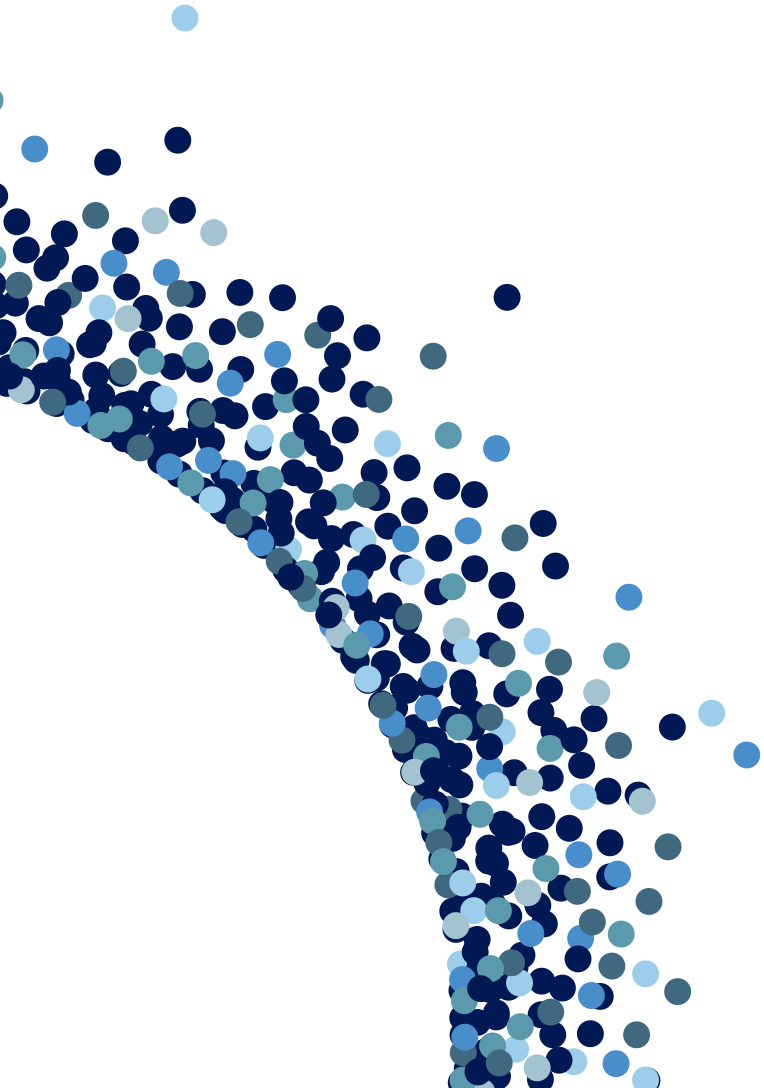
THE MIGRATION OBSERVATORY
AT THE UNIVERSITY OF OXFORD

BRIEFING

The Impact of Migration on UK Population Growth



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PUBLISHED: 27/02/2023
NEXT UPDATE: 24/02/2025

6th Revision

COMPAS Centre on Migration, Policy & Society

UNIVERSITY OF OXFORD

www.migrationobservatory.ox.ac.uk

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 (57%) of the increase of the UK population between 1992 and 2020 was due to the direct contribution of net migration.

Official figures project that the growth in the UK's population will be slower over the next 25 years than in the previous 25 years. The UK's population is projected to grow to approximately 72m by 2045.

Without net immigration, populations in Scotland and Wales would experience population decline without future net migration.

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.

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). 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. For example, 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. 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 usually revised every two years by updating base-year population estimates and assumptions underlying future demographic dynamics so as to reflect the latest available information. The Covid-19 pandemic disrupted the usual schedule and publications, however.

The most recent full set of projections—including variants to assess the impact of higher or lower net migration—used mid-2018 as the beginning of the projection period. In these projections, 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. 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.

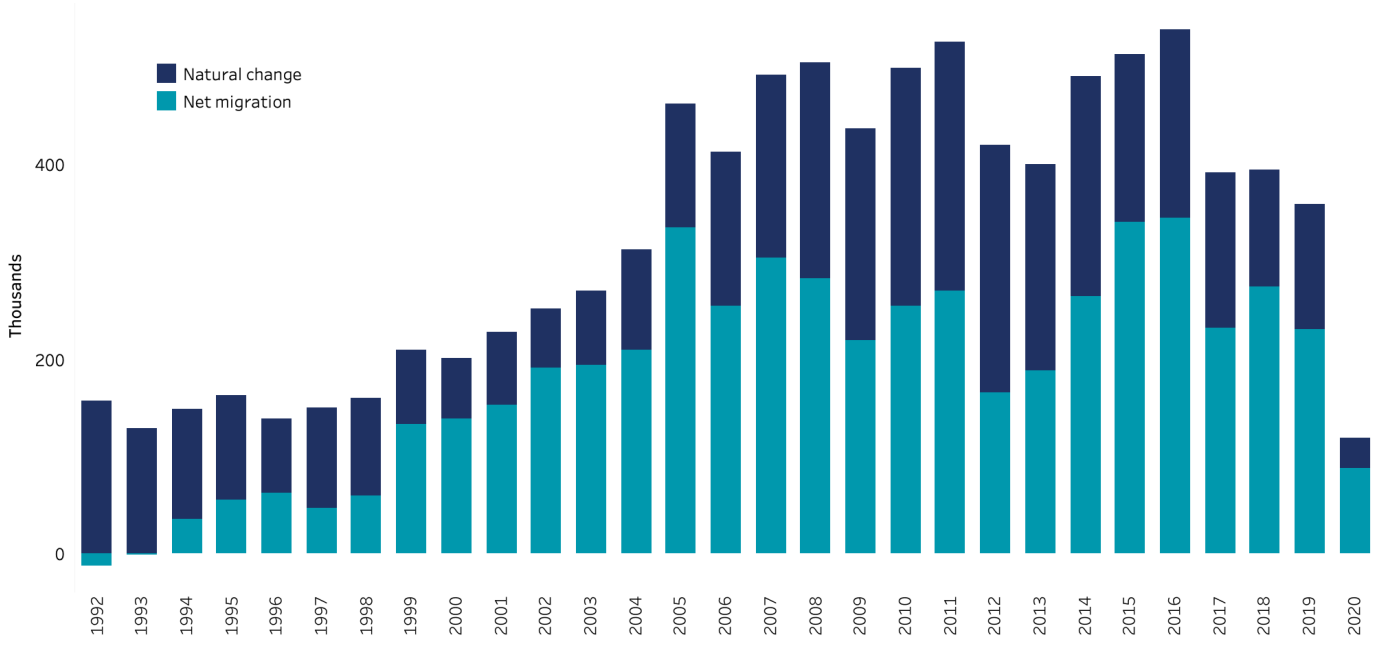
In 2022, the ONS published updated projections based on 2020 data, but did not include any variants. It then updated this 2020-based projection in light of unexpectedly high net migration estimates, publishing a new projection in January 2023. This most recent principal projection assumes that net migration will level off at 245,000 per year from 2026-7 onwards. This figure represents the estimated 22-year average net migration preceding the most recent projection. The net migration assumption was increased from 205,000 per year in the previous projection that was published in January 2022, following an ONS review of its methodology.

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 60% of population growth from 2001 to 2020. Natural change—i.e. the difference between the number of births and deaths—has remained positive throughout the last two decades, but has fallen since 2011.

Figure 1

Annual population change
Contribution of net migration and natural change: 1992-2020



Source: Office for National Statistics, mid-2020 population estimates

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. That is, 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 2021, 28.8% of births in the UK were to non-UK born mothers. 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 just below 'replacement rate', and stood at 2.03 in 2021. This compared to 1.54 for UK-born women. Note that these figures include non-UK born women regardless of how long they have lived in the UK.

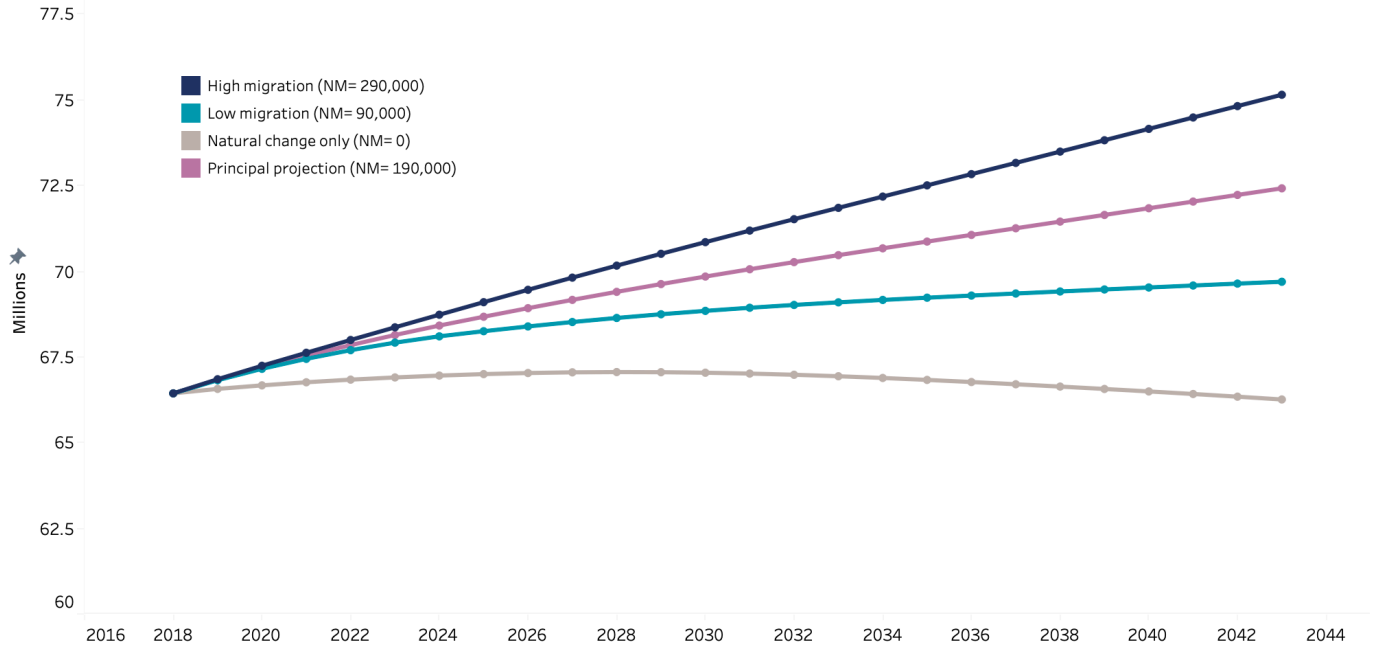
The UK population is projected to grow to approximately 72.4 million by mid-2045

The most recent population figures from the Office for National Statistics projected that the UK population would grow to 72.4m by mid-2045. They assumed that net migration would average 245,000 in the long term, starting from mid-2027, i.e. a decline from the unusually high net migration levels seen immediately after the pandemic. The projected rate of growth in the coming 25 years (5.4m or 8.0%) was slower than the rate of growth seen in the previous 25 years from mid-1995 to mid-2020 (9.1m or 15.6%). Under this projection, the UK population would reach 70 million by mid-2031.

Figure 2 shows how sensitive the projected size of the UK population is to different assumptions about net migration. It does this by using the earlier, 2018-based ONS projections, which included variant projections for different levels of net migration. After 25 years, the UK population would be 9% lower if net migration was zero, compared to the 2018-based principal projection which put net migration at 190,000 per year. Under the high migration variant (i.e. 290,000 per year), the UK population would be 4% higher than if net migration had averaged 190,000.

Figure 2

Projected UK population: 2018-2044



Source: Office for National Statistics, 2018-based population projections

The projected population increase from the 2018-based projections 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.

The UK population was projected to rise both because of positive natural change and because of positive net migration. However, in the absence of further net migration, ONS projected that natural change (i.e. births minus deaths) would be negative after 2028, and that by 2043, the population would slightly decline.

In the principal projection, the cumulative net inflow of new migrants after 2018 accounted 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 2030 and 86% by 2045.

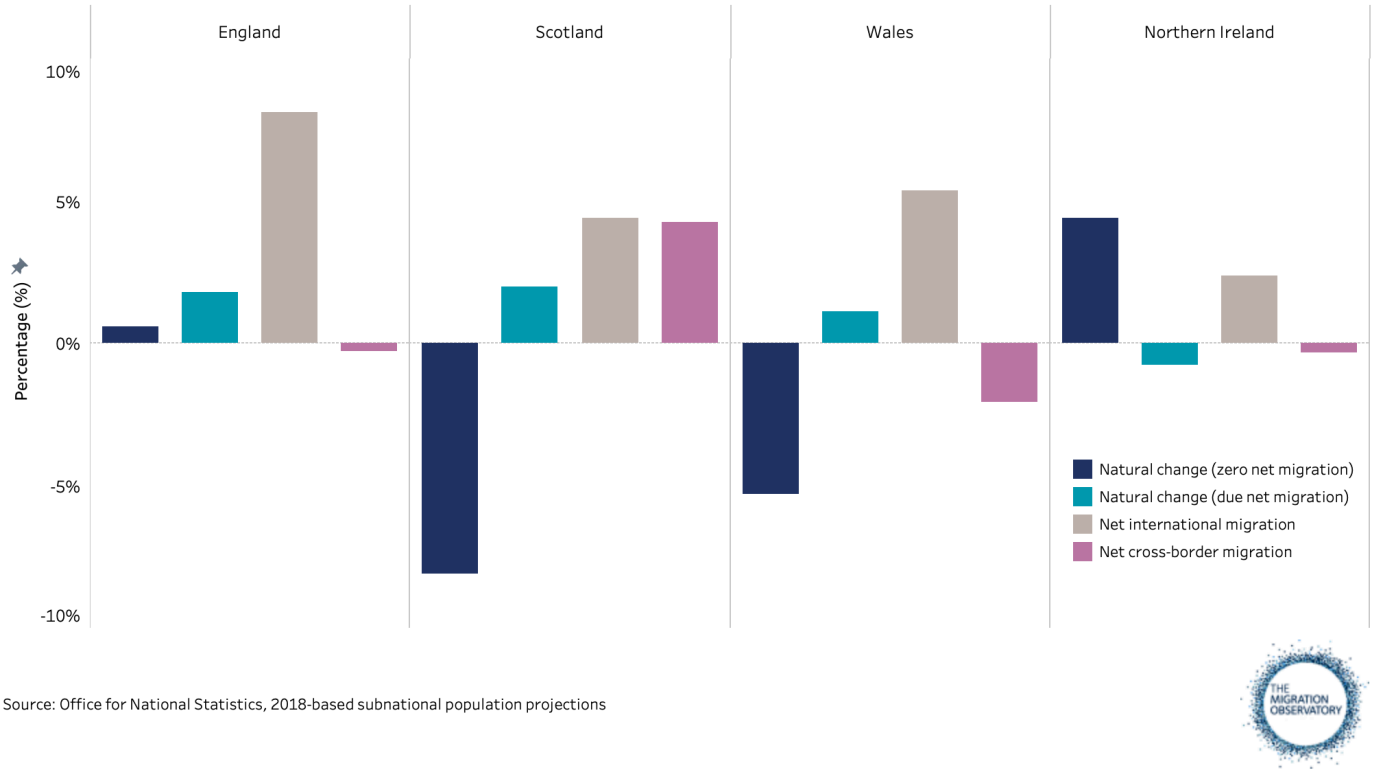
Scotland and Wales would experience population decline without future net migration

Demographic and migration trends differ considerably across the four UK constituent nations, and future population scenarios reflect these differences. According the ONS principal projection published in January 2023, England would experience the fastest population growth, at 9% over the next 25 years. Wales and Scotland were projected to have slower rates of increase, at 5% and 1% respectively.

To understand the impacts of net migration, we must return to the 2018-based population projections (Figure 3). In England and Wales, net international migration was projected to make the largest contributions to population change by 2043 (+ 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. 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 initial population



Source: Office for National Statistics, 2018-based subnational population projections

Evidence gaps and limitations

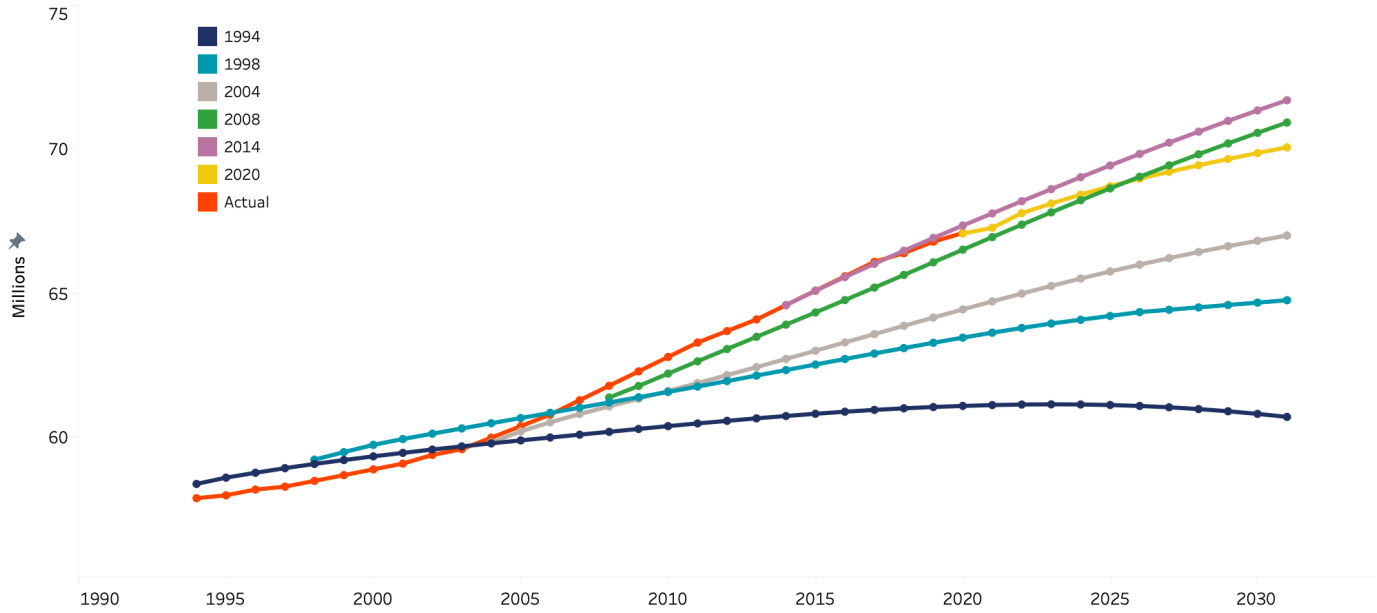
Population projections are not forecasts. They do not attempt to predict the impact of changes in the political, economic, social and cultural realm which may affect demographic patterns and trends. They are usually purely mechanical calculations that show the outcomes of sets of assumptions made for the three components of demographic change (fertility, mortality and migration). Projections are typically reliable for the short to medium term, with the exception of periods of shock such as the Covid-19 pandemic. Uncertainty increases the further the projections 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 increase in net migration in 2021-2022 following the war in Ukraine and the emergence from the Covid-19 pandemic. 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. This has resulted in sizeable revisions 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).

Figure 4

Projected UK population, principal variant
Selected base years, 1994-2020



Source: Office for National Statistics, principal population projections, mid-2020

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. As a result, projected population growth rates have also increased. In the latest revision (2020-based, published January 2023) the projected size of the UK population in 2031 was around 9 million higher than in projections produced in the mid-early 1990s.

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 current policy will affect future net migration.

Acknowledgements

*Thanks to **Zachary Strain-Fajth** and **Mihnea Cuibus** for research assistance with the 2023 update of this briefing.*

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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Recommended citation

Cangiano, A. (2023) *The Impact of Migration on UK Population Growth.* Migration Observatory briefing, COMPAS, University of Oxford