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Measuring new forms of international migration

Alternative definitions of migration

Note by Office for National Statistics

Abstract

Today, populations are more mobile than in past decades. We know there are people staying in the UK who are not covered by our official population estimates, and that movers with shorter or repeat patterns of mobility are not represented in our migration numbers.

Our admin-based migration estimates use a wealth of information to produce improved statistics and they promise greater flexibility to provide statistics on different patterns of international mobility. We have a variety of engagement approaches to ensure any new statistics meet the needs of policy makers, academics and service providers.

One question they ask is the role of international students in net migration. Students are sometimes considered part of the temporary population who arrive to study and leave once their studies are completed; new cohort research helped to understand this in relation to population change, as well as their contribution to society and the economy more broadly.

In addition to this, we have made use of travel behaviour and visa status from Home Office Borders and Immigration data to investigate patterns of short-term international migration, and produce exploratory research estimates.

In addition to this, we are exploring the use of mobile phone data, Advanced Passenger Information and credit card data to inform our understanding of mobility.

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I.   Alternative definitions of migration

1. Today, populations are more mobile than in past decades. We know there are people staying in the UK who are not covered by our official population estimates, and that movers with shorter or repeat patterns of mobility are not represented in our migration numbers. We also know that some Long-term International Migrants stay longer than others, without differentiation in our statistics.

2. In May 2023 we published 'Population and Migration estimates – exploring alternative definitions' which explored new ways of estimating migration and the population to enhance our existing statistics and was an opportunity to asked for feedback and suggestions from our users on our alternative definitions of population and migration flows. In it, we looked at the conceptual ideas underpinning population definitions, and the various ways to estimate the contribution of different patterns of migration to the population, including possible ways of isolating estimates of international students from other types of migrants.

A.   Migration statistics we already estimate

3. Long-term international migration (LTIM) statistics are used extensively by policy makers, academics and service providers, and we will continue to produce them.

4. Our LTIM statistics are official estimates of migrants arriving in or leaving the UK for 12 months or more. They are an important component of population change and are aligned with the UN definition for long-term international migration (PDF, 5.0MB).

B.   Why we want to expand our range of definitions

5. The change in mobility during the recent coronavirus (COVID-19) pandemic (World Migration Report 2022) means the existing definitions may not show the whole picture. We know that there are people living and staying in the UK who are not covered by our official population estimates, because they do not meet the traditional census definition of a usual resident. Movers with shorter or repeat patterns of mobility are not represented in our LTIM numbers.

6. We also know users would find this helpful for planning and policy making. We have a variety of engagement approaches to ensure any new statistics meet the needs of policy makers, academics and service providers. The Office for National Statistics recently held a Consultation on 'The future of population and migration statistics'. It was designed to provide us with information on how people currently use our population and migration statistics and captured user feedback on our proposals for future development of these statistics. In Migration Statistics Division, an Expert group and Steering group, made up of academics and other government departments, help us refine needs and present information clearly, to ensure our work is relevant and valuable.

7. Our estimates of 'Long-term International Migration' are produced using a variety of administrative data. This gives us freedom to specify different definitions, particularly as they relate to time in country, when compared to our previous survey-based estimates.

II.   Conceptual framework

C.   Condition based and qualifying-status based definitions

8. Time and place are fundamental aspects in deciding how to estimate migration, whether it is point in time population estimates (stocks) or movements into and out of a population (flows). Where
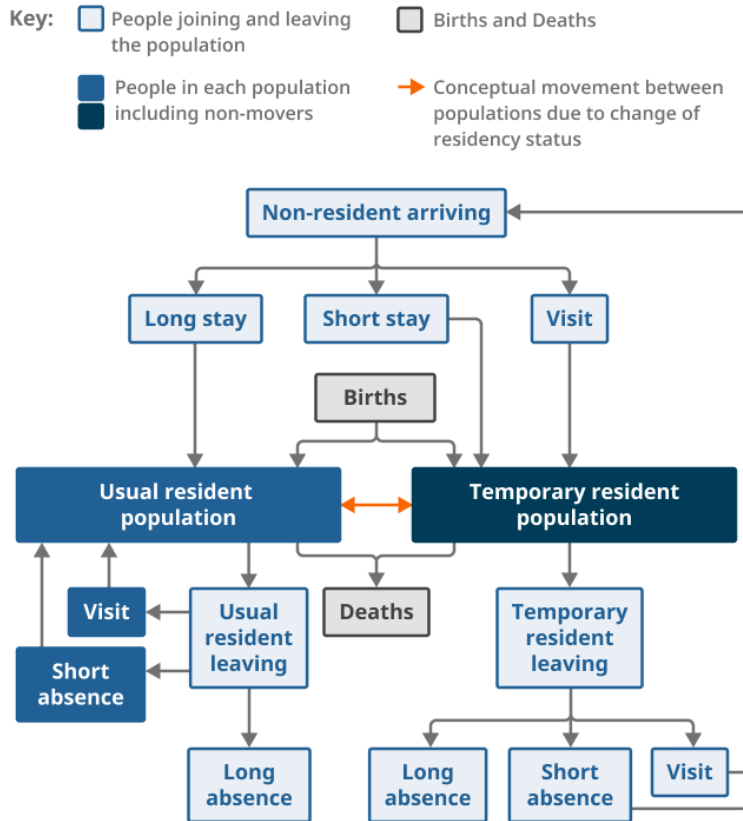
somebody is and the length of stay of a mover is crucial to the classification of a migrant and which population they join or leave.

9. Using these aspects can sometimes exclude people: contributors to the domestic economy do not necessarily have a place of usual residence in the UK. For example, someone might work in the UK during the week but have a usual residence in France that they return to each weekend. Administrative data sources, such as tax receipts, allow estimation of those contributing to the economy, opening up new definitions. The challenges and benefits of trying to align population and economic definitions are discussed further in Impact of Migration on National Accounts: A UK Perspective (PDF,224KB).

10. A condition-based population can be further defined to include people who have a particular status or characteristic – a 'qualifying-status'. Populations defined by a qualifying status could include those currently in paid work or contributing to the economy, regardless of place; potentially a more appropriate population estimate for some per capita statistics.

D. Condition based definitions

11. Existing definitions focus on time and place and tie estimates of population and migration together into a coherent framework.

12. In line with UN recommendations, we use time and place conditions to define someone as a usual resident of the UK. A usual resident is someone who stays or intends to stay in an area for 12 months or more. A further condition enables short absences by usual residents to be disregarded when looking at an individual's length of stay. This is a logical inclusion, as people do not tend to change their permanent place of residence while away for a short time period, such as a holiday.

13. Figure 1 shows a conceptual framework of the usual resident and temporary resident populations (stocks) and the flows resulting in population change. In this instance, the target population is the usual resident population and the temporary population is our complementary population. The flow of people between each population is represented by the double-headed orange arrow. This conceptual framework can be applied over any time period and at any level of geography, with different conditions applied to the length of stay associated with usual residence. (In practice, defining the population who are usual residents is not straightforward).

14. The mobility flows in Figure 1 represent movements into and out of usual and temporary resident populations. International mobility encompasses both long-term international migration and other moves across international boundaries.

15. We use the condition-based UN recommended definition for long-term international migration (PDF, 5.0MB). Further information on our latest long-term international migration (LTIM) estimates of moves into and out of the country for 12 months or more are available on our International migration page.

16. In its 2021 recommendations, the UN noted the important role of temporary international mobility (moves) in population change, and their impact on societies, over much shorter periods of time. See more information in the Final Report on Conceptual frameworks and Concepts and Definitions on International Migration from the UN Expert Group on Migration Statistics, 27 April 2021.

17. Shorter stays or visits allows for multiple events within a particular period of time. The definition for a short stay should clarify whether the length of stay is from a single stay or cumulative trips and how it accounts for very short stops (such as transfers between flights). Multiple trips also make it harder to define at which point a mover is a new arrival or a returning migrant.

Figure 1 A conceptual framework of how people move into and out of populations

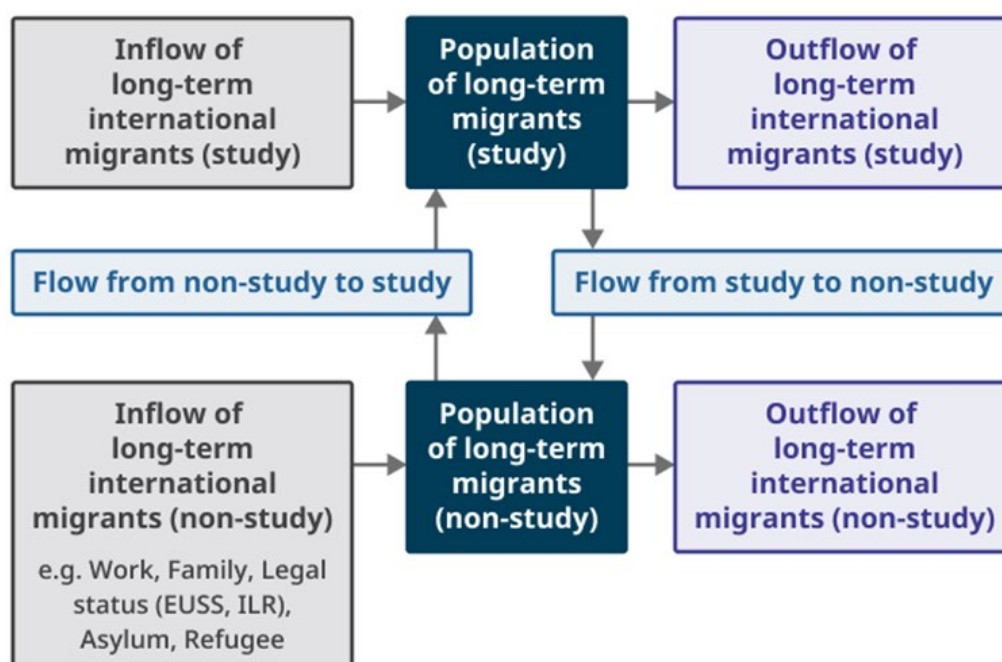
Source: Office for National Statistics

E. Qualifying-status based definitions

18. A condition-based population can be further defined to include people who have a particular status or characteristic. Administrative data provide information on both activity and characteristics. They may include people who interact with a service or process, such as paying tax, but are not usual residents, as measured by a census.

19. Populations defined by a qualifying status could include:

   a. ownership of a second home; allowing users to understand the relationship between housing and usual residency

   b. usual residents of a communal establishment, such as a care home; focusing on a particular section of society

   c. currently in paid work or contributing to the economy, regardless of place; potentially a more appropriate population estimate for some per capita statistics

20. The possibilities and challenges of using a qualifying status to define a population are explored further using the example of international students.

F. International students in the UK

21. An international student is currently defined as someone who arrives in the UK to study and remains for a period of 12-months or more. In line with the current UN definition of a long-term migrant (PDF, 5.0MB), international students are included in our estimates of long-term immigration.

22. Students are an important interest group to many users and some question whether they should be included in our long-term international migration (LTIM) estimates. They are often considered part of the temporary population who arrive to study and leave once their studies are completed, often with periods abroad outside of term time. However, many who come to study go on to obtain work visas or become British citizens. It is important to consider how much students contribute to population change over time.

23. Several reasons make isolating international students in migration data challenging. One example of this is their changing status. Students' plans may change. Our Visa journeys and student outcomes article shows that for students with visas ending in the 2018 to 2019 academic year, 35% successfully applied for new visas (such as for work and/or further study) and remained in the UK. This interaction between students and other reasons for migration means we cannot treat students in isolation. This is shown in Figure 2.

24. Figure 2 shows the inflows and outflows of long-term migrants to the UK, split by whether their main reason for migration is to study. Between arrival and departure, the populations of international students and all non-study migrants are separate. Students move into the other reasons for migration population if they stop studying and start working or gain British citizenship. Those who arrive for non-study reasons can move into the international student population if they start studying.

Figure 2: Populations and flows by reason for migration - study and non-study

Source: Office for National Statistics

Notes: European Union Settled Status (EUSS), Indefinite Leave to Remain (ILR).

25. Treating students as temporary migrants and excluding them from LTIM estimates could create error in net long-term migration because:

     a.   not including students in our immigration estimates, but including those who stayed beyond their student visa in emigration estimates, as emigrating workers for example, would lead to underestimation of net migration

     b.   not including students who, post-study, transfer to an alternative route and subsequently stay in the UK, would lead to net migration under-estimates

     c.   including those who enter via non-student routes in our immigration estimates, but then excluding their emigration after a transfer to a student visa would lead to overestimation of net migration

     d.   not including those who we cannot identify as a student (Ukraine, BNO, EUSS, British) in the student population, leaving them in the general population, would lead to overestimation of net migration

III.   Example Alternative Definitions

G. Short-term, circular and repeat migrants

26. Detailed information on travel behaviour and visa status within Home Office Borders and Immigration data enabled research to determine if we can produce estimates of short-term international migration from these data. We have produced exploratory research estimates of short-term immigration to the UK for newly arrived non-EU nationals. These are early, indicative estimates of migrants who:

     a.   are not included in our LTIM calculations

     b.   have visited the UK at least once in the year following their first arrival in the UK

     c.   have a total length of their completed stays (in the 12 months after their first arrival) that sum to between 1 month and less than 12 months

     d.   were not in the country in the previous 12 months before their first arrival (and are therefore considered new arrivals)

27. This is an area of ongoing research and these estimates are experimental. They are also not comparable with LTIM estimates for these time periods. Further research will investigate the potential of these data to highlight the patterns that suggest different types of short-term migration.

Table 1: Short-term international immigration of non-EU nationals

Exploratory research estimates, year ending June 2019, year ending June 2020, and year ending June 2021, UK

Length of cumulative stay	Year ending June 2019	Year ending June 2020	Year ending June 2021
9 months up to 12 months	50,000	40,000	30,000
6 months up to 9 months	50,000	50,000	30,000
3 months up to 6 months	160,000	110,000	70,000
1 month up to 3 months	420,000	250,000	70,000

Source: Office for National Statistics, Home Office

Notes: These figures are based on Home Office Borders and Immigration data. We are developing estimates of short-term international migration using new methods and data sources. As such, these are exploratory research estimates to demonstrate a proof of concept and should be interpreted cautiously. We currently exclude journeys without arrival or departure dates. Further research is planned on imputing missing arrivals and departures. Because of the experimental and provisional nature of our statistics, numbers have been rounded to the nearest 10,000.

H. Population present

28. An alternative concept for defining a population is to include everyone who is physically present at a particular place at a certain time. The size of these populations can fluctuate in many ways. For example, student flows enlarge university towns during term-time and shrink areas without universities as people leave for study. Holiday destinations have seasonal fluctuations. In commercial areas there can be significant variation in population present at weekends compared with weekdays. In entertainment areas, day-time and night-time populations can differ.

29. A fundamental aspect of population present statistics is the unit of measure used and how changes in magnitude are presented. For very short stays, such as a visit or day-time presence, it is not necessarily how many people within the population move, but the number of moves undertaken that is most useful. For example in our Overseas travel and tourism data, we estimate the number of completed visits by UK residents abroad and overseas residents in the UK.

30. We are exploring innovative methods for estimating population present. This includes using administrative data in research to explore the feasibility of estimating the population of small areas by specific times of day, taking account of population mobility. This exploratory research can be found in Population 24/7 – A method to account for daily population mobility in spatiotemporal population estimates on the UK Statistics Authority website (PDF, 983KB).
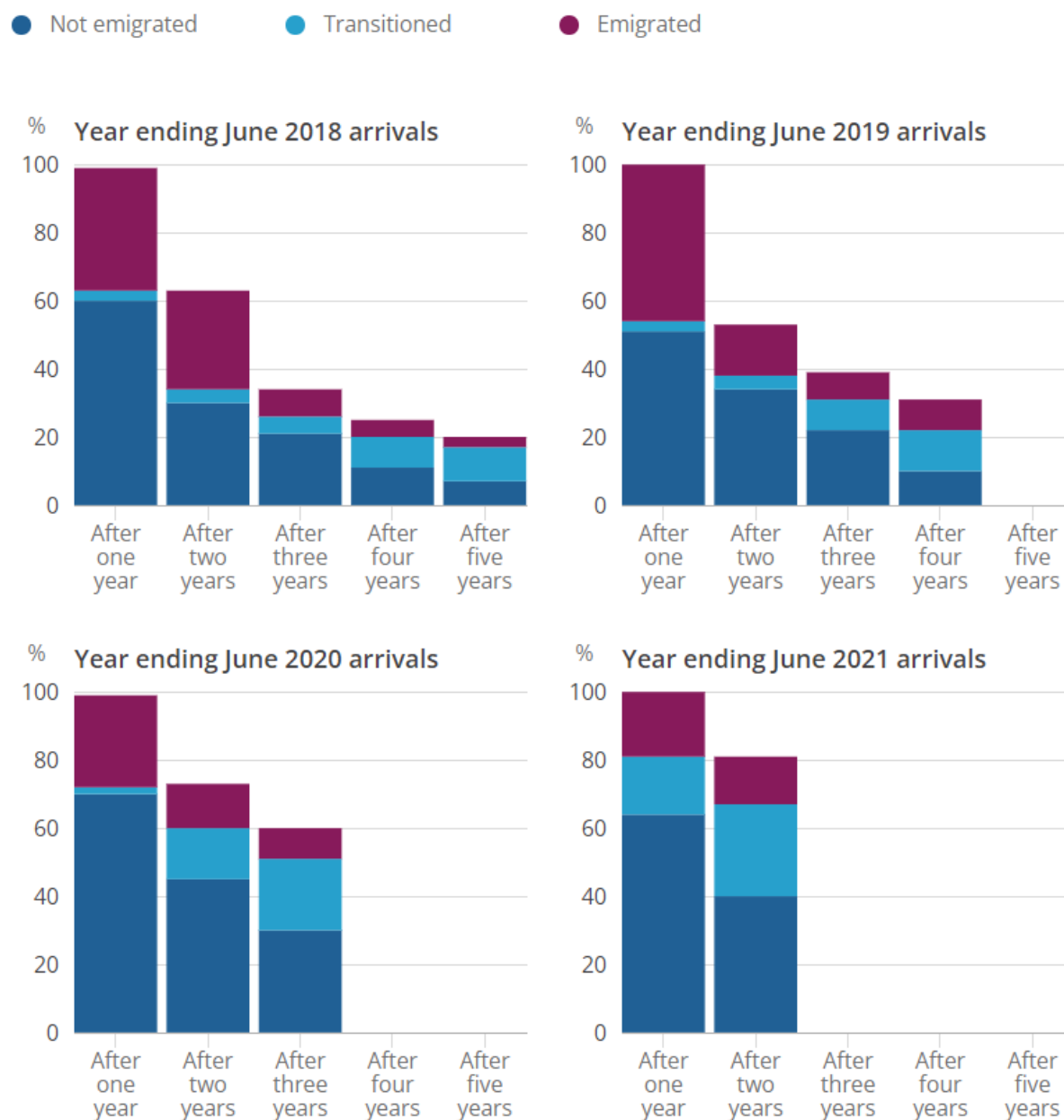
31. Suggestions for other populations that could be defined by a population present status include:

    a. workplace and workday populations; who is present in an area during the standard working week

    b. evening and weekend populations; who is present in an area outside the standard working week

    c. monthly, quarterly, or seasonal populations

I. Cohort analysis of International Students

32. In November 2023, we published 'Reason for International Migration, International Students Update: November 2023' which considered the benefits of several methods for estimating international students and their impact on net migration.

33. This method follows a cohort of long-term non-EU migrants who initially arrived in the UK on a study or a study-dependant visa. It looks at their status in the country over time, on the reference date of interest (30 June) in the following years. It then looks at those still in the country and what type of visa they were on. Finally, for those that had emigrated, it looks at what visa type they left on.

34. For each cohort, we calculate the following:

    a. percentage still on the same visa type (student, work, family, other); these people are categorised as "not emigrated"

    b. percentage who have transitioned onto a different visa type; these people are categorised as "transitioned"

    c. percentage of cohort who have emigrated; these people are categorised as "emigrated"

35. The three steps are then repeated each subsequent year so that the individual cohorts can be followed year on year, and their time spent in the UK and on different visas becomes clear.

36. A cohort approach is a helpful illustration of what happens to different migrants during their time in the UK. This is because it accounts for people who switch between different visa types.

37. However, because this method is based on observed behaviours, outcomes of each cohort are only available several years after arrival. For the more recent cohorts we do not yet know what their movements are longer-term. We can, however, already see that they behave differently in the first few years to previous cohorts, but we will need to wait several years to see how many stay for extended periods.

38. This approach is not directly comparable with our Long-term international migration, provisional: year ending June 2023 bulletin.

39. As seen in Figure 3, when following the YE June 2018 cohort of long-term migrants who initially arrived on a study-related visa, the data suggest that the majority had emigrated within five years; around 17% were still present in the country in the YE June 2023. It should be noted that while cohorts change over time, there is always a significant student population in the UK at any given time, because of the arrival of new cohorts.

40. Comparing cohorts, for the YE June 2018 cohort, after four years around 20% remained in the country. For the YE June 2019 cohort after four years, around 22% of the cohort were still present in the country.

Figure 3: The size of the student cohorts present in the UK decreases over time

The migration status of the years ending (YE) June 2018, 2019, 2020 and 2021 cohorts, between YE June 2019 and YE June 2023

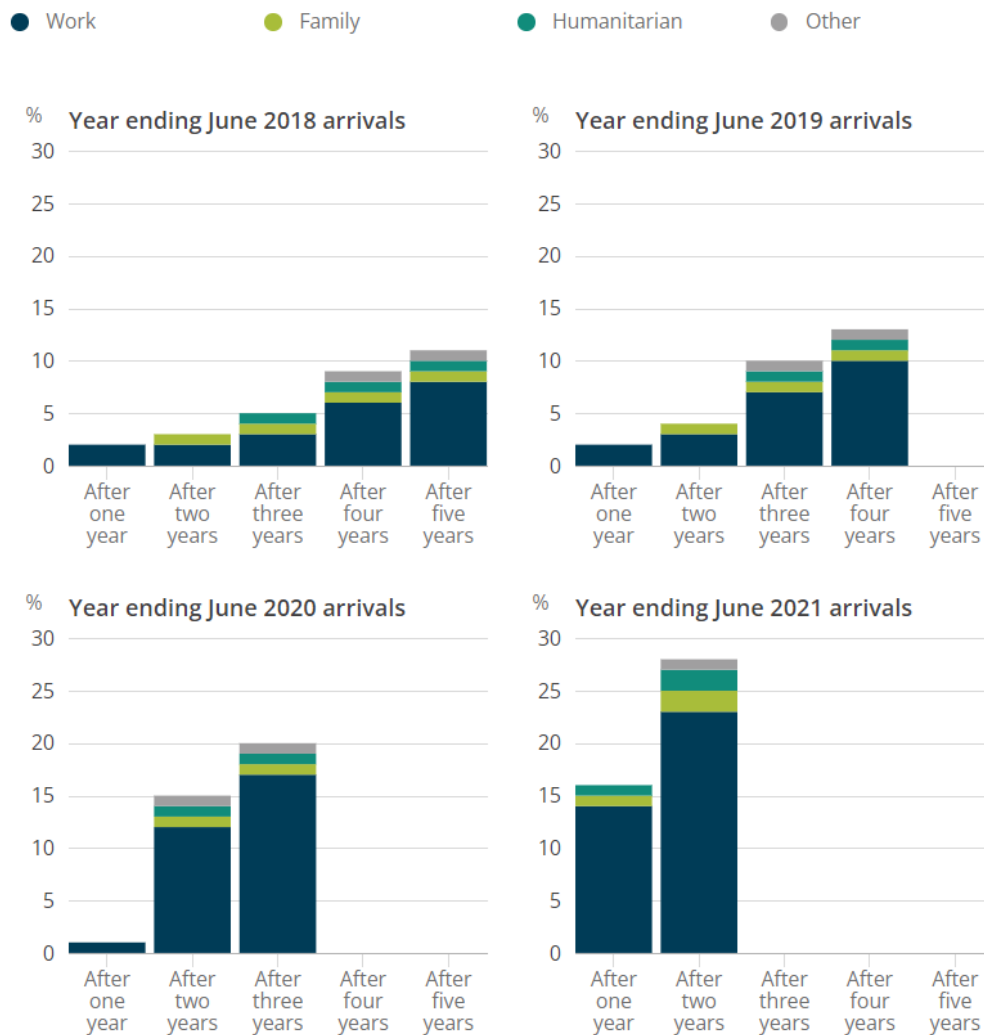● Not emigrated   ● Transitioned   ● Emigrated

Source: Office for National Statistics, Home Office

41. Our analysis also shows that the proportion of migrants transitioning onto a different visa type after two years has changed over time, with a higher proportion transitioning rather than emigrating in more recent cohorts. For example, 4% transitioned after two years for both the YE June 2018 cohort and the YE June 2019 cohorts. In contrast, 15% and 27% of the YE June 2020 and YE June 2021 cohort, respectively, transitioned after two years.

42. The higher proportion of transitions in recent cohorts could be because of the new graduate visa (as explained on GOV.UK) which was launched in 2021 and is categorised as a work visa, as 12% of 2020 and 22% of 2021 cohorts, respectively transitioned after two years onto work visas (see Figure 3). These higher proportions are also observed during a time of uncertainty with the coronavirus (COVID-19) pandemic, so this may have attributed to international students in the more recent cohorts behaving differently to the 2018 and 2019 cohorts.

Figure 4: A higher proportion of people transitioned onto work-related visas in more recent years

All visa transitions for those who arrived on a study-related visa in the years ending (YE) June 2018, 2019, 2020 and 2021, between YE June 2019 and YE June 2023

● Work   ● Family   ● Humanitarian   ● Other

Source: Office for National Statistics, Home Office

Notes: Study-related visa arrivals include those who arrive on study and study-dependant visas. Work dependant visas and graduate visas are included in work visas. Estimates are for non-EU nationals only. These estimates are for long-term international migrants only and do not include short-term migrants.

Conclusion

43. Existing standards and definitions for measuring migration are a vital part of understanding population change but they are limited when compared to increasing mobility of people.

44. Alternative definitions of migration will need to take account of time and place conditions, which can offer insight into short and repeat movers and enable decision makers to plan for temporary population changes. Definitions based on status will highlight the needs of important groups of people.

45. The UK work to date on this demonstrates that administrative data sources can enable these more granular definitions. Longitudinal administrative data might also show changes in status within a stay in country, to help us understand the drivers of migration better than ever before.