

Provisional long-term international migration estimates: technical user guide

Methodology used to produce our provisional long-term international migration estimates.

Contact:
Migration Statistics team
pop.info@ons.gov.uk
+44 1329 444661

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1 . Overview

This guide provides detailed methodological information related to the data sources and methods used to estimate long-term international migration, including estimates for EU+, non-EU+ and British nationals. It can be referenced by technical users when using our statistics and will be updated following any method changes.

About our estimates

Our [Long-term international migration \(LTIM\) estimates](#) are currently published twice a year, at the end of May and at the end of November. We publish estimates of immigration, emigration and net migration for non-EU+, EU+ and British nationals, as well as further nationality breakdowns for immigration into and emigration out of the UK. Our latest estimates currently use different data sources and methods for each nationality grouping.

We define a long-term international migrant (applying the [United Nations definition](#)) as someone who changes their country of usual residence for 12 months or more, so that the destination country effectively becomes the country of usual residence. Our estimates are calculated for international migration within 12-month reference periods, for example year ending (YE) December 2023 covers international migration to and from the UK from 1 January 2023 to 31 December 2023.

LTIM statistics estimate migration to and from the UK using administrative data, supported by statistical modelling. We are transforming the way we produce migration statistics to make greater use of administrative data and have reclassified these as [official statistics in development](#), in line with the Office for Statistics Regulation (OSR) guidance. We are working towards these statistics to be classified as accredited official statistics.

The [latest available data](#) for long-term international migration provide migration estimates from 2012 to present. The latest published four data points are provisional.

While we know how many people have arrived or left, when producing provisional estimates (the latest of which is only five months after the reference period) we apply assumptions and adjustments based on historical data to account for not having 12 months of information on travel patterns to determine if a person is a long-term migrant.

For British nationals we forecast three or nine months to provide timely estimates based on available annual data for the latest year endings. These provisional estimates are updated when more data become available. For a preliminary estimate of uncertainty that arises from these adjustments, see our methodology, [Measuring uncertainty in international migration estimates](#).

2 . Method for non-EU+ estimates

Non-EU+ migration refers to the migration of people who do not hold British or EU+ nationality.

Data source

To produce our estimates of non-EU+ international migration, we use Home Office Borders and Immigration (HOBI) data. These are derived from a linked database that combines data from Home Office systems to build travel histories that consist of an individual's travel into or out of the UK, and data relating to their immigration status. For more information, see our article, [Long-term international migration: quality assuring administrative data](#).

Method

Organising the data

1. The HOBI data are filtered based on nationality to only include non-European Economic Area (EEA) nationals. Nationality is derived from an individual's most recent priority biographic record, for example, the latest passport swipe, their immigration record, or Advanced Passenger Information.
2. Those on Visit visas are filtered out as they are only eligible to stay in the UK for up to six months at a time.
3. Visa periods are constructed by linking together consecutive or concurrent visas. Short-term visas can be linked with long-term visas when forming visa periods. The most recent visa period is extended with visas not yet travelled on. Where there is a gap of more than seven days between visas, a new visa period is started. If an individual has a record of long-term travel outside the UK and has left for more than 12 months during a visa period, they will be counted as an emigrant and a new visa period is started on their next arrival.
4. The first arrival and last departure dates are identified using travel histories within a visa period. These are used as an approximation for length of stay in the UK. To estimate long-term international migration, this total length of stay must be over one year (365 days).
5. If either the first arrival or last departure information is missing (but not both), and there is evidence of future travel to or from the UK during their visa, visa start, or end dates are used as a proxy.
6. Any trips abroad over the course of a visa period are excluded when calculating total length of stay.

Creating the immigration and emigration estimates

1. After identifying the first arrival and last departure within a visa period, previous visa periods are examined to determine if this is a new long-term immigration or someone who has previously been in the country. If no presence in the country is identified during the 12 months preceding first arrival on a given visa, or the previous stay was for less than 12 months, this is considered a new long-term immigration. We exclude individuals from the immigration estimates if they have a missing first arrival and are either young children or travelling on [in-country 10 year family/private life visas](#).
2. For individuals whose first arrival occurred within the most recent 12 months (and therefore we are unable to say whether they will become a long-term migrant), their visa end date is used as a proxy for a future departure date. All individuals in this group are therefore initially counted as long-term immigrants.
3. Some individuals leave before their visa end date and therefore are not long-term immigrants. An [early leaver adjustment](#) is applied to account for not having data available showing evidence of 12 months in or out of the country, broken down by each visa type.
4. To estimate emigration, previous long-term immigrations to the UK who have a departure from the UK during the reference period are identified. We record them as a long-term emigration if they do not return to the UK within 12 months, or if they only return for a short-term stay of less than 12 months.
5. As this method is dependent on having a completed visa period to identify a departure, an [early exits adjustment](#) is applied for the most recent 12 months of the data extract to include individuals in our emigration estimate that have left the UK, not subsequently returned, and who have up to three months left on their visa.
6. For years prior to this 12-month period, the early exits adjustment includes individuals in the emigration estimate who have left the UK and not returned within 12 months or more, but still have a valid visa.
7. For the most recent 12 months, an [emigration re-arrivals adjustment](#) is applied where historical trends show that, on average, the proportion of re-arrivals are higher than the current proportion. This accounts for not having enough data to identify whether an individual who is observed to have departed the UK will become a long-term emigrant or will subsequently return within the next 12 months. If historical trends are, on average, below the current proportion of re-arrivals, then we do not apply an adjustment.
8. Reason for migration is estimated using the first visa type they were granted to enter the UK.

Assumptions and adjustments to produce provisional non-EU+ migration estimates

Assumptions included in the processing

Unmatched leave

Some individuals within HOBI data have travel information with no matched visa. These are either those with short visits which do not require a visa or those where the system has not matched the travel and visa information together. Those with visa information are linked in our system and included in our estimates and we remove those who should not be included.

Removing non-visa nationality events

HOBI data contain travel events where individuals have travelled to the UK without a visa as there are certain countries where travel is allowed for up to six months without a visa, for example: the United States, Australia and Mexico. Travel events within this category cannot represent an individual who has stayed for 12 months so all travel events within this category are excluded from immigration estimates.

Removing Visit visas

A Visit visa allows an individual to stay in the UK for a maximum of six months. Therefore, all instances of Visit visas are excluded from the estimates as it does not permit an individual to be within the UK for 12 months or more.

Using visa start and end dates as a proxy arrival or departure date

If either the first arrival or last departure information is missing in HOBI data and there is evidence of future travel into or out of the UK during their visa, visa start or end dates are used as a proxy. These dates can be missing if an individual travelled through the Common Travel Area or if there are instances of travel that have not successfully matched to a visa. If both the first arrival and last departure are missing, and there is no evidence of other travel information that we can use as proxy, we assume that the individual has not travelled to the UK or arrived on their visa.

Visa end dates beyond extract date

HOBI data are provided quarterly, spanning five years (the extract period). If an individual has a departure within the extract period but has a visa end date beyond the extract period, they have permission to return to the UK on this visa. Therefore, we use their visa end date as a proxy for a future departure date. We include these individuals within the immigration estimate, even if they have a departure within 12 months of their first arrival, until their visa end date has been reached and it can be confirmed that they have stayed in the UK for fewer than 12 months.

Adjustments to produce provisional estimates of migration

Immigration early leaver adjustment

For individuals whose first arrival occurred within the 12 months before the end of the data extract, not enough time has passed to identify a stay of 12 months or more. To account for this, the percentage of people who did not actually stay long-term for the previous year is used as a proxy. This percentage is applied to the final immigration estimate by reason for migration, nationality and age, as our research has shown that different groups exhibit different behaviours. This adjustment is frequently updated so for the most up to date assumptions, see our [International migration research, progress update series](#).

Emigration early exits adjustment

The “first arrival, last departure” emigration method is dependent on having a completed visa period within which to identify a last departure. Anyone who has valid leave to remain in the UK (meaning that their visa has not expired) at the end of the reference period is not counted as an emigrant, even if they left the UK over a year ago, as they could potentially return to the UK.

For the most recent 12-month reference period, we do not have enough data to see if an individual has left for 12 months or more and not returned. Therefore, we include individuals in the emigration estimate who have left the UK, not subsequently returned, and who have up to three months remaining on their visa.

For years prior to this period, when updating our estimates, we include individuals in the emigration estimate who have left the UK and not returned within 12 months or more, but still have a valid visa.

Any individuals that are assumed to be an early exit are removed from the immigration estimate if their length of stay is fewer than 12 months.

Emigration re-arrivals adjustment

For our most recent estimates, we do not have enough data to identify whether an individual, who is observed to have departed the UK, will become a long-term emigrant, or will subsequently return within the next 12 months and therefore should not be classified as a long-term emigrant. This could happen if someone were to go abroad on holiday towards the end of their current visa but return and switch to a new visa.

We take an average of how many departees in a reference period subsequently return within 12 months, using data from the previous three years; we then double weight the most recent year to better reflect current trends. For example, when producing our year ending (YE) December 2025 estimates, we use data from 2022, 2023 and 2024. Where this is higher than the current trends, we remove this percentage from the most recent emigration estimate as an adjustment. If the past trends are, on average, below the current proportion of re-arrivals, then we do not apply the adjustment.

3 . Method for EU+ estimates

EU+ migration refers to the migration of people who hold EU nationality. This is the sum of EU14, EU8, EU2, Norway, Iceland, Liechtenstein, and Switzerland, plus Malta, Cyprus and Croatia (from 1 July 2013).

Data source

To produce our estimates of EU+ international migration, we use the same data as we use for our non-EU+ estimates, Home Office Borders and Immigration (HOBI).

Method

Our EU+ migration methods can be broken down into two main components:

- EU+ migration estimates for those who travel on a visa
- EU+ migration estimates for EU+ nationals with status on the EU Settlement Scheme (EUSS)

An adjustment to account for Irish nationals is also created using the Department for Work and Pensions (DWP)'s Registration and Population Interactions Database (RAPID) as the HOBI data excludes Irish nationals because the Common Travel Area means they do not need to have a visa or status on the EUSS to enter the UK.

EU+ visa holder

For EU+ visa holders, we have applied the “first arrival, last departure” (FALD) method to produce long-term migration estimates for this group.

This method has been used in the long-term migration estimates for non-EU+ nationals since May 2022 and captures those who travel with a visa. More information on this method can be found in [Section 2: Method for non-EU+ estimates](#).

For immigration, this method uses an individual’s first arrival and last departure dates to approximate their length of stay in the UK within the period for which they have a valid long-term visa. Individuals whose stay lasts 12 months or more are classified as long-term immigrants.

For emigration, we identify previous long-term immigrants with a last departure from the UK during the reference period and record them as long-term emigrants if they do not return to the UK within 12 months, or if they only return for a short-term stay (fewer than 365 days).

EU+ visa holder adjustments

We apply an early leavers adjustment to the HOBI data for EU+ visa holders. An early leaver is defined as an individual who arrives on a long-term visa but does not stay for at least 12 months and therefore does not become a long-term migrant.

For those who arrived in the last 12 months, we use past behaviour to estimate how many will leave before that point and remove them from our estimates. We apply this adjustment to our most recent four quarters by reason for migration, nationality, and age, in the same way as is done for non-EU+ nationals.

We also make an emigration re-arrival adjustment, when historical data trends show it is required. This reflects someone who left the UK within the last 12 months but has returned and therefore, does not count as a long-term emigrant. This adjustment accounts for people for whom we do not have 12 months of travel data.

EU Settlement Scheme

For those with status on the EUSS, we have developed a new method using travel dates, that calculates time spent in and out of the UK, and groups extended trips out of the UK, into a single travel period to assess cumulative time in and out of the country. The method has been designed to be flexible in terms of defining travel periods and maximum length of time required for someone to be categorised as a [long-term migrant](#).

Organising the data

1. The HOBI data are filtered based on nationality to only include European Economic Area (EEA) nationals who have status on the EUSS.
2. Missing travel events (that are not first arrival or last departure) are imputed to make the length of stay the largest possible. The length of stay and absence is calculated using the difference between arrival and departure dates.

Creating the immigration and emigration estimates

1. For those with status on the EUSS, our method uses travel dates and calculates time spent in and out of the UK. It groups extended trips out of the UK into a single travel period to assess cumulative time in and out of the country. The method is flexible when defining travel periods and maximum length of time required for someone to be categorised as a [long-term migrant](#).
2. Our EUSS method assumes that if someone has settled status, and their first travel event is an emigration, they must have been resident in the UK. We use three steps to calculate emigration:
 - First, we group together extended trips of 45 days or more outside the UK.
 - Second, using this grouped period, we identify those who spend more time out of the UK than in.
 - Third, we then look at the total amount of time spent outside the UK; if the total time out of the UK exceeds the limit of 270 days, within a 365-day period, they are classed as a long-term emigrant.
3. To calculate immigration, we use an inverse approach:
 - First, we identify extended periods within the UK of 45 days or more.
 - Second, using this grouped period, we identify those who meet the immigration criteria.
 - An immigration period is counted from the earliest arrival, visa application date or, for re-arrivals, when the time in the country reaches 270 days.
4. This method allows us to identify multiple immigration and emigration events.

For more information on the cumulative time method and thresholds to define a long-term migrant, please see [Section 2 of our Implementing new methods for estimating international migration of EU+ nationals](#) research article.

EU Settlement Scheme assumptions

The EU Settlement Scheme (EUSS) has two subcategories: settled and pre-settled. Joining family members are also eligible to apply to the EUSS as relatives of an EU+, other EEA or Swiss citizen resident in the UK.

We apply a set of assumptions to those within EUSS where we have a missing first travel arrival. We assume, if someone has settled status, and their first travel event is an emigration, they must have been resident in the UK.

HOBİ data only include information collected from April 2015. As EU+ citizens had freedom of movement before 2021, for those who arrived before 2015, we cannot see when they first arrived. If an individual with full settled status has a missing travel first arrival, we assume they arrived at least five years before their EUSS application date.

If an individual with pre-settled status or who is joining a family member is missing a travel first arrival, we assume they arrived at the time of their application date.

Adjustments to produce provisional EU migration estimates

Irish nationals adjustment

The HOBİ data exclude Irish nationals as the Common Travel Area means that Irish nationals do not need to have a visa or status on the EUSS to enter the UK.

To account for this, we have created an adjustment using the DWP's RAPID to capture Irish national migration.

The Irish national proportional adjustment method takes the number of long-term Irish national migrants into and out of the UK captured in RAPID as a proportion of total EU+ immigration and emigration in that tax year. These proportions are then applied to our total EU+ HOBİ immigration and emigration estimates.

Provisional estimate adjustment

To produce provisional estimates, we developed a new method, which takes the following steps. For EUSS immigration estimates, we include:

1. Those who have arrived into the UK in the most recent 12 months.
2. Those who have not previously been flagged as a resident of the UK.
3. People that have a length of stay of 45 days or more in a single travel event and do not have a cumulative absence out of the UK of 270 days or more.
4. People who do not have an emigration date (the departure date once the cumulative absence is more than the cumulative length of stay and over 270 days within a travel period) identified linked to their latest travel event.

To produce provisional estimates of EUSS emigration, we include:

1. Those who have departed from the UK in the most recent 12 months.
2. Those who have previously been flagged as a resident of the UK.
3. People who have an absence of 45 days or more in a single travel event in the reference period. This does not guarantee that the individual will go on to become a long-term migrant but provides stricter criteria for us to consider the potential of this being their outcome. This parameter is consistent with the methodology for non-provisional EUSS estimates using full travel data.

The provisional estimates are then adjusted using observed differences between provisional estimates and revised estimates between HOBI extracts. This proportional change between the assumed behaviour based on incomplete travel data and the revised estimates based on complete travel data is then applied.

4 . Method for British national estimates

Defining a British national for international migration purposes

For the purposes of our estimates, we assume a British national is anyone who has a National Insurance number (NINo) and who is not included in the Migrant Worker Scan (MWS). The MWS contains information on overseas nationals who have registered for, and are allocated, a NINo.

HM Revenue and Customs (HMRC) provides UK residents with a NINo, through the [Juvenile Registration scheme](#), in the three months before their 16th birthday, if they lived in the UK and a parent has filled out a Child Benefit form for them. Individuals between the age of 16 to 19 years who fulfil these criteria and have not received their NINo are usually asked to contact HMRC.

Individuals aged 19 years and over, for whom child benefit was not claimed, or who lived abroad and returned to the UK as adults, apply for a NINo via the Adult NINo Allocation and Registration service.

Non-UK adult overseas nationals that move to the UK must also apply for a NINo using the same service if they plan to work, apply for a student loan, or claim benefits. The Department for Work and Pensions (DWP) conducts relevant checks to corroborate the identity of the applicant and their right to work and reside. They also check a NINo does not already exist.

Once a decision is made to allocate a NINo in the Apply for a NINo system, a NINo record is created, which automatically populates the relevant DWP and HMRC systems. These people are included in the MWS. Further information is available on [NINo allocations methodology from the DWP](#).

Anyone from Hong Kong who does not present a British passport goes into the MWS and is included in our non-EU+ long-term international migration estimates.

We also include as British nationals people on the MWS that have been resident in the UK for many years and are likely to have become British citizens. This is described under Naturalisation adjustment later in this section.

Data source

Our latest methods for estimating the migration of British nationals creates admin-based migration estimates from the Registration and Population Interaction Database (RAPID).

RAPID is created by the Department for Work and Pensions (DWP) to provide a single view of citizens' interactions across multiple sources, including from HMRC, and local authorities. RAPID contains data for every NINo interaction with the tax and benefits system, except self-assessment for those who are living off investments or capital income since 2008. Each NINo is assumed to relate to a unique individual.

We have worked to derive a RAPID British nationals dataset, which covers everyone with a NINo who are not included in the MWS, which identifies all non-UK nationals registering for a NINo from 1975 onwards. We additionally account for those on the MWS who are likely to have naturalised and become British.

Method

Assumptions

Our methods are based on two assumptions.

Assumption 1

Everyone in our derived RAPID British national dataset is a British national, except for some children.

Evidence for assumption: RAPID creates a default nationality and country of origin of "UK national" for anyone not found on the MWS or in the Customer Information System (CIS) data as a migrant registration.

Assumption 2

Those born abroad to British parents and who can automatically acquire British citizenship from birth will register for a NINo with their British passport when they arrive in the UK.

Evidence for assumption: these are predominantly children of British armed forces personnel overseas who are very likely to apply for Child Benefit when in the UK; this will result in the automatic creation of a NINo for the child.

Organising interactions in the data to assign residency

1. Separate tax year data files in the RAPID dataset are amalgamated into a single longitudinal dataset.
2. The data are filtered to only include British nationals who have a NINo and are not included in the MWS.
3. We assess the activity or interactions in RAPID to measure residency. If a person has an activity and has no evidence of a foreign address in RAPID then the person is generally regarded as being “resident” in the year.
4. However, people may be inactive in the data for reasons other than migration. We have developed a set of residency rules to adjust for this and flag that a person is likely to be resident. A person may receive more than one flag, but the presence of any flag means we consider the person resident in the year.
5. The residency changes across years are assessed to generate migration events. Someone going from “resident” to “not resident” is considered to have emigrated at some point in the last tax year of activity. If a person has no activity in a tax year and then activity in the next tax year, this suggests they have returned or immigrated to the UK. Using a changed residency status of “resident” to “not resident” for emigration, or “not resident” to “resident” for immigration, we are able to infer emigration and immigration events of British nationals.

An emigration event is defined as a change in residency status from “resident” to “not resident” with the emigration year assigned to the last year in which activity is observed. For example, if an individual shows activity in 2021 but none in 2022, they are classified as having emigrated in 2021.

An immigration event is defined as a change in residency status from “not resident” to “resident”, with the immigration year assigned to the first year in which activity is observed and they are flagged as a resident.

Assigning residency rules

People may be inactive in the data for reasons other than migration. We have developed a set of residency rules to adjust for this and flag that a person is likely to be resident.

Single tax year absence (gap year) rule

This rule looks for activity in tax years either side of a tax year with no activity in RAPID, marking the person as “resident” if activity is found. If there is activity in the years either side of a one-year absence, we assume that a person did not leave the UK. We have found this mostly affects students aged 17 to 19 years and people retiring at State Pension age.

Pension rule

This rule applies to anyone who does not have any activity between their last interaction up until they appear with a State or Occupational Pension record in RAPID. We assume that they have remained resident in the UK and that emigration is not the reason for their inactivity. Office for National Statistics (ONS) figures on [economic inactivity by age](#) show over 3.5 million people aged 50 to 64 years currently classified as economically inactive.

Address change rule

This rule considers anyone with no activity, but who has had their address updated on the Customer Information System, as active within the tax year. RAPID does not contain all DWP and HMRC datasets, this means that there are circumstances where someone will interact with one of those systems and have their address updated, but no activity is recorded within RAPID. Examples of this could include:

- tax self-assessment that is not connected with self-employment
- people who interact with the pension service before they claim State Pension
- people interacting with DWP or HMRC on behalf of someone else

This rule also helps with overall coverage by including children with an address change. This helps to capture people who do not interact with RAPID specifically through tax and benefits.

Child Benefit (school age flag rule) grace period rule

Children do not interact with DWP or HMRC systems themselves. All interactions are carried out by others, a lot of the time by a parent, and so they receive activity by proxy.

The interactions related to children are often associated with benefits. If the circumstances of the parent change, the benefit may cease, which will look like inactivity for the child. This does not mean that a child has emigrated. This rule assumes a child remains resident if:

- the parent stops receiving Child Benefit on their behalf
- there is no evidence of a foreign address

Child Benefit for parents' rule

This rule considers parents of children who stopped receiving child benefit to be resident even if no activity is shown. However, if a person has a foreign address, they are not considered resident.

Child parent residency rule

This rule flags a child as resident when the child has no activity, but their associated parent does have activity in the UK.

Penultimate year flag rule

Some of the rules that are applied throughout the data time series cannot be applied in the latest year. Consequently, some people are incorrectly classified as not resident. This can be because there are no data in the latest year or because the gap year rule cannot be applied. To mitigate this, the penultimate year rule adjusts the resident population in the latest year of data, for those with evidence of activity in the December of the penultimate year.

Adjustments

The residency rules adjust the RAPID data to account for situations in which someone may not interact with the systems that feed into RAPID and where we expect those people to have remained resident in the UK. For example, people may live on private means and not work or claim benefits.

The RAPID dataset was not designed to measure migration; it measures economic activity including benefits. We need to apply some further adjustments to our initial results to account for this difference in economic activity and migration activity. We do this using evidence from other data sources and apply the adjustments in the following order.

Non-activity emigration adjustment

Emigration estimates from the tax-year-ending March 2022 appeared higher than expected, when compared with long-term trends, particularly within the working-age population. But there has been a widely reported increase in individuals leaving economic activity following the coronavirus (COVID-19) pandemic, including:

- young people [not in education, employment or training \(NEET\)](#)
- early [retirees aged 50 years and over](#)

To address this, we applied an adjustment to exclude individuals from the emigration estimates who had a full year of activity recorded in RAPID before their apparent emigration.

Naturalisation adjustment

RAPID is not updated when foreign nationals registered on the MWS obtain British citizenship (become naturalised). These people will be erroneously excluded from the British migration estimates if they subsequently migrate out of the UK and/or if they return.

To compensate for these missing people, a naturalisation adjustment is required. To do this, we compare age distributions in RAPID with those found in the most recent censuses (England and Wales, Northern Ireland 2021 and Scotland 2022). We see a deficit of 35- to 64-year-olds in RAPID. The naturalisation correction adds UK nationals into this age range from the MWS and aligns the relative age distribution of adults with that of the most recent censuses.

See our article [Implementing new methods for estimating the international migration of British nationals, progress update: November 2025](#) for further information.

Coverage adjustment

These British nationals estimates are limited by the population coverage of RAPID. To minimise the coverage error in the RAPID migration estimates and produce more accurate estimates, we adjust the RAPID immigration and emigration estimates.

For the immigration adjustment, we use [migration data from censuses for England and Wales](#). Census data on migration can be used to explore migration to the UK in the year before the census data collection. We use data on immigrants by single year of age from the 2011 and 2021 Censuses to adjust the estimates with scaling factors per age group.

We repeat this process for emigration, but we use EU+ immigration single year of age estimates for visa holders. We cannot use the census, as this only provides estimates for immigration and not emigration. We assume that the EU+ immigration age profile provides a more reliable age profile of British national emigration than our current RAPID age profile and that British emigration ages are similar to EU+ immigration ages. See our article [Implementing new methods for estimating the international migration of British nationals, progress update: November 2025](#) for further information.

Forecasting for timelier estimates

To publish provisional migration estimates twice a year, the British nationals estimates are forecasted for a three- or nine-month period, which the latest version of the RAPID data delivery does not cover, because RAPID data are supplied to the ONS annually in Quarter 3 (July to Sept) for the previous tax year.

This means that we need to forecast three months (April, May and June) for publishing a migration estimate for year ending (YE) June. This estimate will be published in the following November. We need to forecast nine months (April to December) for YE December migration estimates, which are published in the following May. We project the data forward to account for the time lag in the data and the need for timely estimates. Our experience of using this approach to estimate migration of EU+ nationals shows that projections need revision once we receive the actual data.

We do this forecasting after assigning residency and adjustments, and use Home Office Borders and Immigration (HOBI) data. We use the EU HOBI data time series as our signal data as UK migration patterns are similar to EU+ patterns.

Temporal disaggregation is used to breakdown the annual data into quarterly data and to project the data forward to the following missing quarters. This step is the last step in the process and comes after applying the residency rules and after the adjustments.

For the disaggregation, we use the [Fernandez method \(PDF, 2.3MB\)](#), which uses a regression approach to look for a relationship between two datasets, in this case the HOBI data and the RAPID. The method breaks down the annual RAPID data into quarterly data and then reaggregates it to YE quarterly data. The data are then revised when updated data are received.

5 . Method for asylum and resettled refugee estimates

We use [data published by the Home Office](#) to add the total number of asylum applicants and resettlement scheme arrivals to the international migration estimate. We do not include arrivals from the Ukraine Schemes and British nationals (Overseas) as these groups are already included in the non-EU+ estimates.

Adjustments to produce asylum and resettled refugees estimates

We make an adjustment to address potential double counting by linking asylum applications data to visa data to identify asylum applicants who had previously entered on a visa, and are already counted as a long-term migrant, and applied for asylum before the end of their visa. We remove these from our immigration estimates.

We also link the asylum applications data to asylum returns data to remove applicants from the emigration estimate who were returned within one year of raising their application. No adjustment is applied in the last four quarters of the data to account for returns that have not yet occurred within a year.

Finally, we identify records in the Home Office Borders and Immigration data for those with a visa expiring after their application was raised to ensure that they are not included in the non-EU+ emigration estimates.

6 . How our methods have changed over time

To ensure that we continue to provide accurate and timely statistics that meet users' needs, we have been improving our methods to move away from survey-based data to using administrative data, as explained in our [Improving international migration statistics using administrative data article](#).

The different methods we have used to calculate international migration, developed since April 2021, are summarised in our [Long-term international migration estimates methodology](#).

For a more detailed explanation of the research we have been undertaking through our migration statistics transformation programme to develop admin-based migration estimates (ABMEs), see our [international migration research, progress update articles](#).

7 . Conventions

Rounding

All estimates within the data are rounded to the nearest thousand because of the provisional nature of our statistics. Therefore, totals may not add exactly. Percentages are rounded to the nearest whole percentage.

Revisions

Timely, published estimates are provisional estimates, which give an initial indicator of population or migration based on early data and assumptions about people's migration status, based on past behaviour. These are updated when more data relating to people who arrive in the reference period and whether they stay in the UK for at least 12 months become available. In statistical outputs, we refer to the planned updates resulting from improvements to data or methods as revisions. Our approach to revisions is guided by [international best practice](#) and is consistent with our [Guide to statistical revisions](#). Further details can be found in our [Revisions policy](#).

Details about the revisions made can be found in Section 7: Updates to estimates of our [long-term international migration bulletins](#).

These types of planned revisions should not be confused with errors in released statistics, which are genuine mistakes. Despite our best efforts and quality control procedures, mistakes can happen. When they do, corrections are made in a timely manner, announced and clearly explained to users in line with the [Code of Practice for Statistics](#).

8 . Glossary

Administrative data

Collections of data maintained for administrative reasons, for example, registrations, transactions, or record keeping. They are used for operational purposes and their statistical use is secondary. These sources are typically managed by other government bodies.

Asylum applicants

Asylum applicant (also referred to as "asylum seeker") is someone who makes a claim to be recognised as a refugee under the Refugee Convention.

"Asylum" estimates in this bulletin refer to the long-term international migration of people who have applied (that is, made a claim) for asylum in the UK.

An asylum-related return is one where there has been an asylum claim at some stage prior to the return. For more information on this, see the User Guide to Home Office Immigration Statistics.

British national

For the purposes of our estimates, we assume a British national, is anyone who has a National Insurance number (NINo) and who is not included in the Migrant Worker Scan (MWS). The MWS contains information on overseas nationals who have registered for, and are allocated, a NINo.

UK residents typically receive a NINo via the Juvenile Registration scheme before age 16 years if Child Benefit was claimed on their behalf. Adults returning to the UK or not covered by Child Benefit apply through the Adult NINo Allocation service.

If a NINo is allocated, the relevant Department for Work and Pensions (DWP) and HM Revenue and Customs (HMRC) systems are updated. These people are included in the MWS. For more information see [NINo allocations methodology from DWP](#).

We also include as British nationals' people on the MWS that have been resident in the UK for many years and are likely to have become British citizens. This is described under Naturalisation adjustment in [Section 4: Method for British national estimates](#).

Please note that this definition is statistical and may differ from legal definitions of nationality.

More information on the latest British nationals' methods can be found in our [Implementing new methods for estimating the international migration of British nationals, progress update: November 2025 article](#).

British national (overseas) (BN(O))

Someone who was a British Overseas Territories citizen by connection with Hong Kong lost that citizenship on 30 June 1997, when sovereignty returned to China. However, such a person was able to register as a British national (overseas) (BN(O)) before 1 July 1997. For more information, see the [Types of British nationality guide on GOV.UK](#).

On 31 January 2021, the UK launched a bespoke immigration route for British nationals overseas (BN(O)) status holders and their families from Hong Kong.

EEA

The EEA includes EU countries and also Iceland, Liechtenstein and Norway.

EU and EU+

EU is the European Union. It is the sum of EU14, EU8, and EU2, plus Malta, Cyprus and Croatia (from 1 July 2013). British nationals are not included in these numbers at any time point.

- EU2 is Romania and Bulgaria.
- EU8 is Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.
- EU14 is Austria, Belgium, Denmark, Finland, France, Germany, Greece, Republic of Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and Sweden.
- Other EU is Malta, Cyprus and Croatia (joined from 2013).

EU+ is all current EU countries plus Norway, Iceland, Liechtenstein and Switzerland.

Home Office Borders and Immigration data

A linked database that combines data from Home Office (HO) systems to build travel histories that consist of an individual's travel into or out of the UK, together with data relating to their immigration status. This system has data for all non-European Economic Area (non-EEA) visa holders.

International Passenger Survey (IPS)

Our International Passenger Survey (IPS) collects information about passengers entering and leaving the UK and has been running continuously since 1961. The IPS was resumed in January 2021, after being suspended since March 2020 because of the coronavirus (COVID-19) pandemic. Currently, we use it for our British national estimates and for providing information on reason for migration.

Long-term international migration

Long-term international migration (LTIM) statistics estimate the flow (or movement) of migrants to and from the UK. This bulletin uses the UN-recommended definition of a long-term international migrant. It is defined as "A person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months), so that the country of destination effectively becomes his or her new country of usual residence."

A "long-term international immigrant" refers to a person who has moved to the UK from abroad for a period of at least a year.

A "long-term international emigrant" in this bulletin refers to a person who has left the UK to go to another country for a period of at least a year.

Nationality

Nationality of a country is a legal status that usually gives a person a particular set of rights relating to that country.

Net migration

Net migration is the difference between the number of people coming to live in the UK (immigration) and the number of people leaving to live elsewhere (emigration). When more people are arriving in the UK than leaving, net migration is above zero and so adds to the non-UK population.

Non-EEA

Non-EEA is the rest of the world excluding EEA countries and the United Kingdom.

Non-EU+

Non-EU+ is the sum of the rest of the world. British nationals are excluded from these numbers.

Registration and Population Interaction Database (RAPID)

Registration and Population Interaction Database (RAPID) is a database created by the Department for Work and Pensions. It provides a single coherent view of interactions across the breadth of benefits and earnings datasets for anyone with a National Insurance number (NINo).

Ukraine Schemes

The Ukraine Family Scheme allows applicants to join family members or extend their stay in the UK. The Ukraine Sponsorship Scheme allows Ukrainian nationals and their family members to come to the UK if they have a named sponsor under the Homes for Ukraine Scheme. The Ukraine Extension Scheme allows Ukrainian nationals and their immediate family members to apply for permission to stay in the UK. The reason for migration will predominantly only show the out-of-country routes, as opposed to the extension routes.

9 . Further information

Future publication dates for international migration statistics are pre-announced on the [ONS Release Calendar](#).

Our data policies detail how [data are collected, secured and used in the publication of statistics](#). We treat the data that we hold with respect, keeping it secure and confidential, and we use statistical methods that are professional, ethical and transparent.

Feedback and enquiries

Your feedback is important. We want to hear what our users need from the development of these statistics to ensure we are providing the best insights on migration.

Please email pop.info@ons.gov.uk for any enquiries or to provide feedback.

10 . Related links

[Long-term international migration, provisional](#)

Statistical bulletin | Released bi-annually in May and November
Official statistics (in development) of UK international migration

[Reason for international migration, international students update](#)

Article | Released bi-annually in May and November
International student migration to the UK. Experimental and provisional estimates.

[Methods to produce provisional long-term international migration estimates](#)

Methodology | Updated following method changes
Summarises the methods used to produce the latest provisional statistics on migration flows into and out of the UK and how these methods have improved over time.

[International migration research, progress update articles](#)

Article | Released May and November
Provides an update on our research to develop admin-based migration estimates and expand the range and granularity of our statistics.

[Improving international migration statistics using administrative data](#)

Article | 23 November 2023
Describes how we estimate international migration and the data we use. Includes an explanation of our research, the improvements we have made and future developments.

[Long-term international migration: quality assuring administrative data](#)

Methodology | 16 November 2023
Administrative data sources and quality assurance in the production of admin-based long-term international migration estimates published in bi-annual releases.

[Understanding international migration statistics](#)

Article | 23 November 2023
This article brings together important information to inform users and explain any misunderstandings around our migration statistics.

[What is coming up on population and migration statistics](#)

Article | 17 November 2023
Provides an overview of upcoming population and migration publications as we make improvements to how we estimate population and migration.

11 . Cite this user guide

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