average over the period mid-1991 to mid-2016, rather than the previous rolling average
- we no longer assume a faster rate of increase in life expectancy for those born between 1923 and 1938 (also known as the “golden cohort”)

11 . Do your international migration assumptions divide migrants by part of the world?

No. Our assumptions are based purely on total international migration. We have published EU migration variants to serve known research interests but these use non-standard methods and are not classed as National Statistics.

12 . What do the latest projections show regarding population ageing?

The population is projected to rise most quickly for the oldest age groups. The number of people aged 85 or more is projected to double over the next 25 years. The Old Age Dependency Ratio (number of people of pensionable age for every 1,000 of working age) is projected to rise from 305 in mid-2016 to 370 in mid-2041, even with the scheduled increases in State Pension age. If State Pension age were to remain at mid-2016 levels the ratio in mid-2041 would be 442.

13 . Will the life expectancies in the projections inform State Pension age?

No, not directly. All life expectancy figures given within this release are period life expectancies. Projected cohort life expectancies are scheduled to be published in our past and projected life tables publication in early December. For the purposes of informing the Government reviews of State Pension age, the Government considers that cohort life expectancies are the appropriate measure to use, as detailed in the Department for Work and Pensions background [note on the core principle underpinning future State Pension age rises](#), announced in the Autumn Statement 2013. The article [Period and cohort life expectancy explained](#) details the distinction between the two measures.

14 . How do the 2016-based projections compare with the 2014-based?

The UK population growth rate is slower than in the 2014-based projections: the projected population is 0.6 million less in mid-2026 and 2.0 million less in mid-2041. This is because of lower assumptions about future levels of fertility and international migration, and an assumption of a slower rate of increase in life expectancy. More information is available in the bulletin and methods documents.

15 . How accurate have past projections been?

Strictly speaking a projection, if calculated correctly, can never be wrong, because it is not an attempt to predict. Nevertheless, it is useful to know how close to eventual outcomes past projections have been. In 2015 we published an analysis of the past [accuracy of national population projections](#). This considered the 1955-based to 2012-based projections and compared them with estimates of the UK population up to mid-2013. The analysis found that the mean absolute error of the projected total UK population 20 years ahead was about 2.7 per cent overall. The largest differences between projected and actual populations were found to be for the youngest and oldest ages. However, as methods and demographic circumstances change, we cannot be certain how large future errors are likely to be.

16 . What are the confidence intervals/error margins around the projections?

We do not publish confidence intervals around the projections. The projections are inherently uncertain and become more so the further they are carried forward in time. Variant projections are produced to provide an indication of uncertainty by allowing users to consider the impact of differing future levels of fertility, life expectancy and migration.

17 . When is the UK population projected to reach 70 million?

The UK population is now projected to reach 70 million by mid-2029, two years later than in the 2014-based projections. There is no special demographic significance to 70 million, but as a “round number” it may be viewed as a numerical milestone. The UK population is estimated to have reached 50 million in 1948 and 60 million by mid-2005. It is projected that the population will rise from 60 to 70 million over a period of 24 years, compared with the 57 years over which it rose from 50 to 60 million.

18 . Will the UK population go on growing forever?

Under the principal projection assumptions, the size of the UK population is projected to continue increasing over the projection period. However projections are uncertain and become increasingly so the further they are carried forward. Growth is not inevitable – for example, there were several years between the mid-1970s and early 1980s when the UK population fell.

19 . When will projections for subnational areas be available?

We are planning to publish 2016-based projections for subnational areas in England (down to local authority and Clinical Commissioning Group level) in May or June 2018. Subnational projections for areas in Wales, Scotland and Northern Ireland are produced by the Welsh Government, National Records of Scotland and Northern Ireland Statistics and Research Agency respectively.

20 . How do future changes to the UK population compare with other countries?

Comparisons with and links to projections by the European Union (EU) statistical office (Eurostat) and the United Nations are provided in our bulletin.

21 . How were the assumptions underlying the projections agreed?

The assumptions about future levels of fertility, life expectancy and net migration were agreed in liaison with the devolved administrations – the Welsh Government, National Records of Scotland and Northern Ireland Statistics and Research Agency – following consultation with leading users of projections in each country and advice from an expert advisory panel. Details of the membership of the panel and minutes of the meeting are included in the “[Background and Methodology](#)” section of the methodological compendium.

22 . Do you produce population projections by ethnicity, nationality or religion?

Our population projections cover the population as a whole by age and sex but we do not provide further breakdowns. This means we do not cover topics such as ethnicity, nationality or religion.

However, the [ETHPOP database](#) provides projections by ethnicity using a 2011 base. ETHPOP is created and maintained by population experts in academia, and is not an ONS product.

23 . What if I can't find what I want?

If you have any difficulty finding the information you require please contact the team at pop.info@ons.gov.uk, Tel: +44 (0)1329 444661.