BRIEFING
The Impact of Migration on UK Population Growth

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Based on official population estimates and population projections, this briefing examines the impact of migration on recent and future UK demographic trends.

**Key Points**

More than half (56%) of the increase of the UK population between 1991 and 2018 was due to the direct contribution of net migration.

The UK’s population is projected to grow to approximately 70 to 75 million by 2043. This range reflects differences in net migration assumptions between the ‘low migration’ and the ‘high migration’ variant projections.

In the principal projection, the cumulative net inflow of new migrants after 2018 directly accounts for 73% of total population growth by 2028, and 84% by 2043.

The projected contribution of net migration to population change considerably differs across the four nations of the UK. Without net immigration, Scotland’s and Wales’ populations would be expected to stagnate over the next decade and decrease in the longer term.

Net migration assumptions have been continually revised in the projections released since the mid-1990s, reflecting rising levels of net migration and the high uncertainty of migration forecasting. As a result, the projected size of the UK population at the beginning of the 2030s based on the latest projections is around 9 million higher than in the 1994-based projections.

**Understanding the evidence**

**Key concepts**

In the UK statistical system, long-term international migrants are defined as people who move into and out of the country for at least 12 months. Net migration is the balance between immigration and emigration over a given time period. In demographic terms, natural change – i.e. the difference between the number of births and deaths – measures the contribution of vital events to the dynamics of the population. Immigration and emigration contribute to population change not only by altering the number of individuals in the country at a given time (direct contribution) but also by affecting natural change (indirect contribution).

**Population estimates**

The Office for National Statistics (ONS) produces annual estimates of the resident population of England and Wales and estimates for the UK as a whole by collating data provided by the Northern Ireland Statistics and Research Agency (NISRA) and by the National Records for Scotland (NRS) (ONS 2015a). The population at 30 June of a given year (stock) is obtained by annually ‘updating’ the most recent census population count with data on demographic events contributing to population change between these two dates (births, deaths and migration flows). Population estimates made between census years are revised retrospectively so as to provide a consistent series of population estimates over time. The revised estimates for the period between the 2001 and 2011 censuses resulted in an adjustment of 497,500 (0.8%) largely due to the underestimation of net migration in the previous series (ONS 2013). Mid-year population estimates are also used as the base-year population of demographic projections.
Population projections

Population projections are calculations showing the future development of a population based on a set of assumptions about fertility, mortality and net migration. Official UK projections are revised every two years by updating base-year population estimates and assumptions underlying future demographic dynamics so as to reflect the latest available information. Current projections take mid-2018 as the beginning of the projection period. ONS provides a principal projection reflecting the most ‘likely’ population developments on the basis of recently observed trends, and a number of variant projections, intended to capture the uncertainty of the assumptions by showing the impact on population dynamics if one or more components of demographic change differ from the principal projection (ONS 2015b).

In the principal projection, net migration is assumed to level off at +190,000 per year from 2024-45 onward, a level that is equal to the average annual net migration from 1993 to 2018. For comparative purposes, an important variant projection is ‘zero net migration’ (aka ‘natural change only’), which assumes migration inflows and outflows exactly equal at all ages throughout the projection period (with same fertility and life expectancy as the principal projection). In this scenario, future population change is driven only by births and deaths. The comparison between the principal projection and the zero net migration variant allows one to assess the overall impact of net migration on population trends – i.e. including both the direct contribution and its impact on natural change. Two other variant projections illustrating the demographic impact of higher or lower net immigration (also assuming the same fertility and life expectancy as the principal projection) are also available: a high migration variant (long-term annual net migration at +290,000) and a low migration variant (+90,000 per annum).
Net migration exceeded natural change for most of the past two decades

Population estimates show that net migration was a major component of population growth over the past two decades (Figure 1), making up 56% of population growth from 1991 to 2018.

Figure 1

In particular, annual net migration substantially increased from the beginning of the 1990s, exceeding natural change as a driver of UK demographic trends in most years from mid-1998 to mid-2018. However, natural change has remained positive throughout the last two decades. As a result of a significant drop of net migration (by almost 100,000), 2011-12 and 2012-13 were the first years after more than a decade when natural change contributed more to the growth of the UK population than net migration – but net migration exceeded natural change again from 2013-14 onwards.

However, this retrospective analysis does not account for the contribution of past migration to natural change – mainly to births. The number of births over a given period is determined both by the size and age structure of the female population and by fertility rates (i.e. the average number of children per woman in each age group). Migration affects both factors – i.e. it affects the number of women of childbearing age and, if migrant women have different fertility patterns, the total fertility rate of the population as a whole.

ONS figures show that in 2018, births to non-UK born mothers accounted for 28.2% of the total (ONS, 2019). This is higher than the share of non-UK born people in the UK population, primarily because non-UK born women are more likely to be of childbearing age. The estimated total fertility rate of foreign-born women living in the UK has declined over the past 10 years to below ‘replacement rate’, and stood at 1.99 in 2018; this compared to 1.63 for UK-born women. Note that these figures include non-UK born women regardless of how long they have lived in the UK.

The UK population is projected to grow to approximately 70-75 million by 2043

Figure 2 shows the projected size of the UK population in the period to 2043 according to different net migration assumptions.
In the principal projection, in which net migration is assumed to level off at 190,000 annually, the size of the UK population is projected to increase by approximately 6 million – from 66.4 million in 2018 to 72.4 million by 2043 (+8%). In this scenario, the UK population would reach 70 million by mid-2031. The different net migration levels assumed in the high migration and low migration variants (±100,000 per year) lead to a variation after 25 years of ±2.7 million people – or, in relative terms, a 7% difference between the low migration and high migration variant.

The 2018-based projections for population growth are lower than the previous, 2016-based projections. This is despite the fact that ONS revised their projected net migration levels upwards, from 165,000 per year to 190,000 per year. This increase was offset by changes to assumptions about fertility and life expectancy. As a result of all the changes made, the projected population in 2043 fell from 73.3m to 72.4m.

Net migration accounts for most of projected population growth

The projected population increase can be broken down into three components: the natural change that would occur in the absence of net migration during the projection period (zero net migration variant); the direct contribution of post–2018 net migration (i.e. the number of individuals who will migrate to the UK minus the number of those who will leave the country); and the indirect contribution of post–2018 net migration, i.e. its effect on natural change.

Over the next decade, the UK population is projected to rise both because of positive natural change and because of positive net migration. However, in the absence of further net migration, ONS projects that natural change (i.e. births minus deaths) would be negative after 2028, and that over the next 25 years to 2043, the population would slightly decline.

In the principal projection the cumulative net inflow of new migrants after 2018 accounts for 73% of total population growth by 2028, and 84% by 2043. If one also includes in the calculation the impact of future migration on births and deaths, the total contribution of migration (direct plus indirect) is slightly higher, at 79% by 2028 and 86% by 2043.
Scotland’s and Wales’ population would decline without future migration

Demographic and migration trends differ considerably across the four UK constituent nations, and future population scenarios reflect these differences. According the principal projection, England will experience by far the largest population growth (+10% over the next 25 years). Northern Ireland and Scotland are projected to have a slower rate of increase at 5.7% and 2.5% respectively. However, the population of Wales is projected to decline by 1%. In England and Wales, net international migration is projected to make the largest contribution to population change over the next 25 years (+ 8% and +5%, respectively). Scotland would experience considerable population decline (-8%) in the absence of net international migration or ‘cross-border migration’ from other parts of the UK, and it is also the nation that receives the highest percentage population growth as a result of net cross-border migration (Figure 3).

In contrast, in Northern Ireland (which has the highest fertility rate amongst UK nations), natural change without net migration is projected to be the main driver of future population trends (+4%).

Figure 3

Drivers of projected population growth, UK nations, 2018-2043 (% of pop. at start)

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<th>England</th>
<th>Scotland</th>
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<td>Net cross-border migration</td>
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Source: Office for National Statistics, Subnational population projections: 2018-based

Evidence gaps and limitations

Population projections are not forecasts, i.e. they do not attempt to predict the impact of changes in the political, economic, social and cultural realm which may affect demographic patterns and trends. They are in general purely mechanical calculations that show the outcomes of sets of assumptions made for the three components of demographic change (fertility, mortality and migration). Projections are typically reliable for the short to medium term, but uncertainty increases the further they are carried forward in time. Any upward or downward changes in fertility, mortality and migration assumptions, compounded over time, can lead to significant variations in the projected population size and structure.
Future international migration is more difficult to project than fertility and mortality because migration flows are often affected by sudden changes in economic, social, or political factors which are hard to predict or quantify – as exemplified by the sharp decline of immigration to the UK in 2011-12 resulting from both the restrictions introduced by the 2011–12 immigration reform and the unfavourable economic climate. Migration assumptions are therefore the major source of uncertainty for long-term population projections, particularly in demographic regimes such as the UK which are characterised by below replacement fertility and low mortality levels.

In order to reflect the information provided by the most recently observed demographic trends, assumptions of future levels of fertility, mortality and migration are continually updated in subsequent revisions of population projections. In particular, the high volatility of recent migration inflows and outflows has resulted in sizeable revisions of future migration assumptions made in different sets of population projections released throughout the 1990s and 2000s. In the 1994-based principal projection net migration was assumed to return to zero in the long-term, reflecting the balance between immigration and emigration proximate to zero observed during the 1980s and early 1990s. As a result, the size of the UK population was projected to peak at 61 million in 2023 and then start to decrease (Figure 4).

In the subsequent sets of projections, upward revisions of assumed net migration levels were introduced to reflect the rapid increase in migration flows to and from the UK – and due to some improvement in survey coverage and procedural changes in the estimation of long-term flows. As a result of these adjustments, projected population growth rates have also progressively increased: in the latest revision (2018-based) the projected size of the UK population in 2031 is around 9 million higher than in projections produced in the mid–early 1990s. Increases in net migration assumptions were the main drivers of the higher projected demographic growth rates in most subsequent revisions, while changes in fertility and mortality assumptions have been comparatively less significant. However in projections released from the second half of the 2000s net migration assumptions were subject to less sizeable adjustments (in the range 165–200K), resulting in rather similar population trajectories.

The ONS does not attempt to model the impact of policy changes when setting its migration assumptions, and thus current projections do not reflect a prediction about how Brexit might affect international migration. However, it is possible that further revisions will be made to the assumptions as we come to know more about post-Brexit migration patterns.
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References

The Migration Observatory

Based at the Centre on Migration, Policy and Society (COMPAS) at the University of Oxford, the Migration Observatory provides independent, authoritative, evidence-based analysis of data on migration and migrants in the UK, to inform media, public and policy debates, and to generate high quality research on international migration and public policy issues. The Observatory’s analysis involves experts from a wide range of disciplines and departments at the University of Oxford.

COMPAS

The Migration Observatory is based at the Centre on Migration, Policy and Society (COMPAS) at the University of Oxford. The mission of COMPAS is to conduct high quality research in order to develop theory and knowledge, inform policy-making and public debate, and engage users of research within the field of migration.

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