

Article

Defining and measuring international migration

Overview of our research into how we define and measure international migration.

Contact:
Becca Briggs
migstatsunit@ons.gov.uk
+44 (0)1329 444097

Release date:
14 February 2020

Next release:
To be announced

Table of contents

1. [Introduction](#)
2. [How we currently define international migration](#)
3. [The data sources we currently use to measure international migration](#)
4. [How other countries define and measure international migration](#)
5. [Why we are developing our concepts and definitions](#)
6. [Annex A: Main concepts and definitions for UK population and migration statistics](#)
7. [Annex B: Useful links](#)

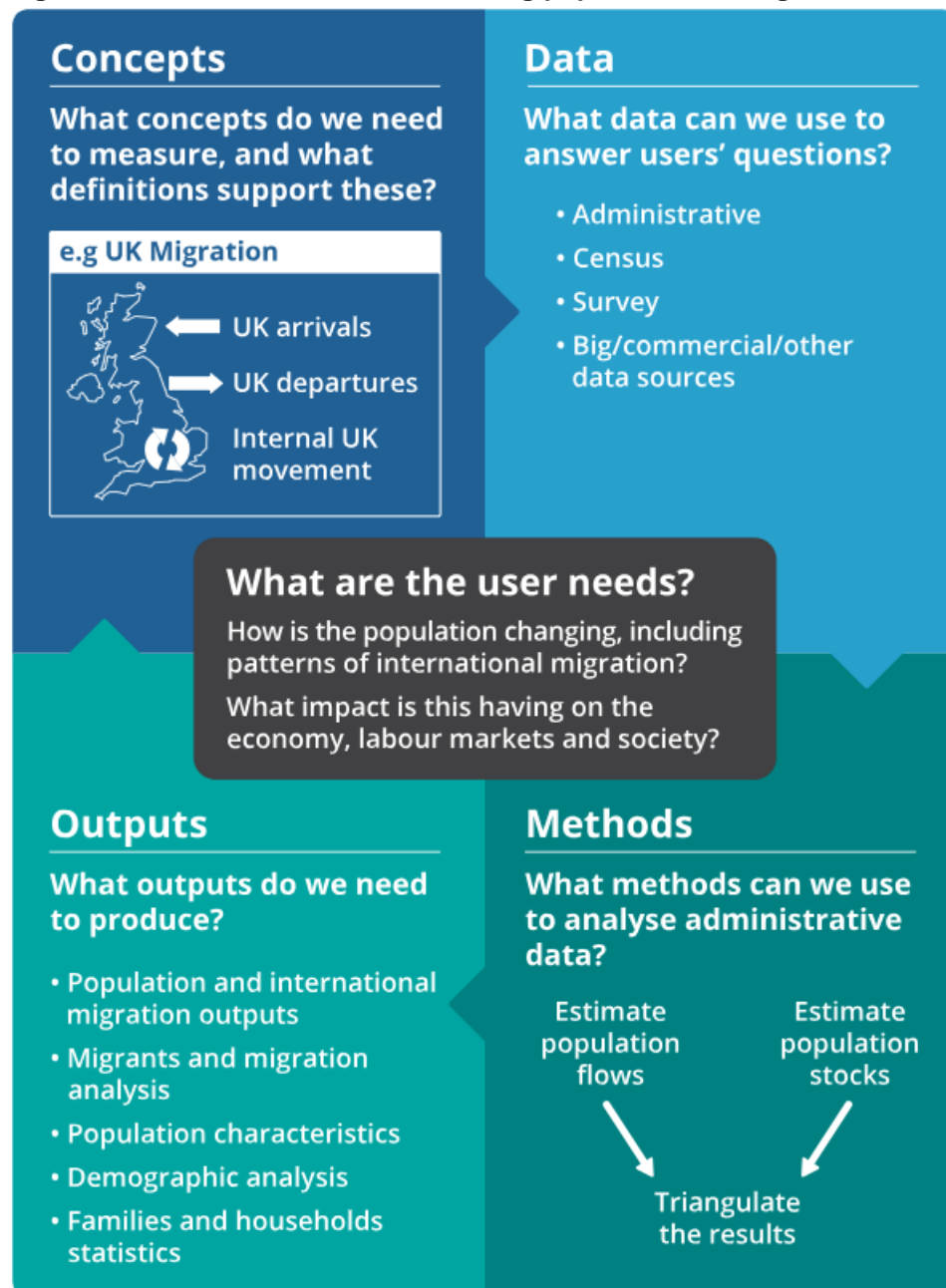
1 . Introduction

The Office for National Statistics (ONS) is working in partnership with other departments across the Government Statistical Service (GSS) to transform the way we produce population and migration statistics to better meet the needs of our users and to ensure that we are making the best use of all available information by putting administrative data at the core of our system.

Under our [latest plans for the transformation programme](#), our focus in 2020 will be on using evidence from administrative data to improve international migration statistics based on existing survey sources. However, alongside this we are continuing to progress our longer-term research into how we can link a range of government data sources to build an integrated system for measuring population and migration, with the aim of delivering improvements to population statistics from 2021. In January 2019, we published a [research engagement report](#) that set out our framework for transforming population and migration statistics (see Figure 1). This builds on the [conceptual framework for UK population and migration statistics \(PDF, 886KB\)](#) published in 2012.

A fundamental part of the transformation framework, and a core piece of our longer-term research, is reviewing the concepts and definitions we use. This includes the criteria we use to count and describe migrants. This affects what our international migration statistics measure, which feed into population statistics, underpin a wide variety of other statistics (such as unemployment rates), and inform a vast range of national and local decisions (such as housing demand).

Figure 1: Our framework for transforming population and migration statistics



The feedback from our users so far has highlighted the need for further flexibility in what we measure as well as providing a wider range of definitions. New data sources provide opportunities to explore new methods for producing existing definitions as well as additional statistics in the future.

Within the [research engagement report](#), we discussed how we plan to further explore concepts and definitions for international migration. Since then, we have focused on applying existing UN definitions for long-term migration using alternative data sources and exploring alternative or additional definitions that start to respond to user feedback.

Our current work builds on the [exploratory analysis we published in July 2018](#) where we looked at how long non-EU migrants are residing in the UK, based on recorded travel patterns, and compared this to estimates based on the International Passenger Survey (IPS). This analysis highlighted that migration patterns are changing and since migrants are moving more frequently, aligning to the UN definition of a long-term migrant is becoming more challenging. However, access to administrative data has allowed us to work towards building a clearer picture of these patterns.

This article summarises the way we currently define and measure international migration. Other concepts and definitions across population statistics, such as daytime and special populations, are not covered. This article should be viewed alongside the following concepts and definitions research articles also released today (14 February 2020):

- [Exploring international migration concepts and definitions with Home Office administrative data](#)
- [What can administrative data sources tell us about the patterns of presence of non-EU students?](#)

We have made good progress with our research using current data sources and would like further user feedback at this stage to inform our next steps, which we will be taking forward in collaboration with our partners across government, including the devolved administrations in Northern Ireland, Scotland and Wales. We have set out a range of questions we are particularly interested in getting your views on. The set of research published today (14 February 2020) feeds into our plans for transforming migration statistics, and we will ensure it feeds into our official estimates when appropriate.

The feedback we have received so far has been informative in shaping and supporting our transformation journey. We welcome further feedback on the progress to date and our plans going forward, including our progress on concepts and definitions.

If you would like to get in touch, please email us at pop.info@ons.gov.uk.

2 . How we currently define international migration

We produce international migration statistics on the flow (or movement) of international migrants and how this changes over time (both nationally and locally) and the stock (or size of resident population) of non-UK born people or nationals living in the UK.

Both the flow and stock of international migrants are defined using the standard UN definition for usual residence. That is, the country in which a person has a place to live, where he or she normally spends the daily period of rest. Temporary travel abroad for purposes of recreation, holidays, visits to friends or relatives, business, medical treatment, or religious pilgrimage does not change a person's country of usual residence.

We can define different durations of stay using the length of time someone is usually resident in a country. However, definitions for different durations of stay are not mutually exclusive. Figure 2 provides illustrative examples of how the definitional overlaps could occur. A circular migrant, for example, can also be a long-term, short-term or an overseas visitor. There is also some crossover between the definition for short-term migrants and overseas visitors that we currently apply.

Figure 2: Example of the potential overlap in duration of stay definitions

Long-term migrant

Usual residence changed to the UK for 12 months or more



Short-term migrant

Usual residence changed to the UK for more than 3 months but less than 12 months



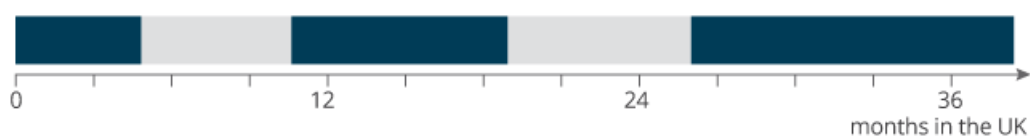
Overseas visitor

Visits the UK for less than 12 months but is a permanent resident outside of the UK



Circular migrant - shorter duration

Crossed into the UK at least 3 times over a 10-year period, each time with a stay (abroad or in the UK) of 3 months or more



Circular migrant - longer duration

Crossed into the UK at least 3 times over a 10-year period, each time with a stay (abroad or in the UK) of 12 months or more



Our current international migration statistics are closely aligned with the main concepts and definitions set by the UN. This ensures consistency and allows users to make comparisons between countries ([see Section 4](#)). These main concepts and definitions are specified in the Government Statistical Service's (GSS's) [harmonisation principle on migration, country of birth and citizenship](#). This guidance sets out how to collect and report statistics on this topic to ensure statistics are as comparable as possible.

[Annex A](#) details the main concepts and definitions for international migration.

3 . The data sources we currently use to measure international migration

There are many sources of statistics about stocks and flows, each valuable in measuring particular aspects of international migration. This section summarises the data sources currently used for measuring each concept.

Our latest report on [comparing sources of international migration statistics](#) looks at the coherence between the main data sources. We concluded that we need to look at all available data sources to get the best possible assessment of migration. While integrating data together, it is important to understand that survey and administrative data sources present different things. Some data (such as the [International Passenger Survey \(IPS\)](#)) measure people's intentions at a point in time, while others are based on records of actual travel or interactions (administrative data). Outcomes based on actual behaviour could be different to an individual's intentions, which can be uncertain and subject to change based on a range of social and economic factors.

Data sources for flows

Estimates of long- and short-term international migration are predominantly based on the IPS, which is an intentions-based survey. The survey collects information on the future intentions of individuals moving to and leaving the UK and helps provide a timely picture of migration patterns.

The estimates for [Long-Term International Migration \(LTIM\)](#) are currently produced using the IPS and the following additional data sources:

- Labour Force Survey (LFS) data provide a geographical distribution of migrants for the calibration methodology
- Home Office data on asylum-seeker flows and their dependants, on non-asylum enforced removals and on people resettled in the UK under various resettlement schemes
- administrative data on Northern Ireland health card registrations are used to estimate Northern Ireland-level long-term international migration owing to the land border within the island of Ireland; the Office for National Statistics (ONS) works with the Northern Ireland Statistics and Research Agency (NISRA) to make this estimate

[Short-Term International Migration \(STIM\)](#) estimates are produced directly from the IPS at the end of the person's stay in the country, so they measure actual migration behaviours. This differs to LTIM, where people are interviewed at the start of their stay and defined as long-term migrants by their intended length of stay. Adding together LTIM and STIM estimates does not provide a reliable measure of all immigration and emigration to the UK within a specific time-period. This is because:

- short-term immigration flows are based on journeys to England and Wales, not the movement of people into and out of the UK
- STIM flows have methodological differences from LTIM flows
- it is possible for someone to be both a long-term and short-term migrant in a given period
- STIM estimates are based on actual migration behaviours, whereas LTIM uses migrants' intentions to infer their length of stay

Since July 2018, we have been presenting LTIM alongside the latest administrative sources, such as National Insurance number (NINo) registrations from the Department for Work and Pensions (DWP), student enrolments from the Higher Education Statistics Agency (HESA) and visa information from the Home Office. These provide complementary information on specific sub-groups of immigration flows that allow us to provide our best assessment of migration, although they may not be fully comparable with the standard international definitions of long- and short-term migration.

In August 2019, we made [preliminary adjustments for uncertain intentions, based on administrative data, to provide our best possible assessment of migration trends](#). As other new data sources become available, we will continue to refine our adjustments further and reflect this in our migration statistics. While we go through this transformation journey, the Migration Statistics Quarterly Report (MSQR) has been reclassified as [Experimental Statistics](#). Reclassifying our international migration statistics as [Experimental Statistics](#) supports this period of development and innovation to meet the public good.

Data sources for stocks

Estimates of the stock or [population of the UK by country of birth and nationality](#) are used by central and local government for planning and monitoring service delivery, policy development and resource allocation and managing the economy. They are measured using the Annual Population Survey (APS), which is a survey of households in the UK and does not include most communal establishments, so it will exclude non-UK students in halls of residence.

The APS is not designed to measure LTIM flows but may provide insights into changes in the make-up of the UK population. As part of our transformation programme, a number of differences have been identified when making comparisons between migration data from the APS, LFS and IPS. Our recent work on [understanding different migration data sources](#) shows our latest understanding on the coherence of these data sources and the steps we are taking to adjust our survey estimates.

For the [usually resident population](#), mid-year estimates for the UK are based on the census and updated annually to reflect population change (for example, births and deaths registrations, IPS, and health and education records). The population totals used in the APS and LFS estimates of the UK population by country of birth and nationality are not directly comparable with the mid-year population estimates, which refer to the entire UK population.

Population estimates for Northern Ireland and Scotland are produced separately by NISRA and National Records of Scotland (NRS), respectively, and feed into the UK estimates published by the ONS.

4 . How other countries define and measure international migration

For comparability, it is important to recognise the differences between the UK and other countries in defining and measuring international migration. Some countries already use administrative data to produce their statistics, and it is essential that we continue to learn from their experiences.

Last year, we described [how other, selected, countries measure long-term immigration](#) within an update on the quality of the International Passenger Survey (IPS). Since then, countries have made further developments, which this section will summarise.

[Australia](#) and [New Zealand](#) have both developed an integrated system where data from passenger cards, and therefore actual travel events, are used as the main source of information. [Canada](#) uses a wide range of sources collected by the government and academic institutions to produce their statistics. Like the UK, Canada collects data on migrant intentions but also links visa information to tax records to understand the jobs that migrants work in.

Registers have been established in other countries. [Spain](#) uses a migrant register, called the padrón register, which records all migrants who stay longer than six months. [Sweden](#) and [Denmark](#) provide good examples of using and linking various administrative data sources with their population registers to produce highly accurate immigration statistics.

Measuring emigration can be more challenging than measuring immigration. Some countries do not report on those leaving their country, while others, that have a register system, rely on migrants de-registering before departure, something that is known to be an issue. For Australia, they base emigration statistics on intentions as given on passenger cards; whereas, New Zealand use data on actual travel events, which for long-term emigration requires time for these events to happen before they can be accurately reported. To produce more timely results, Stats NZ uses a statistical model to produce provisional migration estimates before finalising these after the 16 months' travel data are available.

Regarding definitions, like the UK, the majority of countries (including France, Germany and Italy) use the UN definition of a long-term migrant. While a few other countries (including India, Georgia and Spain) define long-term migrants as those who stay six months or longer. Poland uses the “establishment of permanent residence” as the basis of its definition. Australia applies a [“12/16 month rule”](#) (that is, people who are present for 12 months in any 16-month period) based on actual travel behaviour to determine long-term migrants. Other countries (including Canada) define the immigrant population based on their permanent or temporary status in the country, rather than on their minimum length of stay.

Making comparisons with other countries depends on a range of factors

For our users, standard definitions allow for easier comparisons of UK statistics with other countries. However, in practice this can be challenging. The UN summarised these challenges in its [report on flows from 45 selected countries](#), and the main differences are presented in Table 1.

Alongside the challenges given in Table 1, changes in methodology, definitions and data sources may also affect comparability between countries. We will continue to work with other countries directly and through the UN and UN Economic Commission for Europe (UNECE) task forces on international migration to address these challenges.

Table 1: Practical challenges in comparing estimates based on the UN definitions

Challenge	Differences that can occur and specific examples
Data collection methods	Some of the main factors that can cause differences between countries' statistics include: <ul style="list-style-type: none"> - some rely on surveys or censuses as their source for estimating flows - other countries have population registers and therefore use these to identify those who join or leave the register for their flows - some, such as New Zealand, have an administrative data system and base their statistics on data from passenger cards
Timeliness of collection	Dependent on the data collection method, some systems allow for a continuous collection of data and therefore more flexible publication of statistics. <p>Whereas, others who use point in time surveys (for example, India, which mainly uses a 10-year census) publish less timely statistics. This means the availability and reference time period can vary.</p>
Identifying migrants	There are variations in the definitions for residence and duration of stay between countries, which forms part of the UN definition. <p>For example, Canada defines migrants as those who change their permanent residence, which differs from our application of using usual residence.</p>
Actual vs intended outcomes	Like the UK, some countries use data based on intentions, including intended duration of stay. <p>Whereas, others use actual events to define and classify migration, for example, Australia uses data on actual travel behaviour.</p>
Determine country of origin and destination	Although most countries refer to country of next or previous residence in their measurements, some use country of citizenship or birth instead.

Source: Office for National Statistics – Defining and measuring international migration

International reviews of standard UN and UNECE concepts and definitions

The UN definitions are based on those given in the [1998 UN Recommendations on Statistics of International Migration](#). A review was initiated by the UN task force of the main concepts and definitions related to international migration, with the submission planned for March 2021 ([terms of reference for the UN task force](#)). We recently contributed to a UN survey on national practices of migration statistics led by this task force. Our response, along with information from the Home Office (for example, for asylum statistics) will feed into the consideration of possible alternative or refined definitions of relevant migration concepts.

There is also a growing need to better understand circular migration, and we recognise this concept challenges our existing definitions. In 2016, the UNECE's [Task Force on Measuring Circular Migration](#) recommended conceptual and statistical definitions on circular migration, which were approved by the Bureau of the Conference of European Statisticians (CES). Further testing and research on these definitions is due to be carried out by countries, with the latest progress summarised in this [update note in 2019](#). Eurostat plans to collect data tables on circular migration on a voluntary basis, which is due to be published in early 2020. However, some countries, like [Sweden](#), already publish statistics on circular migration.

We are involved in both UN and UNECE task forces to ensure the reviews and recommendations are reflected within our transformation programme.

5 . Why we are developing our concepts and definitions

Over the last year, we sought feedback from users and stakeholders on core topics, such as concepts and definitions, to inform the way that we transform our statistics. In January 2019's [research engagement report](#), we asked "Concepts and definitions: what do we need to measure?". More particularly, we asked:

"What additional or alternative definitions would support you in better understanding population and patterns of migration? This might include different population bases, such as daytime populations, public service populations, and so on."

We also asked:

"How should any grouping and definitions we develop in the future interact with our existing definitions of long-term migration, short-term migration, usually resident population and overseas visitors?"

The [feedback on the population and migration statistics transformation programme](#) so far has highlighted the need for further flexibility in what we measure and how we measure it, to reflect the population changes in a modern world. There was also a clear need to better inform local decision makers and to consider likely policy changes in future, given potential changes to [future immigration policy](#) as the UK withdraws from the EU.

So far, our research into concepts and definitions has had two aims:

1. to discover how we can apply existing UN definitions for long-term migration using alternative data sources
2. to explore alternative and additional definitions to provide more flexibility for users

Accompanying pages

Today (14 February 2020), we have published the following articles to provide an update on the research methods and findings and our plans to produce further insights.

Exploring international migration concepts and definitions with Home Office administrative data

Along with more flexibility, using actual travel events allows for better understanding of people's routes of entry and movements. Some users identified a need to not have strict ways of grouping people. Building on previous research using Home Office administrative data, we have started to investigate [alternative definitions of duration of stay for measuring long-term immigration and emigration](#) for non-EU nationals.

This research focuses on long-term migration and how we can apply existing UN definitions and explore alternative definitions using administrative data. This will exclude those here for a shorter time period, including visitors, who make a smaller contribution to and demand on UK services.

What can administrative data sources tell us about the patterns of presence of non-EU students?

While the feedback on understanding patterns of travel has been shared across many users, we also realise that the reason for coming into the UK can mean people behave differently. We know that international students are one of these groups. Therefore, we have linked [Home Office administrative data](#) with student records from the Higher Education Statistics Agency (HESA) to understand [non-EU students patterns of presence in England and Wales for international study](#). This provides further insight into travel patterns of international students by integrating different data sources.

6 . Annex A: Main concepts and definitions for UK population and migration statistics

This annex outlines how we currently define each of the main concepts and definitions for UK population and migration statistics.

Citizenship

Citizenship and nationality are often used interchangeably.

In the International Passenger Survey (IPS), this is the “country for which a migrant is a passport holder”. This refers specifically to the passport being used to enter or leave the UK at the time of interview. It does not refer to any other passport(s) that migrants of multiple nationalities may hold.

In the Annual Population Survey (APS), nationality refers to that stated by the respondent during the interview, which is used by the Office for National Statistics (ONS) to produce resident stocks of British and non-British populations.

The 2011 Census also collected information on passport held as a proxy for nationality.

Country of birth

Country of birth is “the country in which a person was born”. This is used by the ONS to produce resident stocks of UK- and non-UK-born populations or defined as the foreign-born population by the UN.

There are two main reasons for differences between nationality and country of birth: as those born abroad remain in the UK, many apply and become British nationals, and the 2011 Census showed that 58% of residents born in a non-EU country held British citizenship by the time of the census; and some people born abroad have British nationality (for example, this may be the case for people whose parents were in the military services and were based abroad when they were born).

Parent's country of birth is used for publishing births to non-UK mothers and fathers.

Country of usual residence

The ONS applies the standard UN definition for population estimates at the UK and constituent country level: “the country in which a person has a place to live, where he or she normally spends the daily period of rest”.

Temporary travel abroad for purposes of recreation, holidays, visits to friends or relatives, business, medical treatment, or religious pilgrimage does not change a person's country of usual residence.

Duration of stay: Circular migrant

The ONS does not currently measure circular migration. However, the UN Economic Commission for Europe (UNECE) has set out the concept of circular migration as: "a repetition of legal migrations by the same person between two or more countries".

With the two statistical definitions, the general statistical definition is: "a circular migrant is a person who has crossed the national borders of the reporting country at least 3 times over a 10-year period, each time with duration of stay (abroad or in the country) of at least 12 months". Also within the two statistical definitions, to meet the policy needs for information on shorter duration, the extended statistical definition is: "a circular migrant is a person who has crossed the national borders of the reporting country at least 3 times over a 10-year period, each time with duration of stay (abroad or in the country) of at least 90 days".

This overlaps with the other definitions on duration of stay.

Duration of stay: Long-term migrant

The ONS applies the UN recommended definition of a long-term international migrant 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".

The UN specifies that long-term emigrants are residents or persons who have resided continuously in the country for more than one year, who are departing to take up residence abroad for more than one year, and that long-term immigrants are non-residents or persons who have arrived for a length of stay of more than one year but have not yet continuously lived in the country for more than one year.

Duration of stay: Short-term migrant

The ONS makes use of the UN recommended definition of a short-term international migrant as "a person who moves to a country other than that of his or her usual residence for a period of at least three months but less than a year except in cases where the movement to that country is for purposes of recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimage".

However, to meet broader user needs, the ONS estimates are currently produced based on three definitions:

- moves made for between 3 and 12 months for employment or study (UN definition)
- moves made for between 3 and 12 months for any reason
- moves made for between 1 and 12 months for any reason

Duration of stay: Overseas visitor

The ONS applies the following definition of an overseas visitor: "a person who, being permanently resident in a country outside the UK, visits the UK for a period of less than 12 months. UK citizens resident overseas for 12 months or more coming home on leave are included in this category".

Visits abroad are visits for a period of fewer than 12 months by people permanently resident in the UK (who may be of foreign nationality).

This overlaps with the definition on short-term migrants.

Reason for visit (purpose for migration)

In the IPS, this is recorded as “the main reason given by someone for their journey to a country”.

For study, this refers to migrants arriving in or leaving the UK for formal study.

7 . Annex B: Useful links

We do not currently measure illegal migration. As a concept, it is complex and includes many individual populations. An update on the discussions on [the definition and measurement of illegal migration](#) was released in June 2019. Further concepts are available from the Government Statistical Service’s (GSS’s) report on the [harmonisation principle on migration, country of birth and citizenship](#).

Other useful links include:

- [UN 1998 Recommendations on Statistics of International Migration, Revision 1](#)
- [UN definition for population and migration estimates \(pages 125 to 128\)](#)
- [UN Toolkit on International Migration](#)
- [Office for National Statistics \(ONS\) International migration – terms, definitions and frequently asked questions](#)
- [ONS International Passenger Survey \(IPS\) background notes with visitor definitions](#)
- [ONS Short-Term International Migration \(STIM\) Estimates for England and Wales QMI](#)
- [UN Economic Commission for Europe \(UNECE\) report on defining and measuring circular migration](#)