

National population projections, migration assumptions: 2022-based

The data sources and methodology used to produce migration assumptions in the 2022-based national population projections.

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Table of contents

1. [Main points](#)
2. [Overview of migration assumptions](#)
3. [International migration assumptions for the principal projection](#)
4. [International migration assumptions for variant projections](#)
5. [Age and sex profiles for international migration assumptions](#)
6. [Cross-border migration](#)
7. [Principal, cross-border migration, and variant charts for England](#)
8. [Principal, cross-border migration, and variant charts for Wales](#)
9. [Principal, cross-border migration, and variant charts for Scotland](#)
10. [Principal, cross-border migration, and variant charts for Northern Ireland](#)
11. [Data sources and quality](#)
12. [Related links](#)
13. [Cite this methodology](#)

1 . Main points

- The migration assumptions are not a forecast or prediction of future migration levels; they should be interpreted as a potential scenario in which future net international migration averages at a certain level.
- Net international migration in the UK is projected to reach an annual average of positive 340,000 from year ending (YE) mid-2028 onwards (the principal long-term international migration assumption).
- For the years to mid-2024 the latest estimates of international migration have been used, including the latest provisional estimate for mid-2024 (net migration of positive 728,000 for the UK), after which short-term assumptions are effective for the YE mid-2025, mid-2026 and mid-2027.
- Four variant projections have been produced to show what might happen to the UK population if international migration is higher, lower, if there is a faster decline in net migration based on the types of migration over recent years, and if there is no international or internal migration (from the base year); these are all compared with the principal assumption.
- We used a 10-year average of international migration (for the 10 years ending mid-2023) to set the principal long-term international migration assumption.

2 . Overview of migration assumptions

This methodology gives detailed information on the international migration assumptions used in the 2022-based national population projections (NPPs). The international migration assumption used in the 2022-based NPPs assumes that net international migration to the UK remains constant at positive 340,000 per year from the year ending (YE) mid-2028 onwards. This is referred to as the "long-term assumption".

Demographic behaviour, and migration in particular, are inherently uncertain and complex. It is not possible to predict future migration trends and we do not attempt to do this. The migration assumptions should therefore not be seen as forecasts, but as scenarios where future long-term net migration averages at a certain level.

Further information on our methodology can be found in our [National population projections, background, methodology and assumption setting: 2022-based methodology](#). Further information on variant projections can be found in our [National population projections, variant projections: 2022-based methodology](#).

Definition of international migration in the national population projections

The NPPs define migration using the United Nations (UN) definition of a long-term international migrant as someone who has moved to a country other than their usual country of residence for a period of 12 months or more.

The NPP long-term migration assumptions do not include short-term international migrants under the UN definition (that is, those who move to or leave the UK for less than 12 months).

Long-term and short-term international migration assumptions

Migration assumptions in NPPs are split into long-term and short-term assumptions. Long-term assumptions take effect from six years into the projection period, from the YE mid-2028 onwards. Short-term assumptions take effect from the start of the projections period up to and including the YE mid-2027.

For YE mid-2023 and YE mid-2024, these are based on the latest estimates that correspond with our [Long-term international migration, provisional: year ending June 2024 bulletin](#).

For YE mid-2025 to YE mid-2027, the short-term assumptions are produced using a linear interpolation that links the first provisional mid-2024 migration estimate to the long-term assumption in YE mid-2028.

3 . International migration assumptions for the principal projection

International migration assumptions are held constant from year ending (YE) mid-2028 onwards. These are referred to as long-term assumptions. Figure 1 shows that the UK long-term assumption for net international migration is positive 340,000 per year. This is from a projected immigration of 858,000 people per year and a projected emigration of 518,000 people per year. This assumption of positive 340,000 is from a 10-year average of the data up to and including mid-2023.

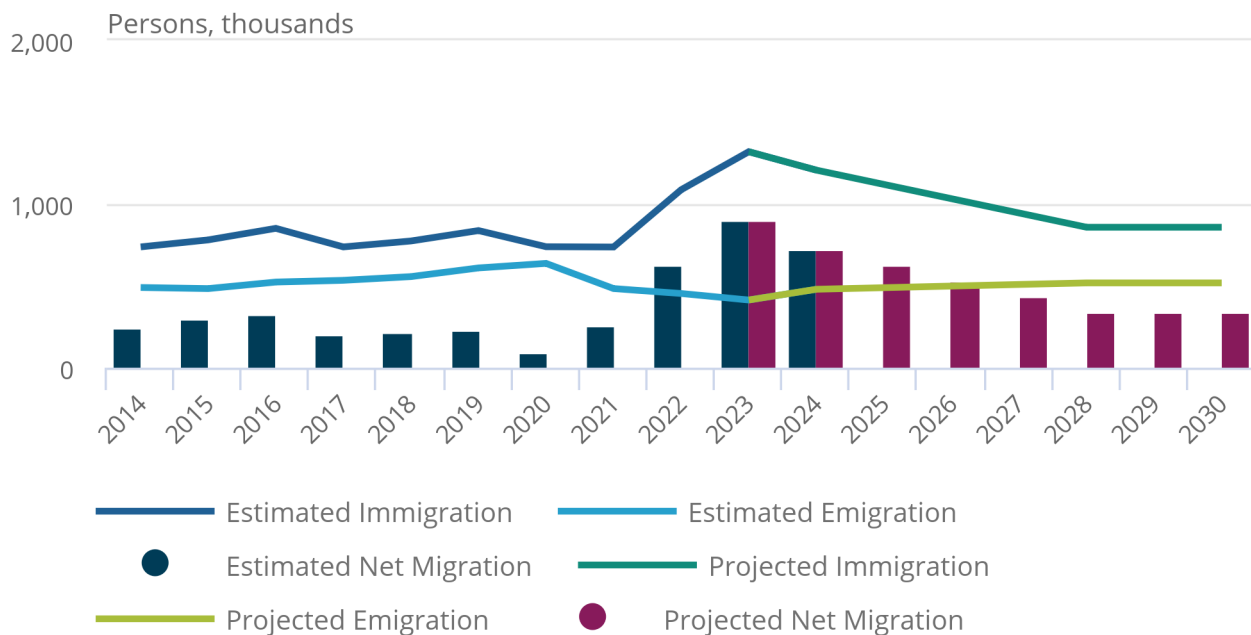
We compared results from experts' questionnaire responses on potential long-term levels of international migration achieved before we held two Migration Expert Advisory Panel meetings in June 2024 and November 2024. The year in which the long-term assumption takes effect was guided by experts' views on potential international migration in 2026 and 2029, and their overall views that they provided in the panel meetings on the use of a linear interpolation. For more information on the expert panels, see [Section 11: Data sources and quality](#).

Figure 1: International net migration to the UK is assumed to be constant at positive 340,000 from the YE mid-2028 onwards

Estimated and projected total international migration, UK, year ending (YE) mid-2014 to YE mid-2030

Figure 1: International net migration to the UK is assumed to be constant at positive 340,000 from the YE mid-2028 onwards

Estimated and projected total international migration, UK, year ending (YE) mid-2014 to YE mid-2030



Source: National population projections from the Office for National Statistics, National Records of Scotland (NRS) and Northern Ireland Statistics and Research Agency (NISRA)

Notes:

1. Our international migration statistics are [official statistics in development](#). This means estimates may be updated as improvements are introduced.

Figure 1 also shows UK short-term assumptions from mid-2023 to mid-2027. The short-term assumptions include a linear interpolation from YE mid-2024 (UK net international migration of 728,000) to the start of the long-term assumption from YE mid-2028 onwards. We based the length of this interpolation and the year in which the start of the long-term assumption takes effect on advice about expected levels of international migration in 2026 and 2029 from our Migration Expert Advisory Panel.

There has been a decrease in estimated net migration in the latest provisional estimate to YE mid-2024. However, this decline may not necessarily continue at the same pace or with consistency over time.

Table 1 shows international net migration at the UK level and for England, Scotland, Wales, and Northern Ireland. The short-term assumption from 2023 is shown with the long-term assumption of net international migration beginning in YE mid-2028.

Table 1: International migration assumptions (net migration)
By UK country, year ending mid-2023 onwards

Years ending mid-	UK	England	Scotland	Wales	Northern Ireland
2023 (estimate and short-term assumption)	906,000	809,200	58,900	30,300	7,600
2024 (latest provisional estimate and short-term assumption)	728,000	651,400	48,900	21,800	5,900
2025 (short-term assumption)	630,900	565,500	41,500	18,700	5,200
2026 (short-term assumption)	533,800	479,600	34,100	15,600	4,500
2027 (short-term assumption)	436,700	393,700	26,700	12,500	3,800
2028 (long-term assumption)	340,000	308,000	19,500	9,500	3,000

Source: National population projections from the Office for National Statistics, National Records of Scotland (NRS) and Northern Ireland Statistics and Research Agency (NISRA)

Notes

1. Figures may not add exactly because of rounding.
2. Our international migration statistics are official statistics in development. This means estimates may be updated as improvements are introduced.
3. Long-term assumptions are rounded to the nearest 5,000 (UK) and 500 (UK countries).
4. Data for mid-2023 for Scotland are from NRS.
5. Data for mid-2023 and mid-2024 for Northern Ireland are from NISRA.
6. Data for England and Wales for mid-2023 to mid-2024 have been disaggregated from UK-level estimates.

4 . International migration assumptions for variant projections

Long-term variant assumptions

In addition to the principal projection, we developed four variant assumptions for international migration:

- high migration
- low migration
- migration category variant
- zero net migration

These variants show what could happen to international migration over the projection period and the resulting population projections if international migration is higher or lower than the principal assumption. Variant projections and the outcomes from these for the projected UK population are shown in our [National population projections, variant projections: 2022-based methodology](#).

Assumptions for high migration and low migration variant projections

High and low long-term variant international migration assumptions are only based on expert advice provided through November 2024. This included consideration of the latest data from our [Long-term international migration, provisional: year ending June 2024 bulletin](#).

The long-term high migration variant for the UK is positive 525,000 net migration. The low migration variant for the UK is positive 120,000 net migration. These figures were collected before our Migration Expert Advisory Panel meeting in November 2024 and are based on the latest data.

In comparison, the principal long-term migration projection is positive 340,000 net migration.

Assumptions for zero net migration variant projections

The zero net migration variant includes zero net international and internal (within UK) migration. Zero for both is assumed from the base year onwards. This allows us to project population change in the absence of any international or internal migration.

Assumptions for migration category variant projections

When estimated international migration is relatively high, there is a higher degree of uncertainty in the short term, including around potential future levels of emigration. This methodology includes specific migration category variant assumptions. The resulting projections show what could happen in the future from change in international migration, based on different types of immigration in the years leading up to the latest data point.

This method has been developed over the last few years as an alternative for examining the potential implications for emigration and net migration that result from different types of immigration.

Further information on the method can be found in the University of Oxford's [Why are the latest net migration figures not a reliable guide to future trends? report](#). This type of method has also been used by the Office for Budget Responsibility, as described in their [Net migration forecast and its impact on the economy report](#).

The variant is based on the type of immigration and whether those who have arrived on different types of visa stay in the UK. It has a short-term profile, which has a steeper decline than the linear interpolation in our principal projection. The immigration path leading to the net migration shown in Figure 2 reflects:

- the recent rise in immigration, especially among students, which may lead to higher emigration and therefore lower net migration in the short term
- potential implications of immigration policy changes

Comparing all variant assumptions

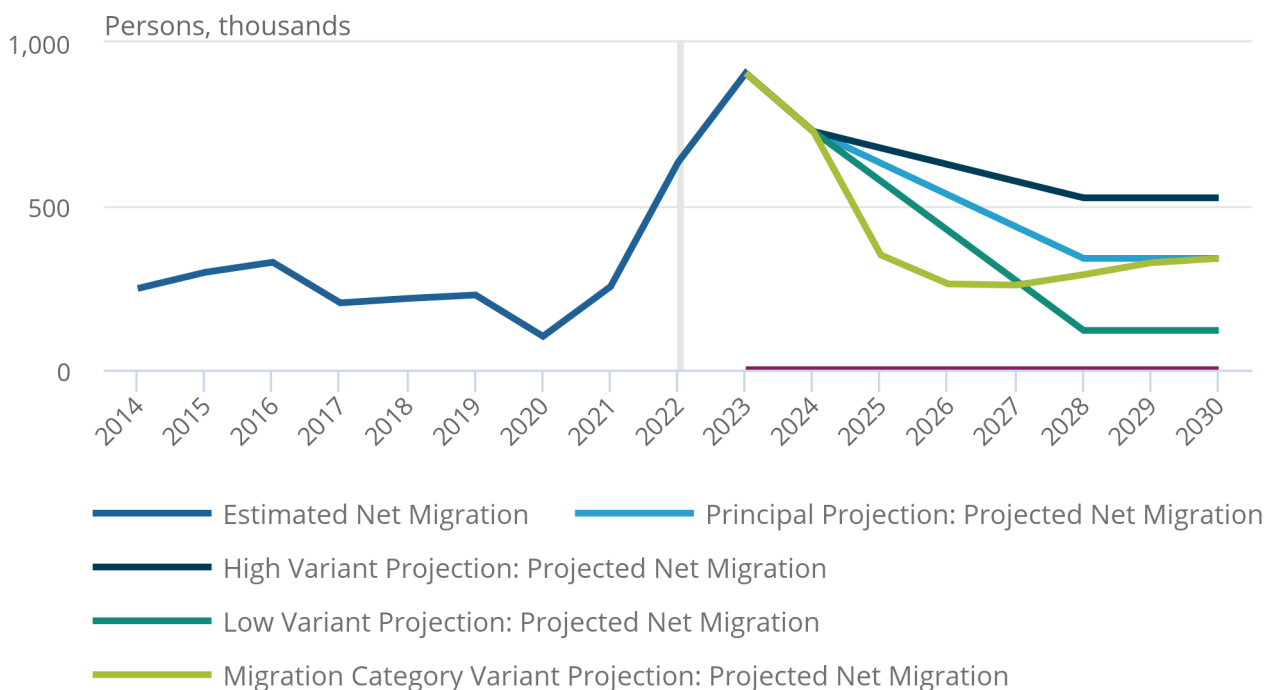
Figure 2 shows the UK-level net international migration principal assumptions, variant assumptions, and the historic timeseries of migration estimates. Under all assumptions, it is assumed that net migration will decline in the long-term from the latest provisional estimate for mid-2024.

Figure 2: The variant international migration assumptions provide a range of alternative migration scenarios

Net international migration estimates, principal and variant migration assumptions, UK, year ending (YE) mid-2014 to YE mid-2030

Figure 2: The variant international migration assumptions provide a range of alternative migration scenarios

Net international migration estimates, principal and variant migration assumptions, UK, year ending (YE) mid-2014 to YE mid-2030



Source: National population projections from the Office for National Statistics

Notes:

1. Long-term assumptions are rounded to the nearest 5,000 (UK) and 500 (UK countries).
2. Our international migration statistics are [official statistics in development](#). This means estimates may be updated as improvements are introduced.

Table 2 shows the international migration variant assumptions for the UK and its constituent countries. For the low and high international migration variant assumptions, we used a linear interpolation to join the latest provisional estimate for mid-2024 and the long-term assumption. This is in line with our principal projection and the general views from our Migration Expert Advisory Panel Meetings.

Table 2: High migration variant, low migration variant and principal international migration assumptions, long-term (net migration)

By UK country, year ending mid-2028 onwards

	Low	Principal	High
England	108,500	308,000	476,500
Wales	3,500	9,500	14,500
Scotland	7,000	19,500	29,000
Northern Ireland	1,000	3,000	5,000
UK	120,000	340,000	525,000

Source: National population projections from the Office for National Statistics

Notes

1. Figures are rounded to the nearest 5,000 (UK) and 500 (UK countries).

5 . Age and sex profiles for international migration assumptions

We have applied age and sex profiles to the international immigration and emigration assumptions in each year of the projections period. These generate to single year of age and sex distributions, which are both input and output from the national population projections (NPP) system. We have used the five-year period ending in mid-2022 to derive the single year of age and sex international immigration, emigration and resulting net migration for the assumptions in the NPPs.

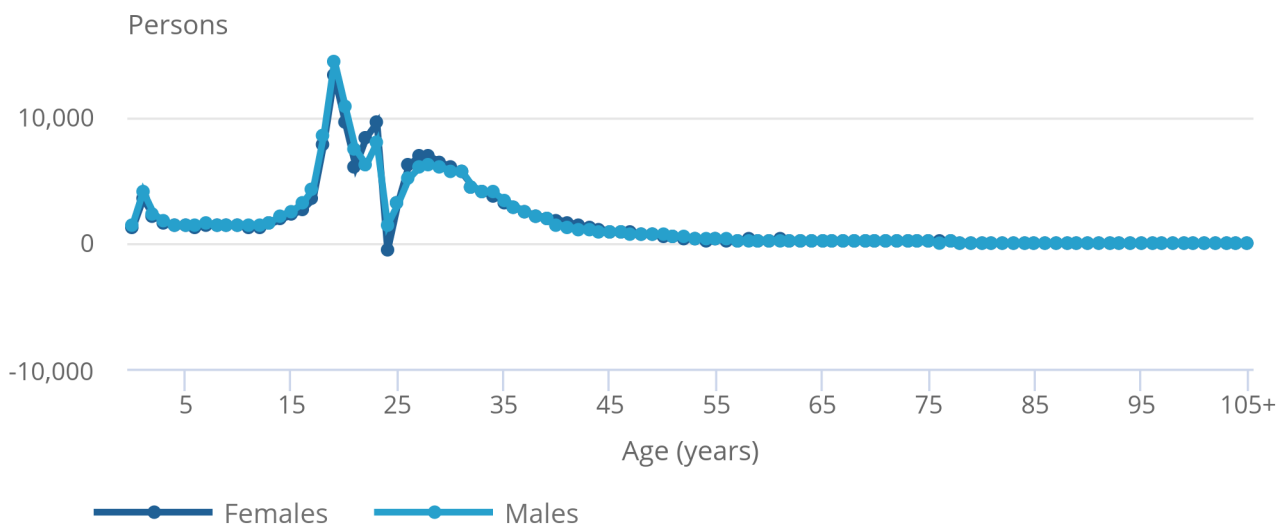
There has been substantial change in international migration over recent years. This has been reflected in the age and sex profiles of international immigration and emigration. The migration component within the NPP system has become larger over recent projections, as the long-term assumption has increased. Figure 3 shows the single year of age and sex long-term assumptions for net migration for males and females. The full details of the age and sex distribution of international migration assumptions in the NPPs can be found in our accompanying machine-readable datasets.

Figure 3: Age and sex assumptions for international migration assumptions, long-term

Long-term assumptions for net international migration by single year of age and sex, UK

Figure 3: Age and sex assumptions for international migration assumptions, long-term

Long-term assumptions for net international migration by single year of age and sex, UK



Source: National population projections from the Office for National Statistics, National Records of Scotland (NRS) and Northern Ireland Statistics and Research Agency (NISRA)

Notes:

1. Our international migration statistics are [official statistics in development](#). This means estimates may be updated as improvements are introduced.

6 . Cross-border migration

Cross-border migration is the movement of any people between the four constituent countries of the UK. Cross-border migration assumptions are set as rates calculated using five years of historical data. They are applied to the population of each UK country to calculate how many people are moving to a different UK country for each year in the projection.

The main advantage of applying rates for cross-border migration is that migrant flows are linked to the changing underlying population size and age structure. This means that the projection cannot produce implausible values, like negative population stocks.

The methodology for producing cross-border migration rates in the national population projections (NPPs) is explained in more detail in our [Method for incorporating cross-border migration rates into the UK NPPs report \(PDF, 399KB\)](#). Cross-border migration is calculated using data from the mid-year population estimates.

The following sections explain the principal, high, low, and migration category variants, along with cross-border migration at the country level.

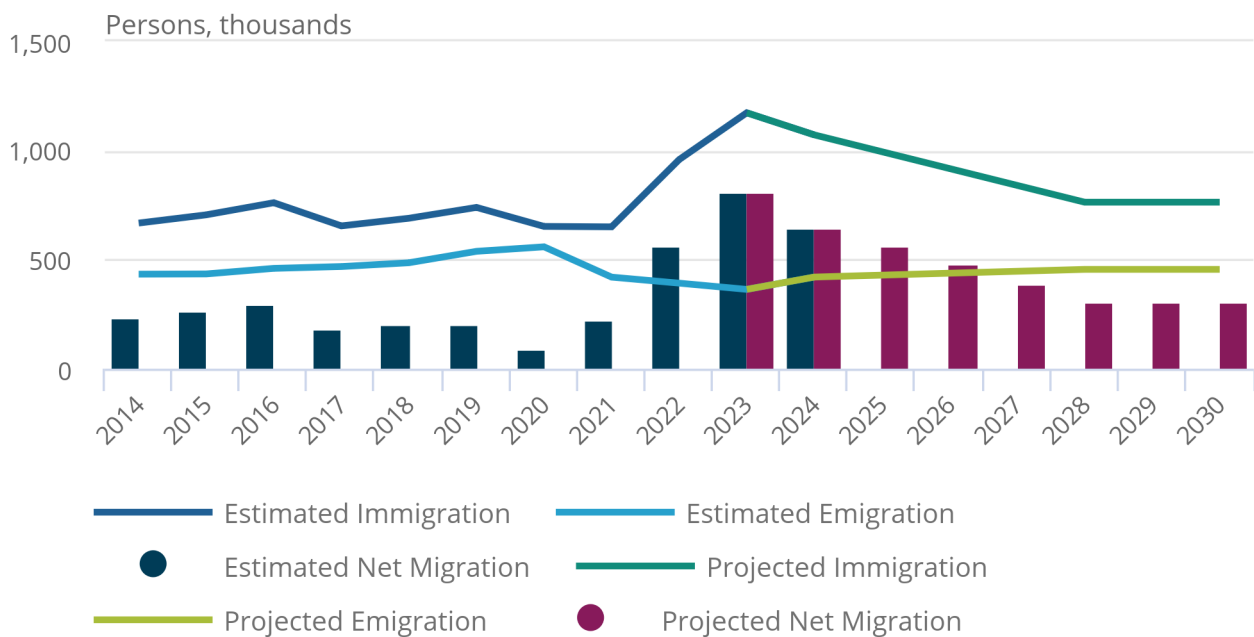
7 . Principal, cross-border migration, and variant charts for England

Figure 4: In the principal projection, annual net international migration to England is assumed to be positive 308,000 from the YE mid-2028 onwards

Estimated and projected total international migration, England, year ending (YE) mid-2014 to YE mid-2030

Figure 4: In the principal projection, annual net international migration to England is assumed to be positive 308,000 from the YE mid-2028 onwards

Estimated and projected total international migration, England, year ending (YE) mid-2014 to YE mid-2030



Source: National population projections from the Office for National Statistics

Notes:

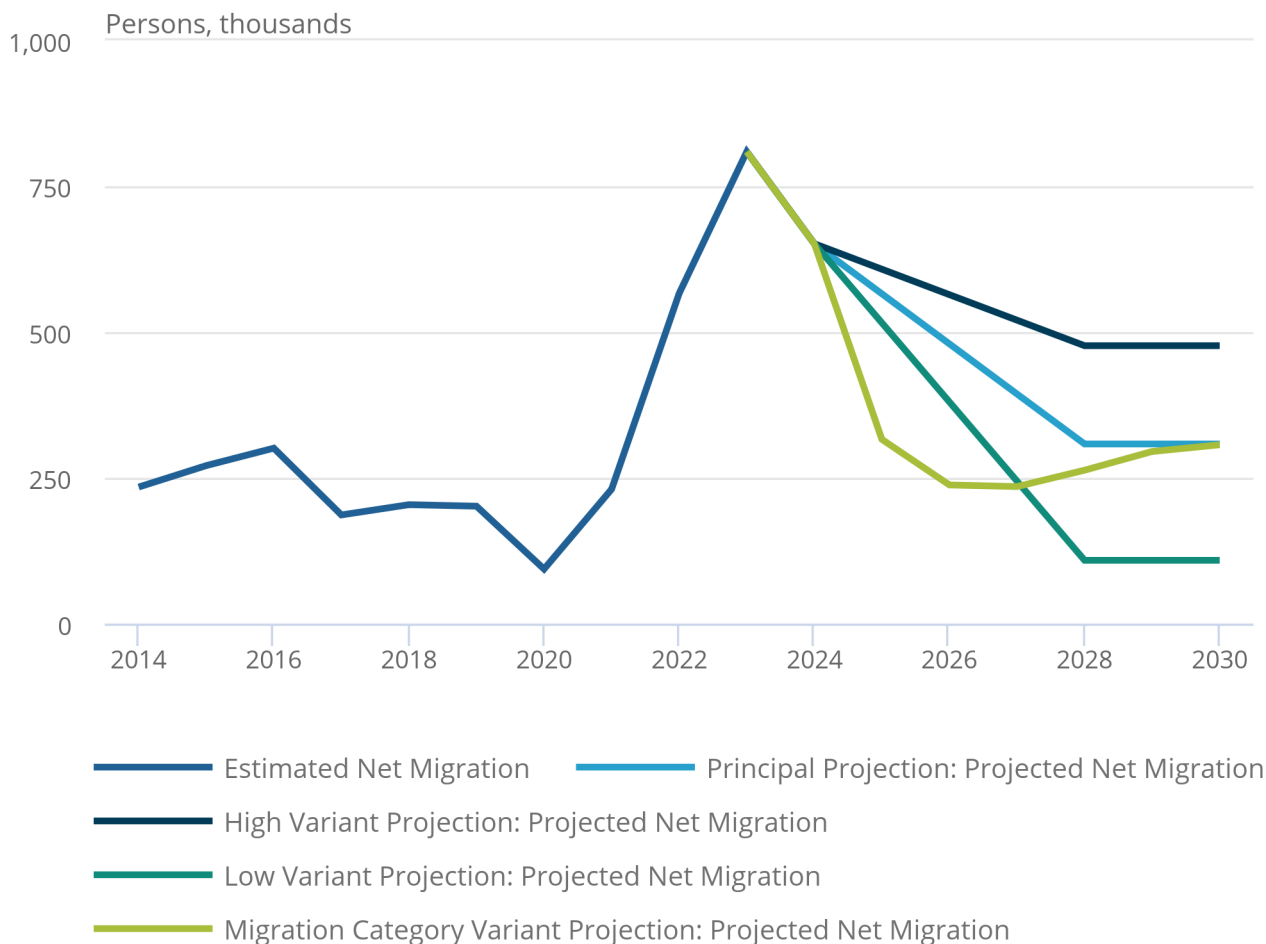
1. Estimates of international migration for mid-2023 and mid-2024 are provisional and will be updated when more complete data are available.

Figure 5: Annual net migration to England is assumed to be positive 476,500 in the high migration variant from the YE mid-2028 onwards and assumed to be positive 108,500 in the low variant

Estimated and projected total international migration, England, year ending (YE) mid-2014 to YE mid-2030

Figure 5: Annual net migration to England is assumed to be positive 476,500 in the high migration variant from the YE mid-2028 onwards and assumed to be positive 108,500 in the low variant

Estimated and projected total international migration, England, year ending (YE) mid-2014 to YE mid-2030



Source: National population projections from the Office for National Statistics

Notes:

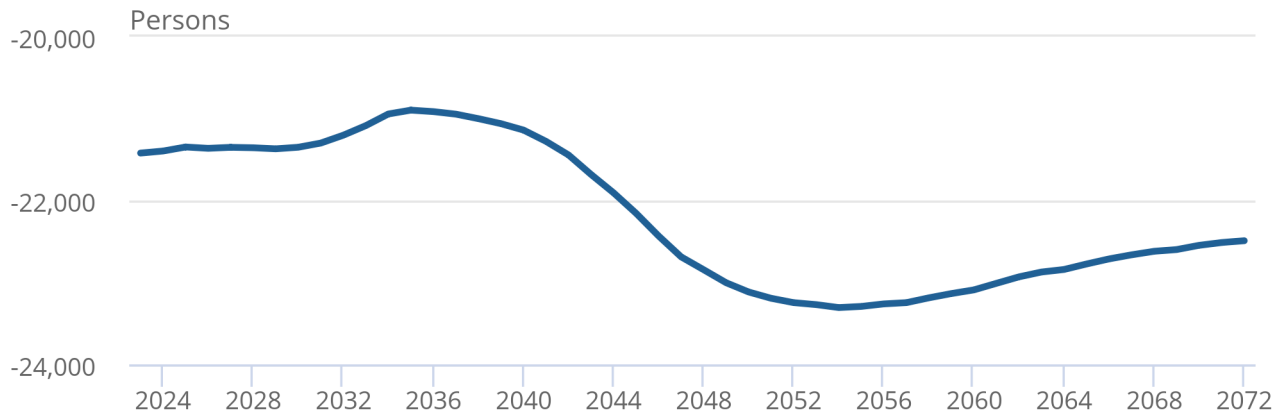
1. Estimates of international migration for mid-2023 and mid-2024 are provisional and will be updated when more complete data are available.

Figure 6: Projected net cross-border migration for England used in the 2022-based national population projections

Cross-border net migration assumptions, England, year ending (YE) mid-2023 to YE mid-2072

Figure 6: Projected net cross-border migration for England used in the 2022-based national population projections

Cross-border net migration assumptions, England, year ending (YE) mid-2023 to YE mid-2072



Source: National population projections from the Office for National Statistics

Notes:

1. Cross-border migration is migration between the UK constituent countries.

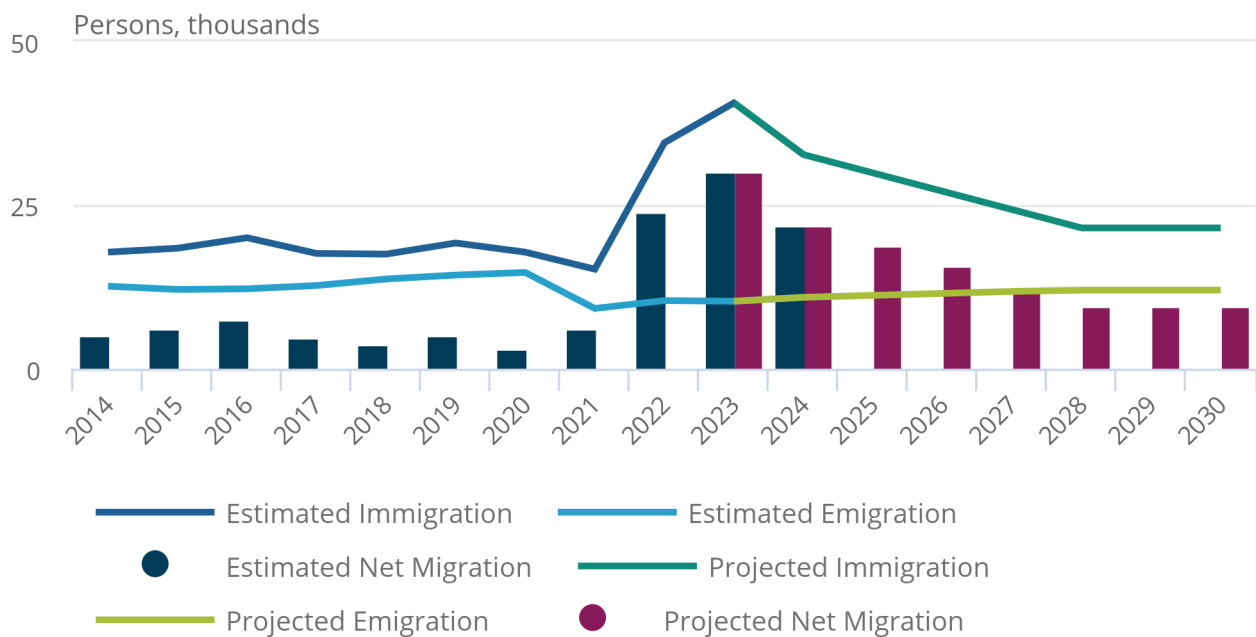
8 . Principal, cross-border migration, and variant charts for Wales

Figure 7: Annual net international migration to Wales is assumed to be positive 9,500 from the YE mid-2028 onwards

Total international migration, Wales, year ending (YE) mid-2014 to YE mid-2030

Figure 7: Annual net international migration to Wales is assumed to be positive 9,500 from the YE mid-2028 onwards

Total international migration, Wales, year ending (YE) mid-2014 to YE mid-2030



Source: National population projections from the Office for National Statistics

Notes:

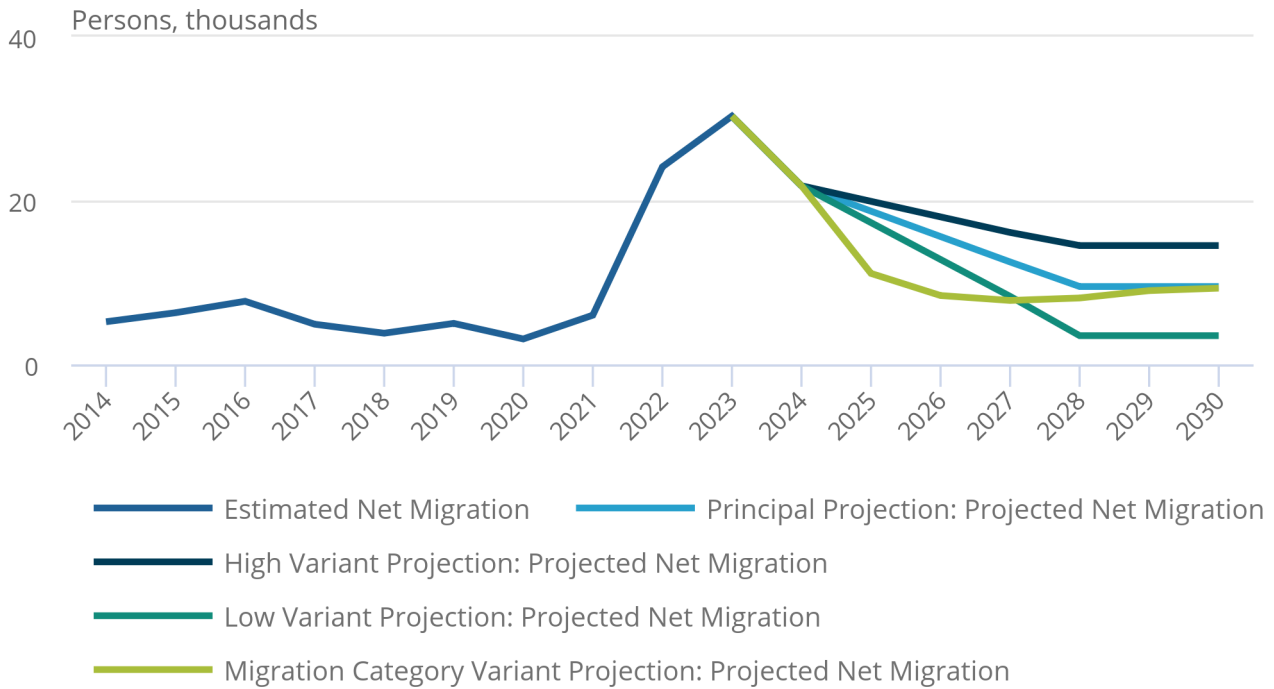
1. Estimates of international migration for mid-2023 and mid-2024 are provisional and will be updated when more complete data are available.

Figure 8: Annual net migration to Wales is assumed to be positive 14,500 in the high migration variant from the YE mid-2028 onwards and assumed to be positive 3,500 in the low variant

Estimated and projected total international migration, Wales, year ending (YE) mid-2014 to YE mid-2030

Figure 8: Annual net migration to Wales is assumed to be positive 14,500 in the high migration variant from the YE mid-2028 onwards and assumed to be positive 3,500 in the low variant

Estimated and projected total international migration, Wales, year ending (YE) mid-2014 to YE mid-2030



Source: National population projections from the Office for National Statistics

Notes:

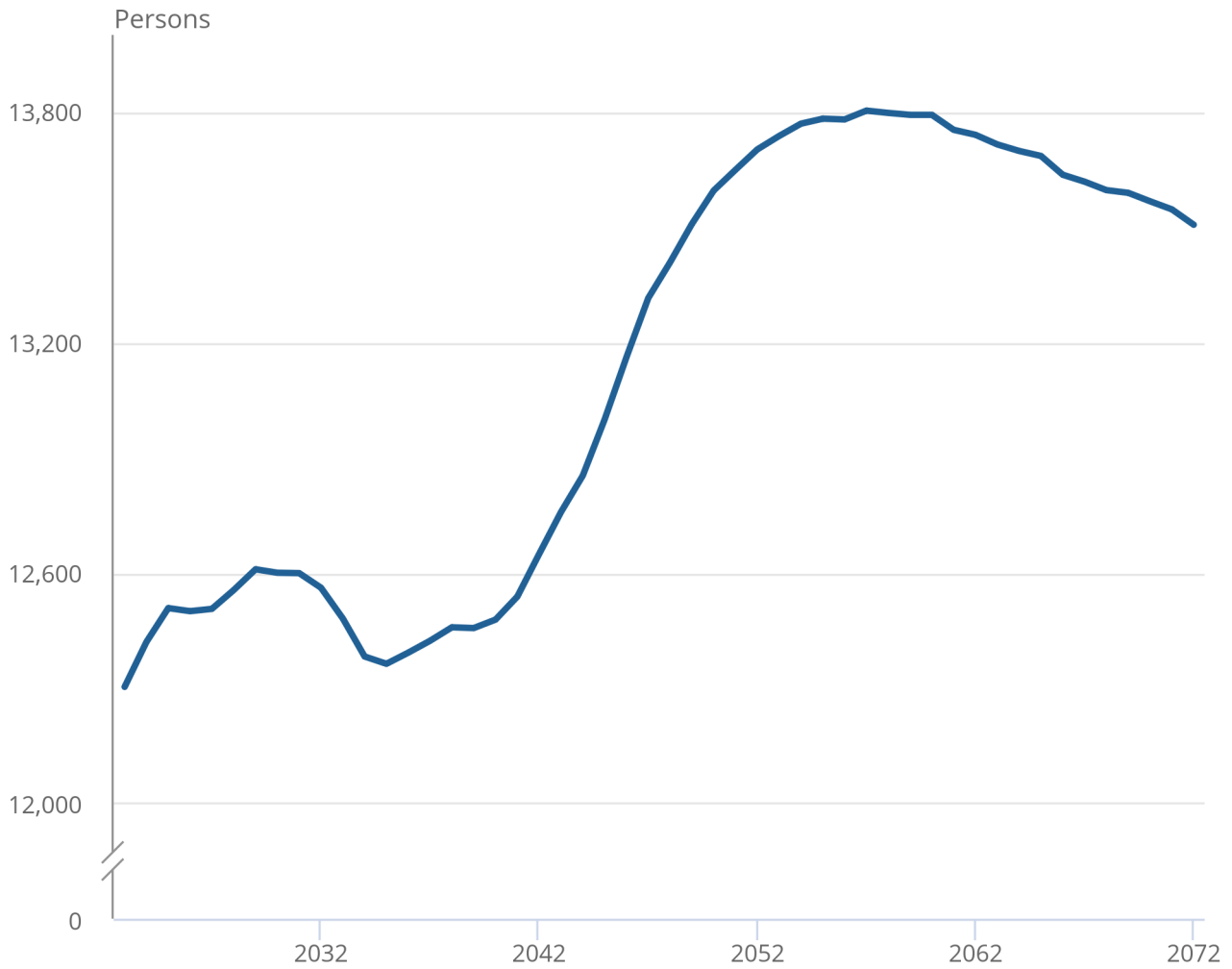
1. Estimates of international migration for mid-2023 and mid-2024 are provisional and will be updated when more complete data are available.

Figure 9: Projected net cross-border migration for Wales used in the 2022-based national population projections

Cross-border net migration assumptions, Wales, year ending (YE) mid-2023 to YE mid-2072

Figure 9: Projected net cross-border migration for Wales used in the 2022-based national population projections

Cross-border net migration assumptions, Wales, year ending (YE) mid-2023 to YE mid-2072



Source: National population projections from the Office for National Statistics

Notes:

1. Cross-border migration is migration between the UK constituent countries.

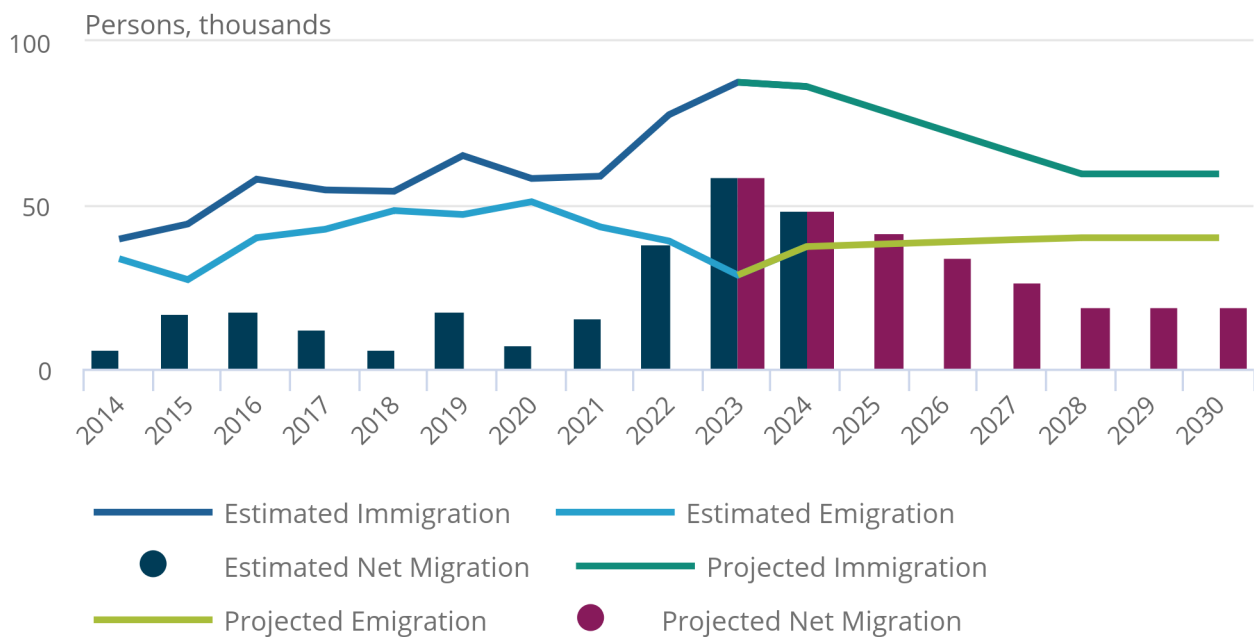
9 . Principal, cross-border migration, and variant charts for Scotland

Figure 10: Annual net international migration to Scotland is assumed to be positive 19,500 from the YE mid-2028 onwards

Total international migration, Scotland, year ending (YE) mid-2014 to YE mid-2030

Figure 10: Annual net international migration to Scotland is assumed to be positive 19,500 from the YE mid-2028 onwards

Total international migration, Scotland, year ending (YE) mid-2014 to YE mid-2030



Source: National population projections from the Office for National Statistics and National Records of Scotland (NRS)

Notes:

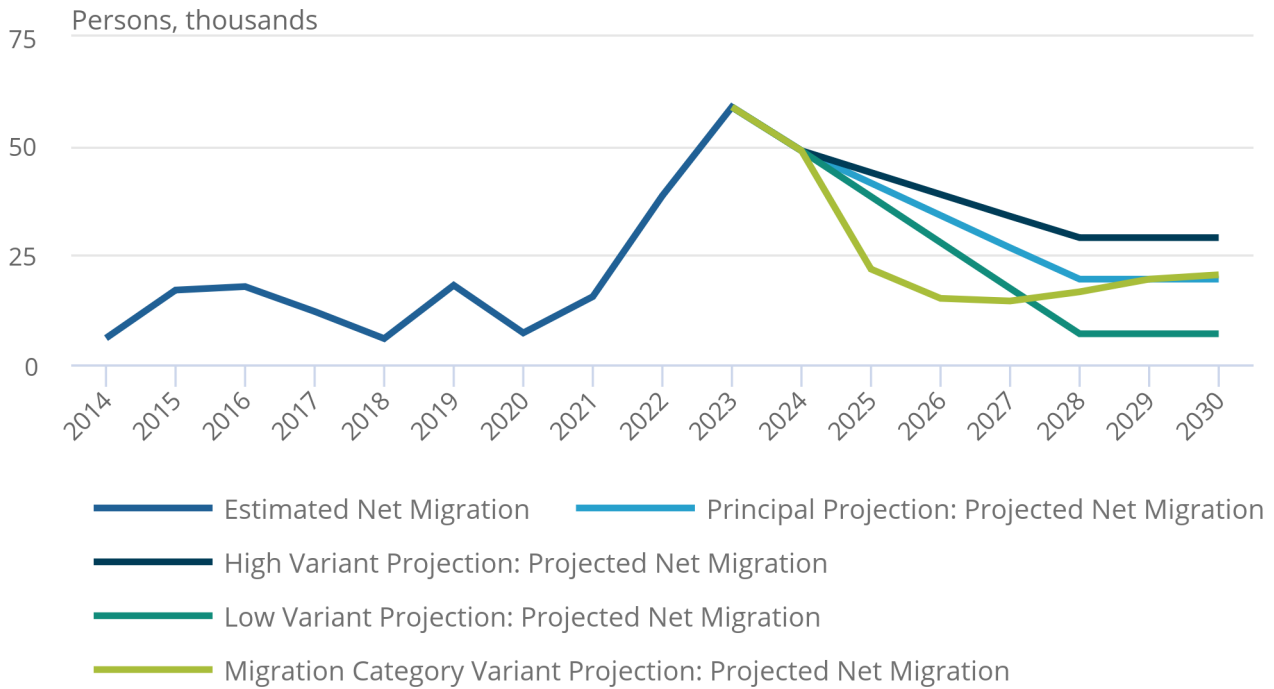
1. Estimates of international migration for mid-2023 and mid-2024 are provisional and will be updated when more complete data are available.

Figure 11: Annual net migration to Scotland is assumed to be positive 29,000 in the high migration variant from the YE mid-2028 onwards and assumed to be positive 7,000 in the low variant

Estimated and projected total international migration, Scotland, year ending (YE) mid-2014 to YE mid-2030

Figure 11: Annual net migration to Scotland is assumed to be positive 29,000 in the high migration variant from the YE mid-2028 onwards and assumed to be positive 7,000 in the low variant

Estimated and projected total international migration, Scotland, year ending (YE) mid-2014 to YE mid-2030



Source: National population projections from the Office for National Statistics and National Records of Scotland (NRS)

Notes:

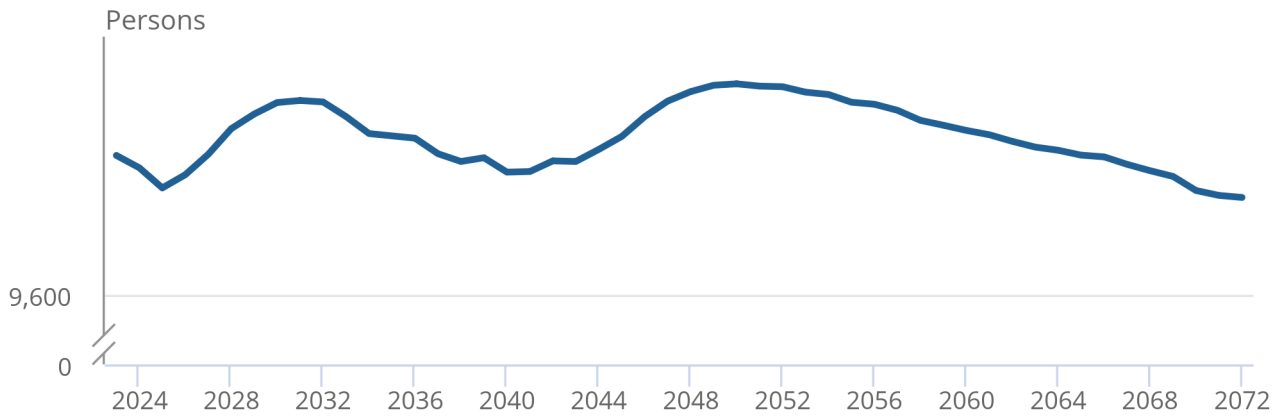
1. Estimates of international migration for mid-2023 and mid-2024 are provisional and will be updated when more complete data are available.

Figure 12: Projected net cross-border migration for Scotland used in the 2022-based national population projections

Cross-border net migration assumptions, Scotland, year ending (YE) mid-2023 to YE mid-2072

Figure 12: Projected net cross-border migration for Scotland used in the 2022-based national population projections

Cross-border net migration assumptions, Scotland, year ending (YE) mid-2023 to YE mid-2072



Source: National population projections from the Office for National Statistics

Notes:

1. Cross-border migration is migration between the UK constituent countries.

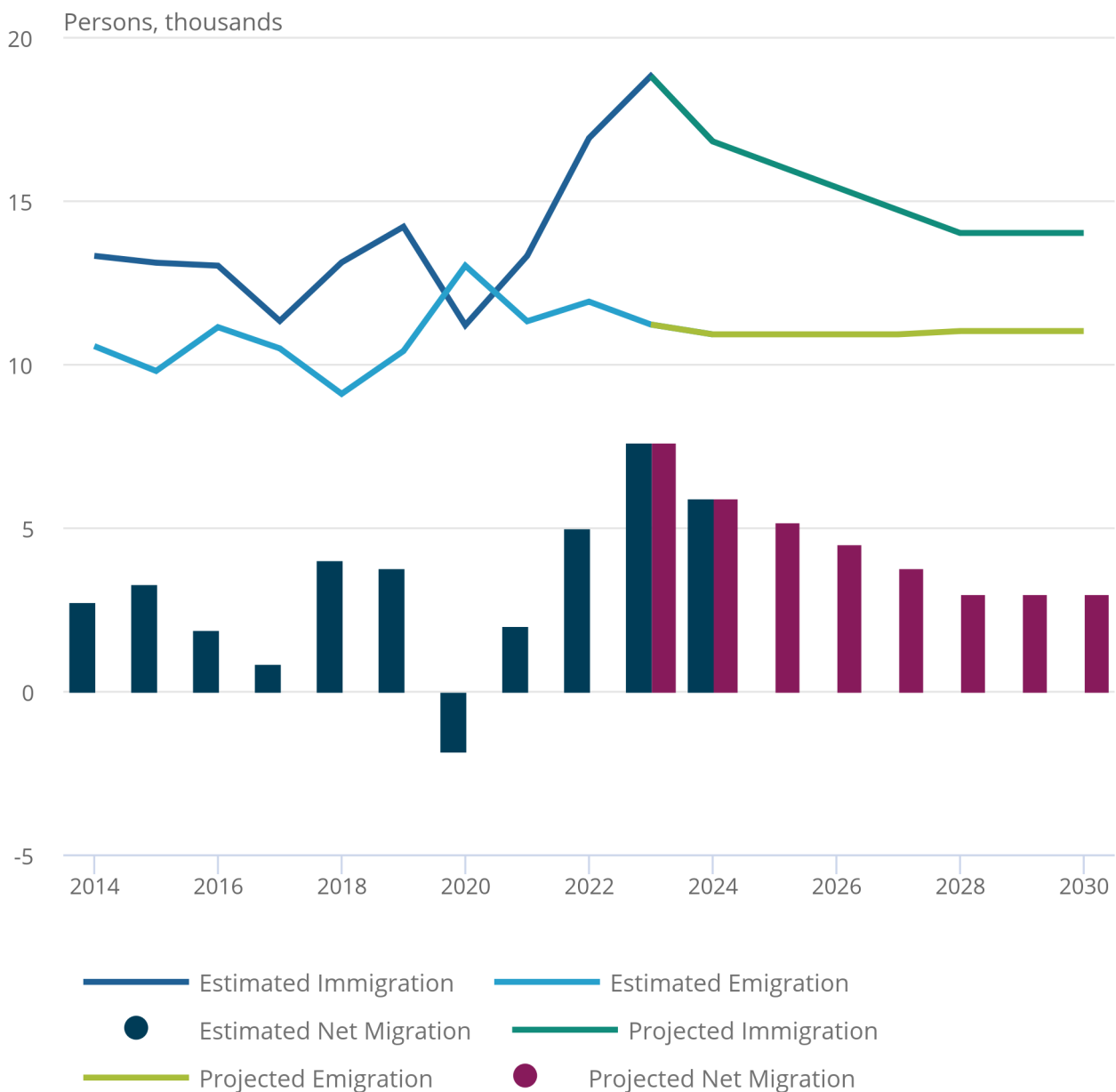
10 . Principal, cross-border migration, and variant charts for Northern Ireland

Figure 13: Annual net international migration to Northern Ireland is assumed to be positive 3,000 from the YE mid-2028 onwards in the principal projection

Estimated and projected total international migration, Northern Ireland, year ending (YE) mid-2014 to YE mid-2030

Figure 13: Annual net international migration to Northern Ireland is assumed to be positive 3,000 from the YE mid-2028 onwards in the principal projection

Estimated and projected total international migration, Northern Ireland, year ending (YE) mid-2014 to YE mid-2030



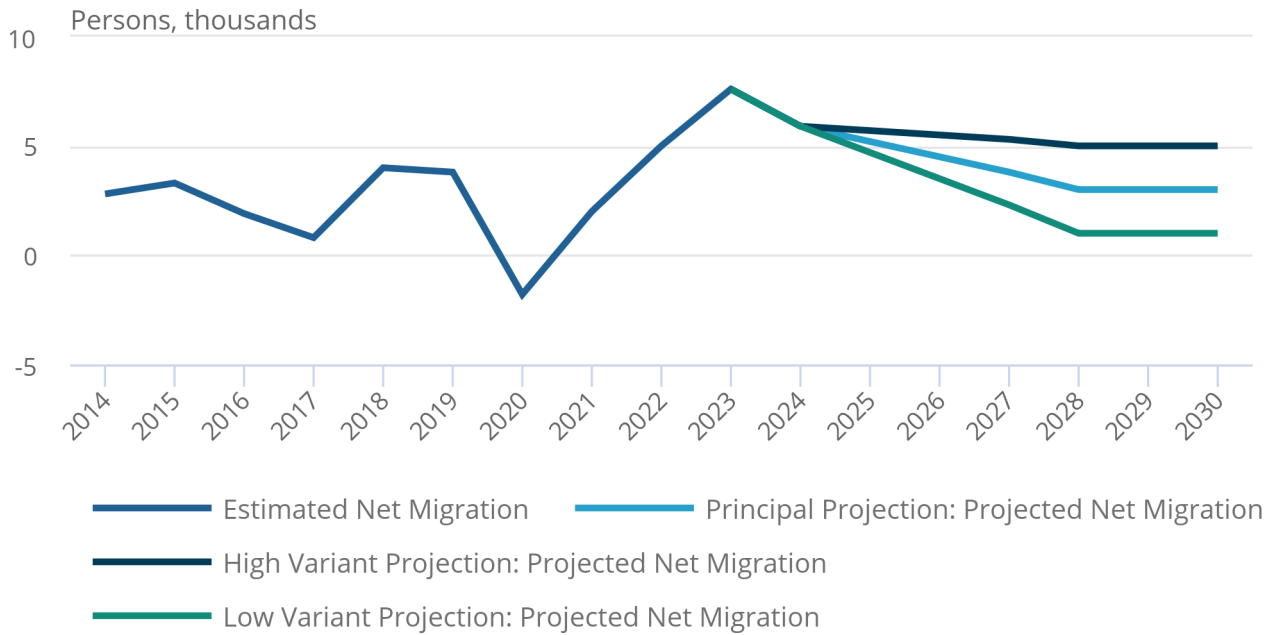
Source: National population projections from the Office for National Statistics and Northern Ireland Statistics and Research Agency (NISRA)

Figure 14: Annual net migration to Northern Ireland is assumed to be positive 5,000 in the high migration variant from the YE mid-2028 onwards and assumed to be positive 1,000 in the low variant

Total international migration, Northern Ireland, year ending (YE) mid-2014 to YE mid-2030

Figure 14: Annual net migration to Northern Ireland is assumed to be positive 5,000 in the high migration variant from the YE mid-2028 onwards and assumed to be positive 1,000 in the low variant

Total international migration, Northern Ireland, year ending (YE) mid-2014 to YE mid-2030



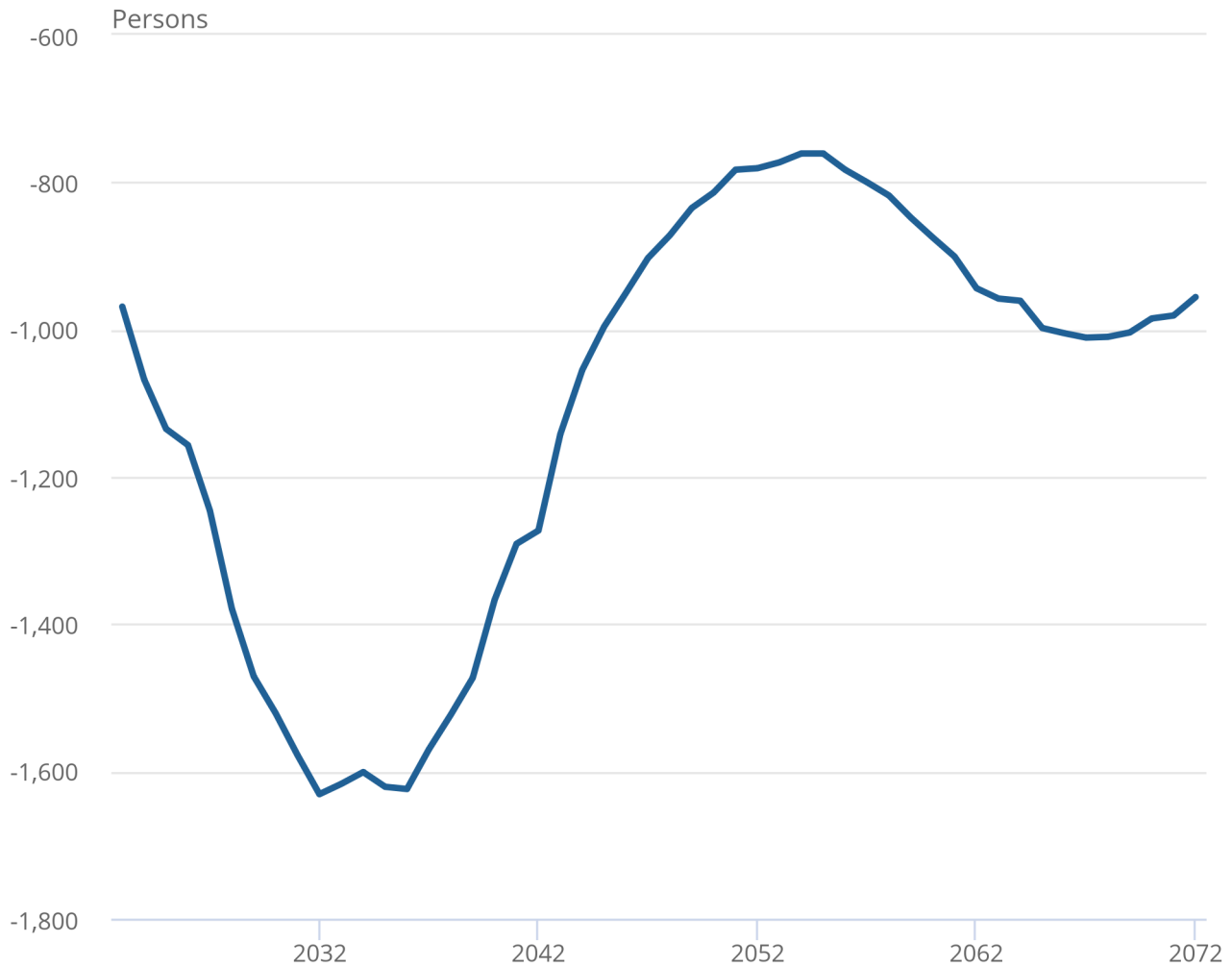
Source: National population projections from the Office for National Statistics and Northern Ireland Statistics and Research Agency (NISRA)

Figure 15: Projected net cross-border migration for Northern Ireland used in the 2022-based national population projections

Cross-border net migration assumptions, Northern Ireland, year ending (YE) mid-2023 to YE mid-2072

Figure 15: Projected net cross-border migration for Northern Ireland used in the 2022-based national population projections

Cross-border net migration assumptions, Northern Ireland, year ending (YE) mid-2023 to YE mid-2072



Source: National population projections from the Office for National Statistics

Notes:

1. Cross-border migration is migration between the UK constituent countries.

11 . Data sources and quality

Expert advisory panels

We convened two Migration Expert Advisory Panels on 26 June 2024 and 18 November 2024 to receive advice and feedback on future migration and help with the development of our assumptions.

Experts were granted access to unpublished migration data from our [Long-term international migration, provisional: year ending June 2024 release](#) ahead of the November 2024 meeting. This access was requested by the Head of Population and Household Projections at the Office for National Statistics (ONS), to ensure assumptions developed were of the highest possible quality and to expedite the production process. For quality assurance purposes, the ONS Statistical Head of Profession approved this pre-release access to the expert advisory panel members who were invited to take part. Minutes for both panel meetings are available on request by emailing pop.info@ons.gov.uk.

Our data and methodology have evolved since our 2020-based principal projection release, published in January 2022. Since this release, we now use the latest available admin-based international migration data in the projections, including where these exist beyond the base year.

Latest estimates for mid-2023 and mid-2024

International migration statistics for England and Wales in this methodology were derived from total UK international migration. These differ from other official statistics on international migration for England and Wales. Where available, we have used corresponding estimates from the Northern Ireland Statistics and Research Agency (NISRA) and National Records of Scotland (NRS) for these years.

Asylum, refugee, and Vulnerable Persons Resettlement Schemes

These projections include people who migrated to the UK as refugees or through the Vulnerable Persons Resettlement Scheme in the years ending mid-2023 and mid-2024 and before. This is because the admin-based migration estimates, which are available for these years, include this type of migration. However, the migration assumptions in the principal projection do not attempt to separately project these types of migration, because they project based on assumed levels of future migration overall.

Armed forces resettlement

Short-term assumptions no longer account for the return of UK armed forces personnel and their dependants because their return has been completed.

Age and sex of international migrants

We assume a fixed age and sex distribution for each UK country, which is consistent with our approach in previous national population projections (NPPs). This is based on an average derived from the latest five years of historical international migration data from the mid-year population estimates components of change for the corresponding country. We then apply this to the assumed immigration and emigration at each mid-year in the projections period.

Single year of age and sex statistics for immigration, emigration, and net migration can be found in our accompanying machine-readable datasets.

Cross-border migration

Cross-border migration (migration between UK constituent countries) is calculated using multiple data sources to derive five-year average rates by single year of age and sex. Data sources are the same as those used in our mid-year population:

- the Personal Demographics Service (2018 to 2022) for England and Wales
- the NHS Central Register for Scotland
- the Medical Card Register for Northern Ireland

Data sources

Our international migration statistics are official statistics in development. This means estimates may be updated as improvements are introduced. Revisions and updates made to migration estimates will be incorporated into future rounds of our NPPs. Data for Scotland and Northern Ireland are from NRS and NISRA.

12 . Related links

[National population projections: 2022-based](#)

Bulletin | Released 28 January 2025

The potential future population size of the UK and its constituent countries. These statistics are widely used in planning, including fiscal projections, health, education, and pensions.

[National population projections, background, methodology and assumption setting: 2022-based](#)

Methodology | Released 28 January 2025

Information on the data, methods and assumption-setting process used to produce the 2020-based interim national population projections.

[Long-term international migration, provisional: year ending June 2024](#)

Statistical bulletin | Released 28 November 2024

Estimates of UK long-term international migration, year ending June 2012 to year ending June 2024. These are official statistics in development. Long-term refers to people entering or leaving the UK for a period of at least 12 months.

13 . Cite this methodology

Office for National Statistics (ONS), released 28 January 2025, ONS website, methodology, [National population projections, migration assumptions: 2022-based](#)