

Final Report on Conceptual frameworks and Concepts and Definitions on International Migration

27 April 2021

Introduction and Background

1. The United Nations Statistics Division, under the guidance of the United Nations Expert Group on Migration Statistics, has initiated revisions of the 1998 Recommendations on Statistics of International Migration (referred to as the 1998 Recommendations hereafter). Up until now, the definition of international migrant as stipulated in the 1998 Recommendations has supported to a certain degree comparability across countries. However, more than 20 years have passed since the 1998 Recommendations were published. Up until the Covid-19 pandemic in 2020, the obstacles of international migration were reduced. In particular, modern communication technologies and the increased convenience of travel lessened the psychological burden of living in other countries as migrants were able to remain in frequent contact with their families and friends in their origin countries. This includes both temporary and permanent moves associated with education or job opportunities and those due to political or environmental circumstances. Regional agreements have also been made that allow free movements amongst certain countries, raising new measurement challenges even for countries with relatively developed statistical systems.
2. Increases in the levels and changing patterns of international migration, including asylum seekers and refugees, have raised the demand for accurate and timely data. Calls for better data from a number of initiatives have stressed the need to collect and use migration statistics to develop evidence-based migration policies and guide the integration of migrants into national development planning¹. These data are also needed for estimating populations and understanding demographic change. With increasing life expectancy and

¹ International Migration Statistics, Report of the Secretary General, Statistical Commission, Fiftieth session, 2019.

declining fertility across most countries in the world, migration has become an increasingly important component of both demographic and social change.

3. Quality and timely data on international migration are needed for many reasons. They are increasingly related to population growth or decline, economic development, and environmental concerns. For example, local actors need timely counts of persons who use local services (e.g., housing, health and social services, schools), while national stakeholders may be more interested in the size, characteristics and dispersion of migrants across the national territory to assess the effects on population change and domestic labour markets, for instance. As international mobility involves movements of persons from one country to another, there is a need for sharing data on these movements and ensuring they are comparable over time. Without such data, it is not possible to estimate the size of countries' diasporas abroad or to benchmark the size and characteristics of international migration stocks and flows. Nor is it possible to meet the data requirements of the United Nations' Global Compact for Safe, Orderly and Regular Migration² and Sustainable Development Goals.³ As many countries struggle to collect statistics on population movements, having a mechanism for building capacity in the development and improvement of migration statistics could prove very valuable.
4. New migration patterns have already triggered various statistical initiatives. For example, in responding to the growing importance of repeated migration between countries by the same person, a statistical definition of circular migration has been endorsed by the Conference of European Statisticians of UNECE in 2016. Other types of mobility, such as cross border and seasonal workers who do not necessarily meet the duration requirement of an international migrant, are considered policy relevant and now part of the framework in measuring migrant workers (ILO, 2018). The longitudinal aspect of migration is also endorsed by the work of an UNECE Task Force which is going to be published in form of a recommendation.⁴

² United Nations International Organization for Migration: <https://www.iom.int/global-compact-migration>.

³ United Nations Division for Sustainable Development Goals, <https://sustainabledevelopment.un.org/>.

⁴ <https://www.unece.org/statistics/networks-of-experts/task-force-on-the-use-of-longitudinal-data-for-migration-statistics.html>

5. The current international recommendations on statistics related to population favour the use of the concept of ‘usual residence’⁵ although other population definitions exist. The variety of measures used to define populations is directly related to the variety of measures used to define migrant populations and migration flows. For a registered population, the ‘non-vital’ entries into (exits from) the population would be the persons newly registered (de-registered); for a ‘permanent resident population’, the persons joining are those receiving a permanent residence permit; and so forth. Other population bases are primarily used for administrative purposes⁶.
6. Recent discussions on the relevance of concepts on international migration and the applicability of their definitions have raised some critical questions. For instance:
- a) Are the concepts “long-term migrant” or “usual resident population” too rigid to explain population changes in a modern world?
 - b) How do the 1998 Recommendations on concepts and definitions meet policy needs and provide relevant data for analysing the impact of international migration and related phenomena on the economic and social situation of a country?
 - c) Are changes to the status of international migrants, such as from foreign citizens to citizens or from visitors to migrants or residents, sufficiently reflected in the 1998 Recommendations?

Others have found the 1998 recommendations too complex, requiring advanced administrative data systems with little attention paid to population stocks.

7. How countries measure international migration has also changed over the past 20 years. Many European countries and some countries in other regions are moving towards integrated statistical population register systems and linking other types of administrative records. On one hand, this move improves the efficiency of national statistical systems in producing data; on the other hand, data generated from such systems have limitations that are common to any statistic based on administrative records. While integrating administrative and other types of data, it is important that the relative strengths of each

⁵ United Nations (2017) Principles and recommendations for population and housing censuses, Revision 3. ST/ESA/STAT/SER.M/67/Rev.3, Department of Economic and Social Affairs, Statistics Division, United Nations, New York. Available at: https://unstats.un.org/unsd/publication/seriesM/Series_M67Rev3en.pdf.

⁶ Working document on Key Concepts and Definitions Related to International Migration, Giampaolo Lanzieri, member of TF 2.

data source are identified and applied towards producing statistics on migration flows and migrant populations.

8. Finally, despite continuous efforts made at the international and national level to promote the adoption of the 1998 Recommendations, widespread application of the Recommendations by countries has not been achieved. The 1998 Recommendations were often seen as a theoretical framework that is difficult to operationalize.
9. The conceptual frameworks and definitions presented in this document provide the basis for the revision of the 1998 Recommendations. The major aims of the revised Recommendations include: (a) building stronger links with data needs for policymaking; (b) providing guidance on data collection and analyses; (c) revisiting the concept and definition of an international migrant and related phenomena; (d) covering new migration patterns and new data sources; and (e) incorporating relevant frameworks, such as the 2018 International Recommendations on Refugee Statistics⁷ and the new guidelines of the International Labour Organization concerning statistics on international labour migration⁸, while ensuring harmonization across them.

Objectives

10. This document aims to advance a proposal on a conceptual framework that includes key concepts related to international migration phenomena (covering both stocks and flows) and their definitions. An important aspect of the conceptual framework is to show how international migration and temporary population mobility are linked to the processes of population change. The main objective of this document is to strengthen national capacity for the production of reliable statistics on international migration and mobility that are both relevant for the country's data needs and consistent with recommendations for international comparison.

⁷ The International Recommendations on Refugee Statistics (IRRS) are developed by the Expert Group on Refugee and Internally Displaced Persons Statistics (EGRIS) published by the European Union and United Nations (2018); Available at: https://unstats.un.org/unsd/demographic-social/Standards-and-Methods/files/Principles_and_Recommendations/International-Migration/2018_1746_EN_08-E.pdf

⁸ ILO, Guidelines Concerning Statistics of International Labour Migration, 20th International Conference of Labour Statisticians, 2018. Available at: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/meetingdocument/wcms_648922.pdf

11. The final output of the Task Force is intended to be a (short) document to be used in the overall revision of the 1998 Recommendations. Given the logical association between the definition of migration and the definition of population, the proposal by the Task Force also includes a discussion for definition of population other than ‘usually resident’.
12. The proposal aims to respond to key policy interests (taking into consideration the 2030 Agenda), taking advantage of the work carried out by the Task Force on ‘Data and indicators set on international migration’ and building upon the outcome of a global consultation⁹ on concepts and definitions which are relevant to most countries.
13. Acknowledging the challenge of concepts and definitions that would be applicable to all countries, the proposal strives to be not only relevant to national policy making, but also promote comparability across countries and across different international statistical frameworks, covering both the demographic domain and other areas for which the concepts of population and migration are relevant (such as the System of National Accounts, Labour Force, Balance of Payment and Tourism).

Background: The 1998 Recommendations

14. The 1998 Recommendations defined an international migrant as “any person who changes his or her country of usual residence” and a person’s country of usual residence is “that in which the person lives, i.e., the country that the person has a place to live where he or she normally spends the daily period of rest.” (para. 32). The same Recommendations clarify that a short-term migration involves a period of stay between 3 months and 12 months, and long-term migration involves a period of stay of at least one year. The extent of the duration of stay abroad is what distinguishes the statistical definition of ‘migrant’ from ‘visitor’.
15. International migration, as defined in the 1998 Recommendations, is therefore basically a factual change of country of usual residence, without reference to the individual characteristics of the person, such as country of birth, citizenship or holding the

⁹ Main results of the global consultation are available at <https://unstats.un.org/unsd/demographic-social/meetings/2020/virtual-meeting-egm-migration/4a-TF2-results-of-global-consultation-definitions-final2.pdf>

permission for legal stay in the hosting country, or the reason(s) for changing the country of residence.¹⁰ The 1998 Recommendations elaborate further the duration element, when the concepts of “long-term migrant” and “short-term migrant” are defined (Box 1). For long-term migrant, a period of at least 12 months residence in the country is required, while a requirement of 3 months but less than 12 months duration of stay is used for short-term migrant (except cases where the movement is for purposes of recreation, holiday, visits to friend and relatives, business, medical treatment or religious pilgrimage). The 1998 Recommendations also note that for purposes of international migration statistics, short-term migrants could become part of the usual resident population during the period they spend in the country. Collecting information on short-term migrants together with long-term migrants is a major challenge as it requires national data collection systems to keep track of both types of movements continuously over time. With census enumerations, there are concerns that measuring short-term migration could jeopardise the estimate of the usually resident population. However, some countries gather information on short-term migrants to ensure coverage of the usual resident population. This is primarily for the inclusion of persons who have not yet met the residence requirement but are likely to do so in the future.

16. The duration element has also been incorporated into the UN recommendations for censuses, which are closely related to the work on international migration. In 2008 when the second revision of Principles and Recommendations for Population and Housing Censuses (referred to as the UN Census Recommendations) was published, a duration element was incorporated in its definition of usual residence. Broadly comparable to the definition of long-term migrant in the 1998 Recommendations, a general threshold of 12 months was adopted in this revision. In the latest recommendations for population and housing censuses (UNSD, 2017), countries however were given two options in their census data collection when defining usual residents – one based on most of the last 12 months (6 months and one day) and the other based on at least 12 months.

¹⁰ The 1998 Recommendations definition of international migration described here is specifically for the measurement of flows. The population stock definitions, towards the end, address topics like country of birth and citizenship.

Reconceptualising International Migration and Mobility

17. In this section, we outline the key conceptual framework for international mobility and migration. International mobility includes all movements that cross international borders within a given year. International migration is defined more narrowly as a change in the country of residence and is considered a subset of international mobility. These flows are integral for understanding resident population change, which is the main population used for international comparison. In our conceptual framework, we split populations and their corresponding international mobility into two distinct groups: (i) resident population and international migration and (ii) temporary (non-resident) population and international temporary mobility. International temporary mobility includes all international border crossings (events) except those related to changes in the resident population.¹¹
18. We define residence in line with the UN Principles and Recommendations for Population and Housing Censuses (Revision 3, par. 2.50).¹² That is, it is recommended that countries apply a threshold of 12 months when considering place of residence according to one of the following two criteria:
- a. The place at which the person has lived continuously for most of the last 12 months (that is, for at least 6 months and one day), not including temporary absences for holidays or work assignments, or intends to live for at least 6 months and one day;
 - b. The place at which the person has lived continuously for at least the last 12 months, not including temporary absences for holidays or work assignments, or intends to live for at least 12 months.

¹¹ Refer also to Charles-Edwards E, Bell M, Panczak R and Corcoran J (2020) A framework for official temporary population statistics. *Journal of Official Statistics* 36(1), 1-24.

¹² The current international recommendations related to population census, revision 3 (UN, 2017) suggest using the concept of 'usual residence' from which 'usually resident population' is generated. Several other population definitions, such as legal place of residence, registered residence, and permanent residence are used in practice (see https://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.41/2019/mtg1/WP2_Eurostat_Lanzieri.pdf). This document recognises the international effort to review the concept of usual residence and uses a broader concept of "place of residence" instead of place of usual residence. Also, to be aligned with this terminology, "resident population" is used instead of "usually resident population".

Consequently, the resident population is defined as the population with place of residence in the country. For a given year, each person should only have one place of residence. In reality, there may be instances where persons do not meet the duration criteria of either the origin or destination country for a given year, or meet the duration criteria for both the origin and destination country at the same time. In these situations, migrants may be missed¹³ or double-counted respectively, and the numbers would have to be adjusted or harmonised for use at the international level. The resident population should include persons who may be irregular or undocumented, as well as asylum seekers and persons who applied for or been granted refugee status or similar types of international protections, provided that they meet the minimum duration of residence requirement (actual or intended) in the country (UN 2017).

19. For measuring international migration, we advocate that migration should be considered a change in the resident population and we would recommend the definition of residence in line with the UN Principles and Recommendations for Population and Housing Censuses Revision 3 (as set out in para 18 and 43). We recognise that many countries currently apply different concepts of resident population. Within a country's statistical system, what is important for measuring international migration is that the flows are aligned with the country's measurement of resident (or registered) population¹⁴. This ensures consistency in the production of national statistics, particularly since migration is a key component of population change that is necessary for the production of population estimates and projections. The production of population estimates and projections is one of the most important activities of National Statistical Offices and forms the basis for policy making and planning. In cases where the registered population differs greatly from the UN's recommendations on resident population measurement, additional information should be provided with the reported international migration flows so that the user community may correctly interpret the reported flows. In particular, there may be cases where international migration occurs

¹³ For example, if the country of origin and country of destination use the different definitions. Person residing in Country of origin X for 4 months, and country of destination Y for 8 months. Country X defines usual residence based on the six months and one day rule and Country Y defines usual residence using the at least 12 months rule, the person could foreseeably be neither a usual resident of country X or Y.

¹⁴ The framework requires flows of international migration aligned with country's official definition of population. For example, for a registered population, the persons newly registered (de-registered) in a given year would be considered in measuring flows.

but they are not counted (e.g., migrants fail to de-register from the population register when they emigrate).

20. Temporary population movements are, arguably, as important to measure as international migration and, likewise, may greatly influence the economic and social setting of a country. In our exposition of temporary population movements, we consider all international movements who stay less than the minimum duration of residency requirement, including for example, those associated with daily commuting, tourism, pilgrimage, business, medical treatment, visits to family or friends, seasonal labour, and education. These movements also include forcibly displaced persons, such as asylum seekers in transit and those who move for environment- or climate-related reasons. It should be noted that displacement situations that are not quickly resolved may become protracted. Many of those in these situations seek solutions other than return, such as local integration or resettlement to another country.
21. The conceptual frameworks outlined below address several important problems related to the measurement of international migration. The first major problem concerns the current misalignment between flows of international migration and stocks of immigrant populations. International migration flows generally refer to all persons immigrating (emigrating) to (from) a country during a particular time period. Immigrant populations, on the other hand, are measured primarily using information on country of birth at a point in time. From census data, one may be able to identify period of arrival and those who recently returned to their country of birth, however, these data are only available during census years and are generally not accessible for cross-national comparisons. The second problem concerns the distinction between international migration and international temporary mobility. Producing comparable statistics on both international migration and temporary movements is likely to be difficult and complex for any country, but particularly for those without access to individual data on all border crossings. Nonetheless, the proposed conceptual frameworks provide guidance on the durations and types of movements that are needed for understanding international migration and temporary mobility. Related to this, the third problem concerns consistency in the measurement of international temporary movements and the corresponding temporary populations.

22. The main contribution of this document in relation to the earlier recommendations¹⁵ is the emphasis on consistency between international migration flows and immigrant populations (stocks) and international temporary mobility and temporary populations. Aligning the measurement of flows and stocks should improve accuracy and accountability in international migration data. The frameworks introduced in this section should be considered important starting points for more detailed and policy relevant information on international migration and mobility. All of the concepts described below can be further disaggregated by age, sex, citizenship, country of birth and other attributes, such as education levels or occupations.
23. For compilation of statistics on international migration and temporary mobility, two types of populations are needed: resident population and temporary population. The resident population consists of individuals who have lived for either (a) most of the last 12 months (or intended/granted to live at least 6 months and one day) or (b) at least the last 12 months (or intended/granted to live at least 12 months)--- not including temporary absences for holidays or work assignments (paragraph 18). The temporary population refers to all persons present in the country at a specific point in time who are not residents. Since official statistics on population numbers represent resident populations (de jure) or present populations (de facto),¹⁶ it is important to link both to our conceptual framework for measuring international migration and mobility. In practice, most countries measure either the resident population or the present population. However, some countries use censuses or administrative records to measure both resident and present populations as there is an interest to measure residents who are present, residents who are temporarily away, and persons who are temporarily present.

¹⁵ United Nations (1998) Recommendations on statistics of international migration, Revision 1. Series M, No. 58, Rev. 1, Department of Economic and Social Affairs, Statistics Division, United Nations, New York. Available at https://unstats.un.org/unsd/publication/seriesm/seriesm_58rev1e.pdf.

¹⁶ United Nations (2017) Principles and recommendations for population and housing censuses, Revision 3. ST/ESA/STAT/SER.M/67/Rev.3, Department of Economic and Social Affairs, Statistics Division, United Nations, New York. Available at: https://unstats.un.org/unsd/publication/seriesM/Series_M67Rev3en.pdf.

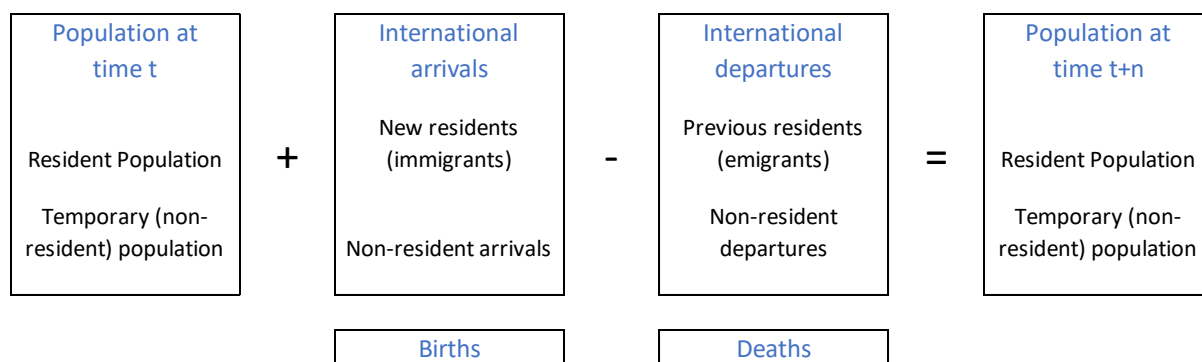


Figure 1. Overarching conceptual framework on international mobility

24. As shown in Figure 1, for measuring international mobility that includes the distinction between immigrants (emigrants) and non-resident arrivals (departures), more than one population base has to be considered: (a) resident population and (b) temporary (non-resident) population. The resident population changes between time t and $t+n$ by the addition of new residents and births and the subtraction of previous residents (i.e., persons leaving the country to become resident in another country) and deaths. Similarly, temporary (non-resident) population changes by adding arrivals of people who are not residents of the country (and possibly births among them) and subtracting departures of people who are not residents (and possibly deaths among them). This framework indicates that arrivals and departures should be classified by arrivals of new residents and non-residents and departures of previous residents and non-residents. Note, residents who are temporarily staying in other countries are not removed from the (origin) resident population.

25. There can be challenges in applying the concept of a ‘place (country) of residence’ if a person considers that she/he has more than one residence, sometimes in different countries. In principle, based on the minimum duration requirement for defining resident population, persons who spend shorter amounts of time in the country are excluded from the resident population. One difficulty arises when, say, a person spends short amounts of time (less than minimum duration criteria) in three or more countries throughout the year. In this situation, potentially no country would consider the person to be a resident. Similarly, a person could spend multiple short periods of time in the same country or two

countries. However, the person in both cases would most likely default to the residence observed in the previous year¹⁷.

26. Definitions of resident population depend greatly on the policies of the country administering the data. For the purposes of measuring international migration, persons entering the country and becoming part of the resident population are considered immigrants. Residents leaving the country to become part of another country's resident population are emigrants. Note that, depending on national criteria for residency, individuals may obtain (lose) resident status in one country in the period of reference but not in another country, implying that statistics at the international level may not be entirely comparable unless all countries have the same requirement for residency. For the non-resident population, the size may vary considerably over time depending on the number of recent arrivals and departures. Generally, the flows of international temporary mobility are expected to be much higher and more variable than flows of international migration.
27. In Figure 2, we present a conceptual framework that links international arrivals to the present population, which includes all persons present in the country at a particular time, excluding residents temporarily abroad. The key distinguishing factor between international migration and other international population movements is duration of stay in the country or abroad. The criterion for defining a migrant, therefore, should be the duration required in order to be considered part of the resident population. In practice, this would imply a duration either 6 months or 12 months (see paragraph 18) so that flows of migration coincide with annual resident population change. The same situation occurs for departures:¹⁸ persons need to be away and stay in another country long enough based on minimum residence requirement to be considered part of another country's resident population. Persons who stayed temporarily in more than one country for less than minimum duration criteria cannot establish a new residence, therefore are still part of the resident population of their country of origin. In the framework, we include individuals who never become part of the resident population. We also include changing status from temporary population to resident population for persons who stay more than the minimum

¹⁷ For more information about who will be included in or excluded from the resident population, see pages 40-41 and pages 180-182 of the UN Principles and Recommendations for Population and Housing Censuses Revision 3.

¹⁸ Countries may determine duration in a variety of ways, including actual duration, intended duration, legally granted (based on the validity of a permit), or a mix of all three depending on the data sources.

duration criteria while they are still present in the country. Persons who stayed longer than minimum duration criteria and do not possess a valid visa or other immigration documentation should be considered part of the resident population.

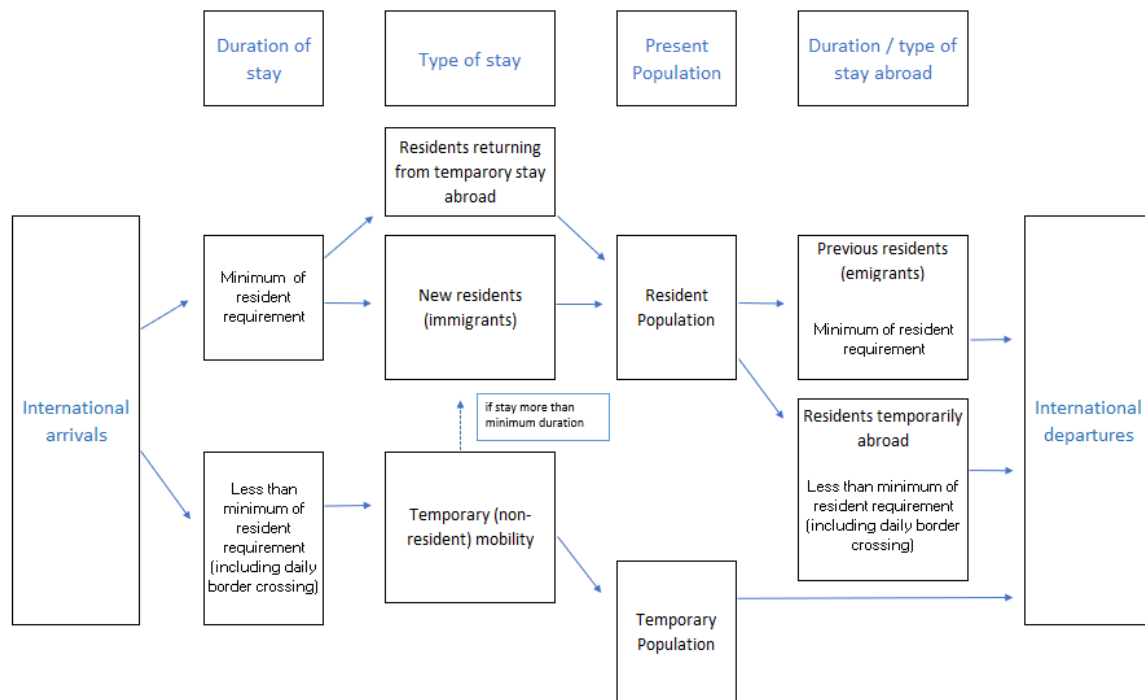


Figure 2. Conceptual framework on intersection between duration of stay and international mobility

Conceptual Framework on International Migration

28. People migrate for many different reasons. Some are recruited for labour, while others join family members that previously migrated. Young adults move abroad for education opportunities or to seek adventure and new cultures. Persons with unique skills are especially sought after in today's globalised economy, whilst others are sought for their willingness to do jobs that are low paid, dangerous, and tentative. There are also situations where people are forced to move due to their religious beliefs, ethnicity, nationality, political views, or membership in a social group, or because they live in situations of extreme poverty and have no other options but to seek better opportunities elsewhere. While many, if not most, migrants return home or to other countries after a period of time,

there are many who remain in the country of destination for the remainder of their lives, bearing children and forming new communities along the way. In order to study these migration patterns and their consequences across societies, we need a basic set of comparable data on both migration flows and migrant population stocks.

29. For the resident population, there are four subpopulations critical to understanding immigrant and emigrant populations: native-born citizens, native-born foreign citizens (including stateless or those without citizenship), foreign-born citizens and foreign-born foreign citizens (including stateless or those without citizenship). Foreign born / native born and citizen / foreign citizen are the two main types of immigrant and emigrant population data available. Arguably, neither are ideal measures of migrant populations. Thus, combining these two measurements together into one framework provides a powerful tool for understanding international migration and its consequences for demographic and social change over time.¹⁹ Note, a person cannot change their country of birth, but they can change their country of citizenship.²⁰
30. The advantage of birthplace in defining the migrant population is its consistent definition over time, that is, a person may only be born in one country and if it is different from the country of residence, it shows that this person moved to another country at least once in her/his life. However, with these data, it is not known when the migrants arrived or whether they have permission to remain indefinitely. Citizenship, on the other hand, distinguishes access to a range of services and protections in a country. For immigrants, obtaining citizenship is arguably one of the most important indicators for societal integration and permanency. However, once a person becomes a citizen, the information on their previous or other country of citizenship is no longer considered important or measured. Also, persons can become citizens even though they have never lived in the country (e.g., children of citizens living abroad). Alternatively, persons may be born in the country but remain foreign citizens. For instance, many refugees have been born in

¹⁹ Further on the relevance of the combined use of country of birth and citizenship in migration statistics, see “An alternative view on the statistical definition of migration”, Working Paper 5 for the UNECE Work Session on Migration Statistics. (<https://statswiki.unece.org/display/ME/UNECE-Eurostat+Work+Session+on+Migration+Statistics?preview=/247300277/263226833/2.5%20Definitions%20Eurostat.pdf>)

²⁰ It is possible for ‘country of birth’ to change when country borders change or new countries are formed, after birth, but this is not a common occurrence.

displacement and have never migrated during their lifetimes. In this case, they would be included in the native-born foreign-citizen population group unless they naturalized. Another important indicator is return migration of native-born citizens who previously resided in another country.

31. In Figure 3, we present the ideal and recommended situation, where the resident population is disaggregated by both birthplace and by citizenship with corresponding flows of immigration and emigration. We use this conceptual framework as the basis for recommending data collection and dissemination on international migration and immigrant populations. As above, the framework indicates the coherence between flows and stocks. Changes in the size and structure of the ‘stock’ of migrants are determined largely by the flows. Migrant births and deaths can also influence changes to the migrant population stock, and they should be included as part of the data collection and reconciliation. The framework also includes the possibility of changing status from foreign citizens to (national) citizen that can be acquired at birth or by naturalization, whether by declaration, marriage or other means according to the national legislation and the possibility of loss of citizenship through revocation or renunciation.

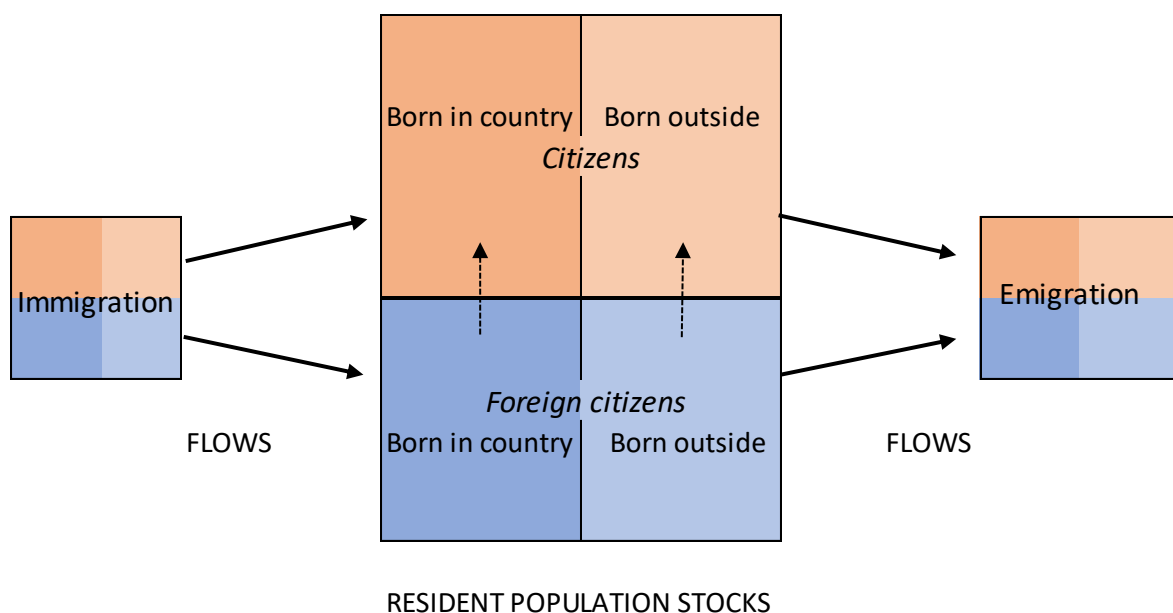


Figure 3. Conceptual framework on international migration and the coherence between flows and stocks

32. As mentioned above, there are two common concepts of immigrant populations currently applied: foreign born and foreign citizen. First, consider the foreign-born population and how it changes from time t to time $t+1$ (where 1 indicates a year). The cells in Table 1 highlight the data needed to reconcile the foreign-born and native-born populations and their international migration flows. The sum of numbers in the rows add up to the resident populations at the beginning of the time interval, $P_{R,i}(t)$. Note, the subscript R for residence population is implied and not included here and below for simplicity of expression. The balancing term or persons not changing their resident population status, R_i , is obtained by subtracting the total number of emigrations, E_i , and deaths, D_i , from the population at the beginning of the time interval, that is,

$$R_i = P_i(t) - E_i - D_i.$$

The variables in the columns of Table 1 add up to the populations at the end of the time interval (i.e., $t+1$). We can compute these by adding to the balancing term the total number of immigrations, I_i , and births, B_i , that is,

$$P_i(t+1) = R_i + I_i + B_i.$$

If we combine the two equations above, the balancing term cancels out, and we obtain the familiar components of the population change equation:

$$P_i(t+1) = P_i(t) - E_i - D_i + I_i + B_i.$$

What the above accounting equations show us is that in order to measure the foreign-born population and how it changes over time, we need data on population stocks, births, deaths, immigration and emigration disaggregated by country of birth. Note, however, that births to foreign-born persons are automatically native born and are added to the native-born population. Note, the determination of foreign citizens born in the country depends on the legislation in each country with some countries designating them citizens and others foreign citizens (i.e., jus sanguinis and jus soli systems). Also, countries may change borders or define country of birth differently, actual place of birth or mother's usual residence at time of birth, leading to potential inconsistent categorizations.

Table 1. Accounting table for resident population by birthplace

	Native born	Foreign born	Emigration	Deaths	Total
NB	R_{NB}		E_{NB}	D_{NB}	$P_{NB}(t)$
FB		R_{FB}	E_{FB}	D_{FB}	$P_{FB}(t)$
Immigration	I_{NB}	I_{FB}			I_+

Births to native-born parent(s)	B_{NB}				B_{NB}
Births to foreign-born parent(s)	B_{FB}				B_{FB}
Total	$P_{NB}(t+1)$	$P_{FB}(t+1)$	E_+	D_+	

Notes: t = time, $t+1$ = time plus one year, P = population, R = population that remains or does not change resident status, E = emigration, D = deaths, I = immigration, B = births, NB = native born or born in country; FB = foreign born or born abroad.

33. Second, we show the demographic accounting table for changes to foreign-citizen and national-citizen population change from time t to time $t+1$ in Table 2. Again, the sum of numbers in the rows adds up to the populations at the beginning of the time interval and the sum of numbers in the columns adds up to the populations at the end of the time interval. The R term represents persons not changing their resident population status, including those not transferring from being a foreign citizen (F) to a national citizen (C), denoted by T_{F-C} . For example, the demographic accounting model for the foreign-citizen population is:

$$P_F(t+1) = P_F(t) - E_F - D_F - T_{F-C} + I_F + B_F.$$

In this case, we assume births to foreign citizen parents are added to the foreign-citizen population. Note, in some countries, these births may be automatically considered national citizens and, in that case, they should be added to the national citizen population (similar to the treatment of births in Table 1). Also, we have not considered transitions from citizen to foreign citizen because we believe the occurrence would be very rare for most countries collecting and reporting the data, and it is not clear why someone would do so in the country where they are both citizen and resident. What the above accounting equation shows us is that in order to measure the foreign-citizen population and how it changes over time, we need citizenship information on population stocks, births, deaths, immigration, and emigration, as well as transfers to national citizenship.

Table 2. Accounting table for resident population by citizenship

	Citizen	Foreign citizen	Emigration	Deaths	Total
Citizen	R_C		E_C	D_C	$P_C(t)$
Foreign citizen	T_{F-C}	R_F	E_F	D_F	$P_F(t)$
Immigration	I_C	I_F			I_+
Births	B_C	B_F			B_+
Total	$P_C(t+1)$	$P_F(t+1)$	E_+	D_+	

Notes: t = time, $t+1$ = time plus one year, P = population, R = population that remains or does not change resident status, T = transition to another citizenship status (e.g., foreign citizen to national citizen), E = emigration, D = deaths, I = immigration, B = births, C = national citizen, and F = foreign citizen.

34. Related to the conceptual framework presented in Figure 3 are corresponding demographic accounts presented in Table 3, which can also be thought of as extensions to Tables 1 and 2. Consider the foreign-born citizen population, $P_{FB/C}$, and how it changes from time t to $t+1$:

$$P_{FB/C}(t+1) = P_{FB/C}(t) - E_{FB/C} - D_{FB/C} + T_{FB/F-FB/C} + I_{FB/C}.$$

Note births to foreign-born citizens are not included because they would be considered native born and added to the native-born foreign-citizen or citizen population. What the above accounting equations show us is that in order to measure the foreign-born citizen population and how it changes over time, we need data on population stocks, transfers in citizenship status, births, deaths, immigration and emigration disaggregated by both country of birth and citizenship status.

Table 3. Accounting table for resident population by citizenship and birthplace

	Native-born citizen	Foreign-born citizen	Native-born foreign citizen	Foreign-born foreign citizen	Emigration	Deaths	Total
NB citizen	$R_{NB/C}$				$E_{NB/C}$	$D_{NB/C}$	$P_{NB/C}(t)$
FB citizen		$R_{FB/C}$			$E_{FB/C}$	$D_{FB/C}$	$P_{FB/C}(t)$
NB foreign citizen	$T_{NB/F-NB/C}$		$R_{NB/F}$		$E_{NB/F}$	$D_{NB/F}$	$P_{NB/F}(t)$
FB foreign citizen		$T_{FB/F-FB/C}$		$R_{FB/F}$	$E_{FB/F}$	$D_{FB/F}$	$P_{FB/F}(t)$
Immigration	$I_{NB/C}$	$I_{FB/C}$	$I_{NB/F}$	$I_{FB/F}$			I_+
NB births	$B_{NB/C}$		$B_{NB/F}$				B_{NB+}
FB births	$B_{FB/C}$		$B_{FB/F}$				B_{FB+}
Total	$P_{NB/C}(t+1)$	$P_{FB/C}(t+1)$	$P_{NB/F}(t+1)$	$P_{FB/F}(t+1)$	E_+	D_+	

Notes: t = time, $t+1$ = time plus one year, P = population, R = population that remains or does not change resident status, T = transition to another resident status (e.g., foreign citizen to citizen), E = emigration, D = deaths, I = immigration, B = births, NB = native born or born in country; FB = foreign born or born abroad, C = citizen, and F = foreign citizen.

Conceptual Frameworks on Temporary Population Mobility

35. In this section, we present a general framework for linking the temporary (non-resident) population with international mobility. There are many challenges with measuring temporary mobility and in creating meaningful categories for policy. The aim of this section is to introduce the main types of international mobility with a focus on those that have parallel legal (or visa) implications to international migration, such as permission to work, family reunification, and educational training. Tourism and business travel are included for consistency but, in practice, are considered separate from other types of international temporary mobility. Censuses are generally not good sources of temporary movements, as they are only conducted every five or ten years and take place at a specific point in time during the year, which may not be reflective of the movements occurring with a period of time (e.g., seasonality of temporary moves within the year). Administrative records are often better for measuring temporary movements as they can track events over time, but often they are only designed for particular types of populations or movements, such as tourists, students, seasonal workers, or business travellers (based on, for example, travel visas). Nonetheless, there is a need and interest in measuring many types of international mobility that do not result in a change to the country of residence.
36. With temporary populations, there are two main types to consider. The first is circular movements involving the same persons repeatedly crossing the same international borders during a particular year. These include persons who may commute daily, weekly or monthly for reasons related to work or study, or persons who have second homes or family in another country. The second is temporary stays that only occur once in a year and may include tourists, business travellers, or short-term contract workers or seasonal agricultural workers. In both cases, it is important to capture not only the events of the movements, but also the durations of stay and purposes of the movements. We recommend using the ‘service population’ framework²¹ for measuring statistics, where populations and flows would be measured by visa category and/or average time spent in the country (person-day concept). By capturing both the number of (persons) and their average time spent by various categories of temporary population movements, the relative impacts of the moves for populations, education sectors, employment sectors, and local economies could be assessed.

²¹ Population who provide or use services in a country other than the country of residence. For more information about the service population, see page 180 of the UN Principles and Recommendations for Population and Housing Censuses Revision 3.

37. Depending on the interest of the country of measurement, international temporary mobility can be measured in different ways. For example, from the perspective of the country where persons stay a short-term (less than minimum duration for residence requirement), and if the reason is for work or study, the persons would be considered “temporary (non-resident) workers” or “temporary (non-resident) students” and, from the perspective of their countries of residence, these persons would be considered “residents working or studying temporarily abroad”.
38. We include two conceptual frameworks related to temporary population mobility.²² The first framework presented in Figure 4 describes the connection between the present temporary population at time t and the arrivals and departures of temporary populations between time t and $t+n$, where n could be days, weeks or months. One important distinction between international migration and international temporary population mobility is that, in Figure 3, the assumption is that the immigrant population accumulates over time. In the temporary population case, it is the opposite, the temporary population may fluctuate over time (both seasonally and annually) and the flows are likely to be much larger than the population at any given time. That is the number of persons recorded as staying temporarily in a country during a period of time (e.g, a year) will likely be much larger than the temporary population recorded at a point in time. Also, as shown in Figure 2, some temporary populations may transfer to residents.

²² The conceptual frameworks presented in this section are motivated by a recent paper by Charles-Edwards E, Bell M, Panczak R and Corcoran J entitled “A framework for official temporary population statistics.” *Journal of Official Statistics* 36(1), 1-24, 2020.

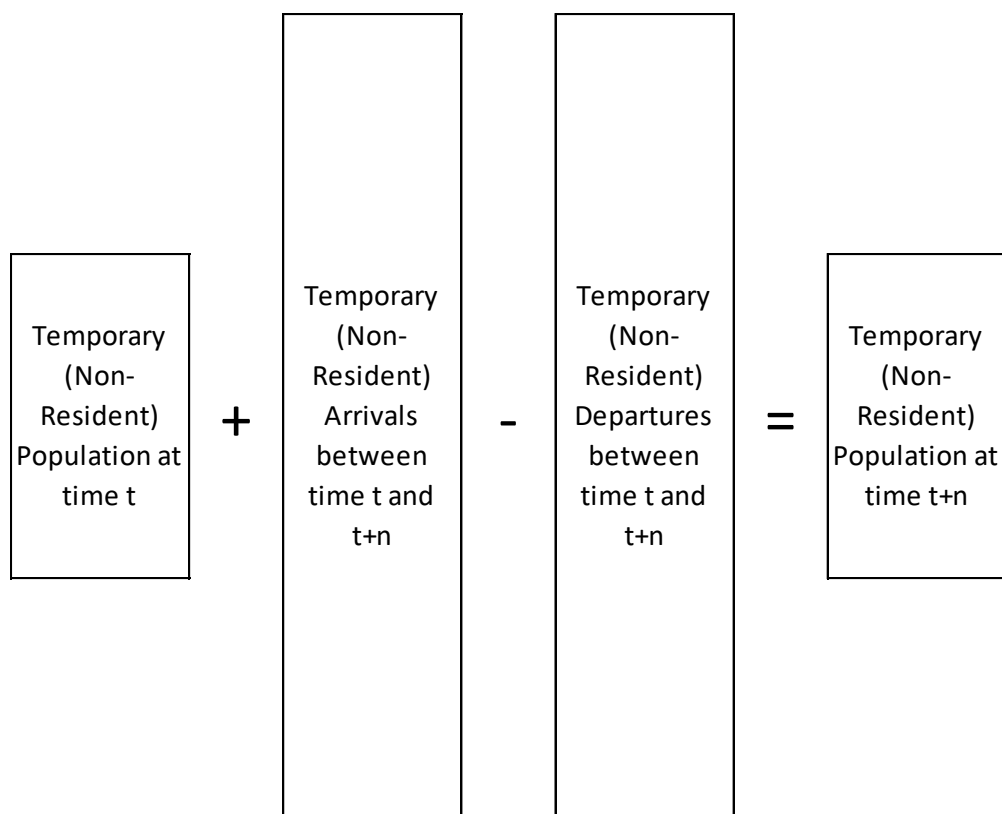


Figure 4. Conceptual framework on the relationship between international temporary population mobility flows and the present non-resident population at different times

Notes: (1) n could be days, weeks, months; (2) non-resident population include persons who are present in the country at a particular time but not considered part of the resident population; (3) arrivals / departures between t and $t+n$ are expected to be larger than the population at time t or $t+n$.

39. There are many specific challenges associated with international temporary population mobility. For example, the duration of stay for asylum seekers may not be known until a decision has been made regarding their application for refugee status. In this case, the person or family may stay for a few days or even longer than a year to receive a decision. If the legal process takes longer than the minimum duration requirement for residence, then that person or family should be considered part of the resident population. Another challenge refers to undocumented or irregular moves, where the durations are unknown and other methods may be needed to estimate whether the persons are contributing towards temporary (non-resident) arrivals / departures or immigration / emigration.

40. Most refugees and persons in refugee-like situations can be assumed to remain forcibly displaced and therefore in need of international protection for a period of more

than one year. While estimating the expected duration of individual displacement is a methodologically challenging and to date unresolved task, the available evidence suggests that refugees tend to stay in their country of asylum for at least several years, and sometimes for decades in protracted situations. Refugees and persons in refugee-like situations born outside their country of asylum will, therefore, in most cases eventually meet the minimum duration requirement of a change in their country of residence. They should generally be accounted for as international migrants for statistical purposes and be added to the resident population of their country of asylum as foreign-born foreign citizens.

41. The classification of asylum seekers with pending cases (i.e., persons who sought international protection whose claims for refugee status have not yet been determined) in a migration and mobility framework is more difficult to ascertain. On one hand they are waiting for a decision as to whether their asylum claim will be positively decided which will grant them international protection and a long-term stay option as refugees. Most countries of asylum aim to decide on asylum claims within a few months, indicating that asylum seekers awaiting an outcome of their claim would fall under the temporary mobility framework at first. On the other hand, refugee status determination can take considerably longer than 6 or even 12 months, especially in countries of asylum with significant backlogs and for asylum seekers who appeal initial negative decisions. A significant proportion of asylum seekers would therefore have to be added as immigrants to the resident population of the country of asylum. It is important to note that most asylum seekers can be assumed to have a stay intention of at least one year, regardless of the likelihood of success of their asylum application.

42. The second framework presented in Figure 5 describes the relationship between duration of stay and examples of different types of international temporary population mobility. Similar to international migration, there are a wide range of reasons for crossing international borders for short durations. We provide some examples but not an exhaustive list of the types of international mobility. For more detailed analyses and recommendations regarding different types of temporary mobility, we refer the readers to the United

Nations' departments responsible for International Labour and Tourism.^{23,24} International tourists are generally those who make very short cross-border trips, such as for shopping or recreation.²⁵ As explained before, the international mobility frameworks presented in this document covers all types of temporary mobility with an emphasis on movements associated with foreign citizens (1) in the labour market, (2) utilising education or training services, (3) seeking health or medical care services; and (4) asylum seekers in transit. Another important reason for covering all types of temporary mobility is to include changing status from temporary population to resident population for persons who stay more than the minimum duration criteria while they are still present in the country (see Figure 2 and paragraph 27). Depending on the purposes of the travel, there may be overlaps, for example, between statistics on tourism and statistics related to other activities, such as education or healthcare. This is reflected in the fact that education- and health-related mobility (see paragraphs 65 and 66) are covered by tourism statistics. It is also important to consider that there is a small possibility that persons who enter the country on a tourist visa might transfer into a residence status if those persons' intentions change or the stay meets the minimum duration required for residence.

²³ UN, International Recommendations for Tourism Statistics, 2008, https://unstats.un.org/unsd/publication/Seriesm/SeriesM_83rev1e.pdf

²⁴ ILO, Guidelines concerning statistics of international Labour Migration, 2018, https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/meetingdocument/wcms_648922.pdf

²⁵ International tourism, which comprises inbound tourism and outbound tourism, that is, the activities of resident visitors outside the country of reference, either as part of domestic or outbound tourism trips and the activities of non-resident visitors within the country of reference on inbound tourism trips. For more information, see UN International Recommendations for Tourism Statistics https://unstats.un.org/unsd/publication/seriesm/seriesm_83rev1e.pdf.

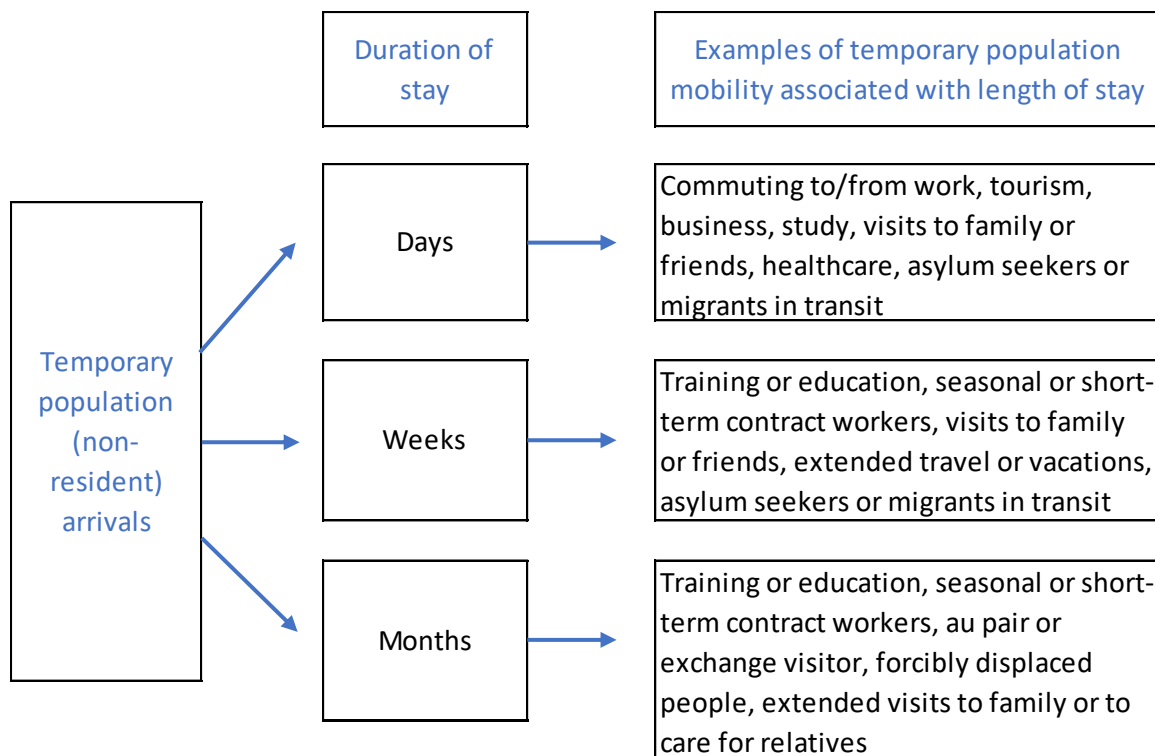


Figure 5. Examples of temporary population mobility associated with length of stay

43. In the framework presented in Figure 5, we distinguish very short stays measured in days to longer stays measured in weeks or months. The types and relative importance of temporary mobility will vary from one country to another. From the point of collecting data on these movements, we believe it is important to consider the reasons and the durations (i.e., service population) – together they can be used to understand the connections they have with the temporary present population at different times and with the economy or society at large.

Definitions of Key Concepts (A Glossary of Terms)

Population Bases for the production of statistics on international migration and mobility

44. *Resident population* consists of individuals who either (a) have lived most of the last 12 months within a given year or have intentions to stay (or granted to stay) for at least 6 months; or (b) have lived at least 12 months within a given year or intentions to stay (or granted to stay) for at least 12 months, not including temporary absence for holidays or work assignments (UN, Principles and Recommendations for Population and Housing Censuses, 2017).
45. *Present population* refers to all persons who were present in the country at a specific reference moment (census reference moment); present population includes residents who were present in the country but excludes residents who were not present at the reference moment (UN, Principles and Recommendations for Population and Housing Censuses, 2017)
46. *Temporary (non-resident) population* refers to all persons who stayed or intend to stay (or granted to stay) in the country for less than minimum duration required for residency in a particular year.

International mobility and migration

47. *International mobility* includes all movements that cross international borders within a given year.
48. *International migration* includes all movements resulting in a change in the country of residence (a subset of international mobility) within a given year.
49. *International migrant* is a person who has changed his or her country of residence and established new residence in the country within a given year (see above definition of resident population). International migrant can be either 'immigrant' or 'emigrant' and include those with national or foreign citizenships or stateless persons.

50. *Immigration (flow)* includes all persons entering the country and becoming part of the resident population within a given year, including persons with national or foreign citizenships or stateless persons.
51. *Emigration (flow)* includes all persons leaving the country to become a part of another country's resident population within a given year, including persons with national or foreign citizenships or stateless persons.
52. *Returning citizens (flow)* includes all national citizens who previously resided in another country and become residents of the country in a given year.
53. *Returning native-born population (flow)* includes all native-born persons who previously resided in another country and become residents of the country in a given year.
54. *Foreign-born population (stock)* includes all persons who reside in the country at a particular time who were born in another country.
55. *Native-born population (stock)* includes all persons who reside in the country at a particular time who were born in the same country.
56. *Foreign citizen population (stock)* includes all persons who reside in the country at a particular time who do not hold national citizenship, including those without citizenship (stateless).
57. *National citizen population (stock)* includes all persons who reside in the country at a particular time who have national citizenship.
58. *Immigrant population (stock)* includes all persons who reside in the country who are either born in another country or who do not hold national citizenship including stateless persons at a given point in time. Persons who are born in the country and have national citizenship are not considered part of the immigrant population, although they can be considered (recent) immigrants or part of the immigration flow if they returned and changed their country of residence (see paragraphs 47-51).

59. *Emigrant population (stock)* includes all national citizens or persons who were born in the country and are residing in another country at a given point in time.

60. *Returned migrants (stock)* refer to persons who previously resided in the country of measurement who emigrated and subsequently came back to live in the country and stayed or intended to stay for the minimum duration required for residence.

61. *Returned native-born migrants (stock)* refer to native-born persons who previously resided in the country of measurement who emigrated and subsequently came back to live in the country and stayed or intended to stay for the minimum duration required for residence.

Temporary population mobility

62. *International temporary mobility* refers to all movements that cross international border that do not result in a change in the country of residence.

63. *Cross border workers* include all persons who are not residents of the country of measurement but have been engaged in economic activities on a repeated basis (more than once in a year) in that country provided they depart at regular and short intervals (daily or weekly) from the country (ILO Guidelines concerning statistics of international labour migration, 2018)

64. *Seasonal workers* include all persons who are not residents of the country of employment, whose work by its character is dependent on seasonal conditions and is performed during part of the year (ILO, Guidelines concerning statistics of international labour migration, 2018)

65. *Other types of temporary workers* include all persons who are not residents of the country of measurement but travel to the country for short periods (less than the minimum duration requirement for residence) for work-related reasons, such as itinerant workers and project-tied workers (For detailed categories of workers included in this group, see the ILO Guidelines concerning statistics of international labour migration 2018);

66. *Training-related mobility* includes all persons who are not residents of the country but travel to the country to attend a short-term training programme for less than the minimum duration required for residence;
67. *Health-related mobility* includes all persons who are not residents of the country but travel to the country to access health care services -for less than the minimum duration required for residence;
68. *Asylum seekers in transit* are persons who travel to the country in transit, with the intention to travel to another country to file an asylum application;
69. *Circular movement* includes persons who are not residents of the country and travelled to the same country more than once during a particular year (UNECE, Defining and Measuring Circular Migration, 2016)

Summary

70. This report represents a substantial revision of 1998 Recommendations on Statistics of International Migration. It provides several statistical concepts related to international migration and mobility and their definitions, covering both migrant population stock and migration flow data. The conceptual frameworks were designed with key policy interests in mind, taking into consideration the data requirements for monitoring the 2030 Agenda. The report also emphasises the demand for these data and the importance of being able to compare statistics on migrant population stocks and migration flows across countries.
71. The report includes separate conceptual frameworks for international migration and international temporary mobility. International migration includes all movements resulting in a change in the country of residence. International temporary mobility refers to all movements across international borders that do not result in a change in the country of residence.
72. The recommendations include alignment of the measurement of resident populations with the measurement of international migration flows within a country's statistical system. This implies that the same criteria should be used for measuring resident populations and international migration flows. By doing so, it ensures consistency in the production of

national statistics. This consistency should also translate into improved accuracy and comparability at the international level. While differences and inconsistencies in the measurement of international migration flows will occur due to the different resident population measurements used in practice, both the national statistical office and the international community will have clear evidence on how the flows are measured. Knowing that the statistics of international migration are reliable at the national level, comparisons with other countries' data and statistical harmonisation techniques may be used to adjust them for international comparability later on. In the long run, having a single measure of resident population applied in all countries would ensure comparable statistics on international migration. Until that time occurs, it is preferred to have statistics that are at least consistent within each country's own population accounting system.

73. The report also emphasizes the importance of achieving coherence between international migration (flows) and immigrant populations (stocks) through reconciling the demographic components of change for the following four key subpopulations: foreign-born, native-born, foreign citizen and national citizen. Having consistent data on these four populations will aid in the development of migration policies and analyses on the impacts of migration with relevance for both 'sending' and 'receiving' migration countries. Further, the demographic accounts ensure the numbers provided by statistical agencies are in line with both native-born (native citizen) and foreign-born (foreign citizen) population change.

74. Finally, the report emphasises the demand and statistical challenges for producing statistics on international temporary mobility, including movements related to daily commuting, tourism, pilgrimage, business, medical treatment, visits to family or friends, seasonal labour, and education. Here, again, the report advocates aligning the movements with corresponding temporary populations. It also stresses the need for integrating various administrative records that are able to measure these migratory flows and populations continuously over time.

Annex: Task Force Membership

The Task Force is comprised of representatives from both ‘receiving’ and ‘sending’ countries, experts and relevant international organizations. Eurostat and UNSD jointly coordinate the work of the TF. The responsibilities of the Task Force Members include preparing the questionnaire for the global consultation; analyzing its results; identifying key concepts related to international migration; revising the currently associated definitions or developing new definitions.

List of the members

Meryem Demirci (Co-Chair)	UNSD
James Raymer (Co-Chair, since June 2020)	Australian National University
Ferenc Urbán	Hungary
Nurma Midayanti	Indonesia
Edi Setiawan	Indonesia
Winida Albertha	Indonesia
Miguel Ángel Virgilio Aguilar Dorado	Mexico
Graciela Martínez Caballero	Mexico
Diego Iturralde	South Africa
Marcel Heiniger	Switzerland
Nicola Rogers	UK
Becca Briggs	UK
Ann Singleton	Bristol University
Michel Poulain	University of Louvain
Mustafa Hakki Ozel	ILO
Sabrina Juran	UNFPA
Haoyi Chen	ISWGHS
Cécile Thoreau	OECD
Sebastian Steinmueller	UNHCR
Francesca Grum (Secretariat)	UNSD
María Isabel Cobos (Secretariat)	UNSD

Ex Co-chair/members Giampaolo Lanzieri (Co-Chair, April 2019 – June 2020)	Eurostat
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