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THE CHALLENGES OF MEASURING EMIGRATION AND REMITTANCES

Session 3.1: Measuring emigration through immigration data

Guidelines for measuring emigration through use of immigration statistics of receiving countries

DRAFT FOR DISCUSSION

Submitted by UNECE/Eurostat Task Force on Measuring Emigration Using Data

I. INTRODUCTION

1. Globalization and economic development have resulted in the easing of movements of people across international borders. Not only the number of migrants but also the number of countries and nationalities involved in international migration has risen steadily. With international migration moving to the forefront of policy issues worldwide there is a corresponding increasing interest in migration data.

2. Migration is not static. The geographic origin, direction and the nature of flows continue to change and new migratory flows emerge. It is increasingly difficult to sustain the distinction that has traditionally been made between sending and receiving countries. Almost all countries in the world are now countries of origin, transit or destination for migrants, and increasingly they are all three of these simultaneously. The recent diversification of international migratory patterns has led to an increasing relevance for information on emigrants – and a shift away from a quasi exclusive focus on immigrants only. Out-migration does not merely have an impact on the receiving country; it also has important consequences for the sending country.

3. International migration relates to a change of place of residence from one country to another. It consists of persons who leave a country in order to reside in another country. This movement affects the population of two countries and should be recorded twice, once as immigration in the receiving country and once as emigration in the sending country. However, there's a certain asymmetry between data availability on immigration and emigration, for two main reasons:

- departures tend to be less well recorded than arrivals as most governments are reluctant or unable to closely monitor the exit of persons from their territory, especially if the emigrants are national rather than foreign citizens. Moreover, people do not have much incentive to notify the authorities of their departure as there are no benefits to be gained.
- from a statistical point of view, persons leaving the country are difficult to be counted because of their absence. This applies to both flow and stock measurements. Censuses and sample surveys, which collect information on resident population, have obvious difficulties in counting absent persons, especially when no member of the household is living in the country of origin.

4. Because of these limitations, these guidelines explore the possibility of compensating the weaknesses of emigration data in the sending country by using existing immigration data in the receiving country. Countries usually have some immigration data, derived from administrative sources (population registers, aliens registers, registers of permits of stay, or data from border cards) or from population-based data collections, such as population censuses or sample surveys. Immigration data collected by receiving country may have some limitations, due to definitional, coverage or accuracy problems but, despite of these problems, immigration statistics are generally considered more reliable as compared to emigration statistics for a given country. This does not mean that for a given flow between two countries, the immigration figure from the receiving country is systematically more reliable than the emigration figure provided by the sending country. Nevertheless, it seems reasonable to conclude that for most countries, immigration statistics from receiving countries are a promising potential source of statistics on their emigration – either to estimate missing data or to improve existing figures.

5. Based on the above observations and reflections the Joint ECE-Eurostat Seminar on International Migration (March 21-23, 2005) proposed the creation of a Task Force to assess the feasibility of using a receiving country's immigration data to measure emigration. This proposal was then endorsed by the Bureau of the Conference of European Statisticians at its meeting of October 24-25, 2005.

6. Within the overall objective of improving the use of harmonized concepts and definition of stock of migrants and within the framework of the UN Recommendations on Statistics of International Migration, the Task Force was asked to develop guidelines on how to measure emigrants through data on stocks and flows in host countries and to assess the feasibility of using immigration data to estimate emigration – taking into account issues of data suitability, timeliness and availability.

7. It is obvious that there are many conceptual, theoretical, temporal, methodological and systematic discrepancies between different countries' migration statistics, but the guidelines will describe some of these issues and point to possible solutions.

8. This document provides guidelines on how to measure emigration through the use of immigration statistics from the receiving country. The guidelines are based on a data exchange exercise in which 19 countries – grouped into four clusters – participated. The data exchange occurred on the basis of common templates, i.e. a set of tables that took into account the existence of very diverse data sources across countries. Moreover, relevant metadata were collected in order to get a full understanding of data.

9. The next chapters give an overview of the major types of emigration flows, present the availability and existing gaps in emigration data and discuss the different needs of countries for the information on emigration. Thereafter, the possibility to improve emigration estimates of a country using other countries immigration data is discussed based on the findings of the Task Force, and finally the next steps are proposed within the existing framework and for the longer term.

II. MAJOR TYPOLOGIES OF MIGRANTS

10. Different types of migrations may be identified according to specific characteristics of migrating people. Accordingly, migrations of nationals (including naturalized foreigners) and non-nationals, native-born and foreign-born, long-term and short-term residents of the country, holders of permanent or temporary residence permits, regular and irregular migrants may be of different nature. The migration flow from a certain country to another may therefore consist of different types of migrants, with a heavy impact on countries' capacities to include all typologies in existing data collection systems. Ideally, the various types of emigration flows or categories of emigrants should be distinguished separately.

11. Since international migration is defined as a change of the country of usual residence, the identification of a migration event is possible if the taking up abode in another country is identified. Not every movement from one country to another can be considered as migration since the change of usual residence is typically defined as the continuous living in the destination country for a minimal period of time, as for example 6 or 12 months. Therefore the measurement of migration is not possible unless the time dimension of the movement is adequately specified.

12. When considering the duration of stay in a country, different concepts are used which relate to the time spent or intended to be spent in the country. Distinctions are made on one hand between temporary and permanent stay and on other hand between short-term and long-term stay.

13. When the concepts of temporary or permanent movements are used, these usually reflect intended duration of stay. This distinction might be based on the legal status of migrants in the receiving country as the authorization to stay may be issued for a fixed time or permanently. However, it should be noted that both temporary and permanent moves may include migrations with very different durations. For instance, a temporary stay may last few months or number of years while permanent stay may be interrupted sooner than expected. Distinguishing temporary and permanent migration might be justified on the basis of the registration system in place in the country and derived statistics. Moreover, temporary migrants are more likely to be an emigrant again in the future than a permanent migrant who intends to reside in the receiving country on a permanent basis.

14. More precise measurements of migration are possible when the actual period of permanence in the destination country is considered. Minimum lengths of stay applied to migration events are often linked to legislation concerning registration of residents or residence permits. For example, in many countries, foreigners staying for more than three months are usually requested a permit of stay. Duration of stay outside of the country may be legally applied also for the registration of emigrants. A distinction can be made between short-term and long-term migrations. According to UN recommendations a migration is classified as long-term when the stay in the country lasts one year or more. Compared to the concepts of 'temporary' and 'permanent', the use of 'short-term' and 'long-term' categories allows to distinguish these types of migrations more accurately.

15. Distribution of emigration flows by native-born and foreign-born, and nationals and foreigners is important for understanding the direction of the migration movements – generally, if the most emigrants are native born and/or citizens of the host country, direction of migration is outward and immigration flows only reflect back the same flows (return migration).

16. For the receiving country, persons who enter as foreign-born immigrants may be subjected to different rules and regulations that govern their entrance, while those who were native-born to the receiving country may not necessarily have to abide by the same requirements. While they are considered emigrants of the sending country, the receiving country may collect information about these 'immigrants' differently. Data on migration flows are not always available by country of birth while usually information on country of citizenship is collected through administrative procedures.

17. The distinction between nationals and foreigners is another important variable to understand migration flows. Migration statistics in many countries may use this distinction as one of the most relevant. Particularly regarding inflows, some countries are better prepared to measure inflows of foreigners, instead of inflows of nationals. This mainly occurs when specific population registers exist for the foreign population, designed to monitor their legal presence in the country.

18. For analyzing labour force situation of the country emigration of nationals and immigration of foreigners is of first importance. Considering that information about emigrations is necessary not only for migration and labour force studies but also for the producing population accounts both the outflow and inflow statistics should cover the migrations of all people despite of their nationality and country of birth. Ideally, also illegal migration flows, both emigrations and immigrations should be taken into account, however usually only estimations are possible.

19. Thus legal or illegal is another important distinction of the flows to take into consideration. While countries data often reflect reliable information on the known legal immigrants residing there, there is often no information on the population without legal residency status. Even if the distinction between legal and illegal entry is possible, it cannot be directly applied to the emigration from the country of origin. Those who enter under clandestine or overstay temporary residence permits are often 'lost' to the population estimates of the immigrant receiving country and also may cause the error in population accounts of the emigrant's sending country.

20. Another typology of emigration flow is related to the conditions under which migrants enter a receiving country. Admission categories, which identify economic, family reunification or humanitarian immigrants, provide valuable information on the type of migration that occurs for documented immigrants in the receiving country.

21. This overview of major types of emigration flows illustrates that the conditions and reasons for migration, departures, arrivals and settlements are varied and need to be taken into account in any analysis of international migration and most specifically when substituting immigration data in the receiving country to missing emigration data in the sending country.

III. EMIGRATION DATA : DIFFERENT USES, THEIR AVAILABILITY AND EXISTING GAPS

III.1 Use of emigration data

22. There is a wide range of purposes for which emigration data can be used. Individual countries will have different uses for such data depending on their specific needs to know about and understand emigration processes.

23. Major areas of interest may include:

a) Population estimates / complete national demographic accounts

Emigration has demographic effects and is therefore a significant factor in national demographic accounts. As net migration is quite different from gross migration in volume and character, residual net flows can never reveal or represent the actual underlying migration patterns. Measuring annual levels of emigration as well as knowledge of emigrants' main demographic characteristics such as age, sex and nationality becomes crucial for accurate and reliable population estimates within a country's demographic accounting system.

The importance of emigration data to produce population estimates is especially high whenever a country displays significant outflows. This may occur in a variety of cases, e.g. if the country is strongly integrated into the global economy, if it belongs to a supranational union with a free movement regime or if it experiences periods of economic hardship.

b) Emigration of country's immigrants

Return migration, i.e. the (voluntary or involuntary) movement of immigrants back to their countries of origin or habitual place of residence, constitutes a steadily rising proportion of emigration for many countries. Moreover, for an ever-increasing number of individuals international migration is not a permanent move. Many immigrants either frequently return to their countries of origin (circular or repeat migration) or use the initial host country as a stepping stone to another one (transit or onward migration).

The question of who stays and for how long is important because it can have a major impact on the net addition made to a host country's population by immigration. It also affects, via the selective nature of the process, the quality of the immigrant stock and touches issues such as immigrant retention, adjustment or integration.

Having emigration data may facilitate the design or the evaluation of a country's immigration policy with respect to the retention of immigrants (non-nationals and foreign-born nationals). Evidence, credible data and accurate analysis of the past and current circumstances and consequences of out-migration are prerequisites for developing, monitoring and evaluating empirically-based policy and legal issues in the field of migration.

c) Information on outflows of nationals and on nationals residing abroad (expatriates)

In a context of increasingly connected labour markets and social networks, it is important to have information on those nationals leaving the country. However, given the increased freedom of movement for nationals, this component of migration outflows is more and more difficult to capture.

Globalization has led to a renewed interest in diaspora or transnational communities, i.e. ethnic or national groups settled permanently in countries other than where they were born. Countries are naturally interested in having information about their nationals residing abroad. Issues of citizenship, nationality and identity necessitate some knowledge of emigrant populations as does the increasing awareness of the impact of migrant remittances on the economy of the sending country.

Many countries today do not have a precise picture of the countries of residence of their expatriates, the exact magnitudes of persons who have left or the characteristics of their citizens living abroad (e.g. duration of stay abroad, level of qualification, occupation or branch of industry).

d) Information on specific groups of emigrants (e.g. highly skilled workers)

Globalization has increased the mobility of human capital and high skills individuals as knowledge is becoming an integral part of the global economy. The out-migration of educated and skilled individuals with extensive work experience represents a shrinkage of the sending country's qualified human resource base. Concern about this "brain drain" and the loss of economic potential which could result from it requires detailed information about the emigration of trained and educated individuals and the flows of highly skilled human capital.

e) Short-term emigration

Thanks to the development of formal and informal networks of communication, international migration is often of very short-term nature, due to seasonal periods of work or for short-term work projects/assignments or because of legal restrictions to longer-term stays. Short-term emigration can play an important role for many countries and economies but, given its nature, is even more difficult to capture from a statistical point of view since it does not involve a change in the place of usual residence.

III.2 Availability of emigration data

24. Generally, international migrants are difficult to count in their country of origin because of their absence. Registration systems and population-based data collections have more difficulties to cover emigration than immigration, and many countries report difficulties related to the collection of data on emigrants. There are countries which do not collect this information at all. But even for countries with fairly

reliable migration statistics, emigration continues to be one of the most difficult components to collect data for.

25. If available at all emigration data come from a variety of sources not always specially designed for migration-related analyses. They are collected by different bodies and often support the country's own national legislative, policy and administrative imperatives. The major types of these sources may be summarized as follows:

- population registration systems including centralized population registers and local population registers which record individuals' exits in relation to the national territory¹;
- other administrative (special-purpose) registers or databases related to foreigners, such as aliens registers, residence permits registers or registers of asylum seekers²;
- passenger surveys and border card systems which collect information on cross-border movements³;
- household sample surveys which include questions pertaining to emigrants even though emigration is not their main focus;
- special emigration surveys, such as household informant surveys of emigrants, which obtain information by indirect means, e.g. through inquiries in the dwellings were emigrants used to live⁴;
- population censuses which include specific questions on residents temporarily abroad⁵;
- registers of nationals living abroad⁶.

26. Each data source is in some way limited with respect to its coverage of emigration. These limitations are the result of the multiple purposes these data sources have been designed to serve. Most data on emigrants are derived from administrative records and therefore strongly reflect the policy approach of the country towards migration.

¹ e.g. Czech Republic, Estonia, Finland, Italy, Norway, Poland, Spain

² e.g. Portugal, Russia (covering nationals as well), Switzerland, the former Yugoslav Republic of Macedonia

³ e.g. Australia, United Kingdom

⁴ e.g. Portugal

⁵ e.g. Canada, Poland

⁶ e.g. Canada, Italy, Spain

27. There are different national practices for compiling emigration statistics. Data on outflows are highly variable and their accuracy depends upon how complete the coverage of emigration is. In addition to the diversity of data sources there are no universally applied standardized and harmonized concepts of emigration. Individual countries employ different definitions using different identification criteria for emigrants.

28. Potentially the best source of statistics on emigration flows are administrative data sources covering the whole population. Continuous recording and identification of emigration is based on certain criteria and is linked to the deletion from the register. In residence permit systems emigration may equate with the expiry of the permit. However, there are certain well known limitations regarding coverage of outflows in administrative registers which are primarily linked to the self-declaration of international movements and the often non-compulsory compliance of individuals to deregister.

29. Among other data sources border collection⁷ has a greater likelihood of capturing more emigrants than registers. In practice, however, border statistics rarely provide the best measures of outflows as people are subject to different degrees of control depending on their citizenship, mode of transport and port of exit.

30. Household-based surveys and censuses do not yield reliable statistics on outflows since they cannot adequately cover the movements of persons who have left the country by the time the inquiry is carried out. This even applies to special surveys which address questions to a household member on how many usual members of the household have left or are currently abroad. Such information will likely underestimate emigration because there will be no one to report on households that have emigrated in their entirety.

31. Depending on the availability of data sources countries can be roughly classified into countries with (1) no national emigration data but estimates only⁸, (2) limited emigration data⁹ and (3) fairly comprehensive¹⁰ emigration data. When compared to immigration emigration data are in most cases considerably weaker in terms of the scope of coverage as well as the reliability and completeness of the information. Generally, the available data tend to underestimate emigration. However, some countries may already know a great deal of information on the population leaving their territory if these data are fairly complete and reliable.

III.3 Data needs and data gaps

32. The need for reliable and timely emigration data exists everywhere. Data needs are defined by what is already produced by a country's statistical system as well as the kind of information that a country wishes to have for its own specific purposes. They are closely related to a country's own perception of the role and

⁷ Examples are the passenger card system covering overseas arrivals and departures in Australia or the International Passenger Survey (IPS) in the United Kingdom

⁸ Examples: Albania, Canada, France, Georgia, United States

⁹ Examples: Poland, Portugal, the former Yugoslav Republic of Macedonia, United Kingdom

¹⁰ Examples: Australia, Finland, Italy, Norway, Spain, Switzerland

the importance of emigration. Consequently, needs are greater in countries with no emigration data than in those with some or fairly comprehensive emigration data.

33. Potential needs are related to the different uses of emigration data (see Section 3.1). One of the most fundamental needs is the monitoring of changes in a country's population size and composition. For this purpose annual emigration data are required. For overall population estimates at least the total number of emigrants is needed. Statistics on the composition and duration of stay of emigrants allow addressing additional key user needs.

34. Major gaps in existing emigration statistics include:

- inadequate coverage of certain subsets of the population, especially nationals and short-term migrants;
- incomplete or no knowledge of the destination of outflows, i.e. the country of next residence of emigrants;
- incomplete or no knowledge of basic sociodemographic characteristics of emigrants, e.g. sex, gender, age, citizenship, country of birth. Additional characteristics such as occupation, status in employment and educational attainment are even less known.

35. Immigration data from receiving countries may help to fill some of the gaps in emigration statistics of sending countries and provide for a better understanding of the outflows. Additionally, they may provide quality assurance for existing emigration data in terms of coverage, reliability and timeliness.

IV. USING OTHER COUNTRIES IMMIGRATION DATA TO IMPROVE EMIGRATION ESTIMATES

IV.1 Sources for flows and stocks of immigrants

36. In broad terms, the availability of migration data varies according to statistical sources available in each country. Table 1 depicts the general situation of data availability according to source typology¹¹. Emigration data are less often available than immigration data and countries may consider the option to use immigration data from receiving countries to produce or improve emigration data

37. Table 1: availability of migration data by source type

¹¹ This represents a general overview while certain sources, under specific conditions, may be able to provide more statistical data on emigration or immigration, as for example emigration modules that are sometimes included in population census or household surveys, thus providing some data on emigration.

	Flows data		Stock data	
	Immigration	Emigration	Immigration	Emigration
Population Census	X		X	
Household sample survey	X		X	
Border sample survey	X	X		
Population register	X	X	X	
Permits of stay	X		X	
Aliens' register	X	X	X	
Passenger cards	X	X		

The various statistical sources on immigration are reviewed below with the view to consider their relevance when being used by sending countries to produce or improve emigration estimates.

Population census

38. The census provides a snapshot of the population of a country at a given point in time. The census in principle enumerates the total resident population, thus allowing to deriving statistics on all population groups relevant for international migration, irrespective of their citizenship, country of birth or even legal status. The population census has many important features for the measurement of immigration:

- in most countries, it is one of the few sources where all the three concepts of migrant origin (country of citizenship, of birth, of previous residence) are used simultaneously. It is therefore possible to assess the differences between these different concepts;
- it collects information at individual level, thus allowing to cross-classify migration characteristics with other variables such as age, sex, employment, education, and household composition;
- important information is made available for small population groups and small geographical areas.

39. Given its nature, population census is particularly important for stock figures, since information on country of birth and country of citizenship are almost universally collected. Additional and important information on population groups relevant to international migration can be collected if questions on country of birth of parents, citizenship at birth and/or multiple citizenship are also included in the census form.

40. Population census can also provide data on migratory inflows, when questions on 'place of residence one year before the census' or 'period of arrival in the country' are asked. While this information can be profitably used to get statistics on recent inflows and on individual characteristics of immigrants, there are some limitations for the census as source of inflow data:

- It is carried out at long intervals, so that data are rapidly out of date.
- It only counts immigrants that are still living in the country at the time of the census, thus excluding those immigrants that have emigrated before census date.
- It is focused on migrants rather than migration events, i.e. it cannot supply full coverage of migration events.

Household sample surveys

41. Similarly to the population census, household sample surveys generally cover total resident population, thus including all population groups relevant to international migration. Regular programs of household sample survey, such as the Labour Force Survey (LFS) can be profitably used to derive general information on immigration, in terms of both flows and stocks. When questions such as “place of residence one year before” or ‘year of arrival in the country’ are included, estimates of migration inflows can be derived, while important information on stocks of immigrants can be obtained if questions on ‘country of birth’, ‘citizenship’, ‘citizenship at birth’ or ‘country of birth of parents’ are included.
42. Sample frame, sample design and sample size of household surveys pose specific challenges to the measurement of immigration:
- sample frame should be regularly updated to take into account to be able to include newly arrived immigrants and exclude persons who left the country; this is particularly crucial to get reliable estimates of immigration flows;
 - sample design should make sure that population sub-groups and areas particularly relevant for international migrations are well taken into account in the sample;
 - sample size: the share of migrants in total population is relatively small, particularly when estimates for specific migration flows and stocks must be calculated, therefore the sample should be big enough to ensure statistical significance of estimates.
43. The knowledge of the host country language can also play an important role in determining the response rate of those immigrants who are not enough proficient in the language.

Borders sample surveys

44. Border sample surveys are carried out on the people crossing the borders of a country, in both directions, and they can provide important information on migration when questions are included on the origin/destination of the traveler and the expected duration of stay in the destination country. In principle, the population universe embraces both national and non-national people, irrespective of their legal status. An example of this survey is the International Passenger Survey (IPS) carried out in the United Kingdom on a random sample of passengers entering and leaving the country by air, sea or the Channel Tunnel.

45. The focus of this kind of surveys is on international passengers and it is usually carried out to collect information not only on migration but also on travelers moving for other reasons such as tourism or business. Being migrants a small share of international passengers, an adequate size of the sample becomes crucial in order to get reliable estimates of migratory flows. Importantly, this type of surveys can be carried out only where there is a limited and well-known number of border crossings, while countries with long land borders would have problems in conducting such survey. The kind of survey can only measure peoples' intentions to change country of residence for 12 months or more. Thus, what is measured is the self-stated intention that can differ from the actual departure, leading to bias results in the estimates of migration flows.

Population registers

46. Population registers record administrative information on the resident population at individual level. Both nationals and non-nationals with a valid permit of stay are included in the population universe. Registers should in principle keep track of all vital events and changes of residence, thus ensuring a continuous update of individual records. Registers are dependent on the timely and correct registration of the population. Sometimes registering with the local or government authorities is compulsory in order to receive some social services, such as education and health care. Two important factors play a decisive role in determining the accuracy of migration statistics derived from population registers:

- Incentives to register and deregister: depending on the legal and administrative framework, migrants have different incentives to report their moves. Typically, long-term immigrants have interest to register with public authorities while persons staying for shorter periods tend to under report; on the other hand, those leaving the country usually have little incentive to deregister;
- Operational effectiveness of administrative registers: treatment of information by public authorities can be done at different degrees of effectiveness, also depending on legal framework, human resources and organizational capacity, IT infrastructures. These features can have a heavy impact on derived statistics.

Permits of stay registers

47. The authority issuing permits of stay to foreigners can usually provide important information on flows and stocks of non-nationals legally entering and/or residing in the country. The population universe is the legal non-national population.

48. Though covering only a subset of immigration to a country, this source can provide important information, especially on inflows. When using data derived from this source, due attention should be paid to existing regulations on entry and stay in the country and their temporal evolution, since this would heavily impact on derived statistical data. Problems may also derive from non-arrivals, early departures or double counts due to issuance of multiple permits.

Aliens' registers

49. In some countries a dedicated register is held of all foreigners living in the country. This kind of register can be a sub-product of the population register and it is usually fed by collecting information on individuals and relevant events from different administrative archives, such as permits of stay, and civil registrations. This source is able to provide accurate and detailed information on non-nationals with a valid permit of stay.

50. Naturalizations can have an important impact on the measurement of the stock of person with foreign origin. Persons acquiring the citizenship of the host country are deleted from this register and the number of nationals of foreign countries would be underestimated from this source¹².

Passenger cards

51. Passenger cards (or border cards) systems collect data on all departures and arrivals through international borders. Both nationals and non-nationals are included in the population universe. These systems are able to provide good migration data when the great majority of border crossings take place through official entry points. Moreover, it is important that administrative system is able to distinguish international migrants from all other international travelers. This is usually possible if the system is able to match individual registrations at successive time points and at different locations. Systems of this nature can effectively work under specific geographical conditions and with extremely developed administrative systems.

IV.2 Critical issues of using receiving countries' immigration data

52. As previously stated, for most countries it is more difficult to collect information about emigration than immigration. Using receiving countries' immigration data could be helpful to sending countries to acquire useful information on the population that has left or is leaving the country. However, when using immigration data to estimate emigration, some important "critical factors" arise. In particular, the following aspects should be considered when using a specific source of immigration data from a receiving country:

- a. Coverage of the source
- b. Definition of international migrant/migration
- c. Data accuracy
- d. Availability of origin-destination data.
- e. Different time references, also due to status adjustments of migrants
- f. Availability of metadata.

¹² This is true when naturalized persons are given the possibility to retain the previous citizenship, i.e. dual citizenship is allowed.

a. Coverage of the source

The population universe covered by statistical sources can be different across countries: resident population, present population, legal population, international passengers, etc. Each universe covers a different set of people, with an impact on the possible inclusion or exclusion of specific sub-groups of migrants.

The reference population of the source on immigration data has to be carefully considered and compared with the population of interest from the emigration country standpoint. Important aspects to verify refer to:

- legal status of migrants, to understand whether the source covers both regular and irregular international migrations;
- existence of international agreements on free movement, to understand whether such agreements are in place and evaluate their possible impact, especially on administrative sources like permits of stay or border cards.

b. Definition of international migrant/migration

Within its reference population, each source identifies those persons and/or events that will be considered respectively as international migrants or international migrations. According to the UN Recommendations on Statistics on International migration (UN, 1998), a migrant is defined as a person who changes his or her country of usual residence. In these Recommendations no indication was given as to the duration threshold to determine the place of usual residence, but an important distinction was made between long-term migrants (persons moving to another country for at least 12 months) and short-term migrants (persons moving, for selected reasons, for a period of at least 3 but less than 12 months). The CES Recommendations for the 2010 Censuses of Population and Housing indicates that the place of usual residence is the place where the person resides (or intends to reside) for at least 12 months (UNECE, 2006). Countries are not always in the position to conform to international standards and can therefore use different time durations to define the place of usual residence. Other characteristics such as the legal status of migrants can be taken into account by countries to determine the place of usual residence of a migrant. It is necessary to check the adopted definition by receiving country in order to make informed use of its immigration data.

When examining definitions used by various sources it is also important to understand whether the actual or the intended duration of residence is used: it is typical of data collected at the borders, such as border cards or border sample surveys, to refer to intended duration, while population-based data collections, such as the census or household sample surveys, tend to adopt actual duration of stay (as for example when the question ‘Where were you living one year ago?’ is used). Since the self-stated intention can differ from actual period of stay, there can be some bias in the estimates of migration flows.

c. Data accuracy

Understanding how accurate are the data is indispensable to make proper use of them, especially when using data produced by another country¹³. It is very difficult to make an objective assessment about the accuracy of data produced by a certain source. However, some indication on accuracy can be derived from the capacity of the source to show steadfast and consistent data, with long and coherent historical series. The comparison with other sources can also provide relevant information.

In the case of administrative sources, the operational effectiveness of administrative processes is crucial to determine the reliability of derived data, as well as factors linked to incentives or disincentives of individuals to notify their arrival or departure to responsible authorities.

When using sample surveys, particular attention should be paid to issues related to design, frame and size of the sample, which are particularly relevant when estimates on specific flows or stock data are needed (*see par. 4.1*).

d. Availability of origin-destination data.

When using immigration data to estimate emigration flows, it would be necessary to have them classified by country of previous residence. Sometimes this information is not available and proxy variables such as country of citizenship or country of birth are used. This option has to be carefully considered: experience shows that proxy variables can produce acceptable results for the first immigration wave between two countries, when country of previous residence, of citizenship and of birth coincide for the majority of migrants. This becomes less and less true when phenomena of transit, circular or return migration take place.

In the case of stock data, the focus of emigration countries is primarily on country of citizenship and country of birth. However, both variables tend to underestimate the population group, which is of interest to emigration countries, because of naturalizations and birth of descendants in destination country. Where possible, population groups identified by the use of additional variables such as country of birth of parents, citizenship at birth and multiple citizenship should also be considered.

e. Different time references, also due to status adjustments of migrants

Recording and/or counting of migration event can take place at different moments in origin and destination country. This has to be taken into account when using immigration data from receiving countries. This can be particularly relevant when, due to administrative or legal reasons, the immigration is registered with a considerable delay, as for example in the case of status adjustment of migrants, which can occur as a consequence of individual applications or linked to general regularization programs.

¹³ Accuracy is the degree to which the information correctly describes the phenomena it was designed to measure and it is usually characterized in terms of bias (systematic error) and variance (random error) (Statistics Canada, 2002)

f. Availability of metadata

Given the differences in reference population, definitions, accuracy, availability of information on individuals and time references, it is imperative that, before using immigration data from receiving countries, all relevant information is gathered and analysed. A wealth of information on statistical sources on migration is usually available at both national and international level.

IV.3 Matching information needs on emigration with data sources from receiving countries

53. Depending on migration patterns, availability and reliability of statistical sources and other constraints like data accessibility and processing costs, sending countries wishing to use immigration data of receiving countries could aim at different sources of data according to their specific needs. Table 2 shows what data sources of receiving countries would better fit specific information needs of sending countries. This review has a general value and indications about sources must be carefully assessed on a case-by-case basis, taking into account quality standards of available sources.

Table 2: Data sources on immigration of receiving countries fitting information needs on emigration of sending countries

Data sources of receiving countries	Data needs of sending countries						
	Total emigration estimates	Emigration of country's immigrants	Emigration of country's nationals		Emigration of highly skilled		Short-term emigration
	<i>Flows</i>	<i>Flows</i>	<i>Flows</i>	<i>Stocks</i>	<i>Flows</i>	<i>Stocks</i>	<i>Flows</i>
Population Census				+		+	
Household sample survey	+	+	+	+		+	
Border sample survey	+	+	+				+
Population register	+	+	+	+			
Permits of stay			+	+	+		+
Aliens' register			+	+			
Passenger cards	+	+	+				+

- a. Total emigration estimates: when needing data on migration outflows to regularly update population figures, the focus is on the total number of yearly emigrants. Sources such as population register and household sample surveys in the receiving country should be considered first, provided that they exist and meet good quality standards. Also border data collections, such as border sample surveys and border cards, can provide useful data, where available.

- b. Emigration of country's immigrants: the same sources considered for total emigration estimates could also be considered when the focus is primarily on emigration of country's immigrants, provided that information is also available on variables such as citizenship and/or country of birth to identify the background of emigrants.
- c. Emigration of country's nationals: different sources can be used respectively for flow and stock data. For the former, all the various types of sources could be profitably used, with the exception of the census, which is carried out at long intervals. The census, together with household sample surveys, population registers and permits of stay, become very important sources to gather information on the stocks of emigrants with national background that are living abroad.
- d. Brain-drain or emigration of highly skilled: collection of data on this sub-group of national emigrants requires that information on educational attainment and/or reason for migration is collected. Some information on flows may be derived from permits of stay, while data on the stocks can be derived from population censuses and household sample surveys.
- e. Short-term emigration: given that there is no change of place of usual residence, only border data collections can in principle give some information on these migrants. Permits of stay can also provide some information on the legal component of this migratory flow.

V. PROPOSALS TO IMPROVE AVAILABILITY OF DATA ON EMIGRATION WITHIN THE EXISTING NATIONAL DATA SYSTEMS

54. There are numerous factors, which influence migrations across national borders, their levels, characteristics of people participating in these movements, as well as reasons for which they do so. National data collection systems set up to measure these movements, vary across countries. In addition, national migration statistics are disseminated according to the specific definitions of immigrant (and emigrant) used by the country for its own immigration policies, resulting in wide conceptual and methodological differences underlying countries' migration data. This situation results in lack of international comparability between national migration data and makes the use of these data by sending countries for improvement of their emigration statistics very difficult.

55. To satisfy a wide range of needs for emigration data (Section 3), the "ideal" statistics should be comprehensive, covering all groups of emigrants (nationals and foreigners) and all types of migrations (long-term and short-term, legal and illegal). They should be timely (data available on annual basis), and provide information on demographic and socioeconomic characteristics of emigrants (age group, sex, country of birth, country of citizenship, country of destination, level of education, occupation). Currently, countries' capacity of producing this 'ideal' set of data differ significantly, resulting in existence of national emigration data gaps. In efforts to rectify this situation, countries may wish to take advantage of the receiving countries different data sources and fill some of their own data gaps on emigration.

56. It is recommended that countries make efforts to produce their immigration statistics so they will facilitate the measurement of emigration for sending countries. For the international comparability, these statistics should be produced by using standardized tables.

57. When exchanged, the standardized tables will lead to improvement of information on departures/emigration of residents of all countries participating in this exchange. In addition to expanding of emigration statistics available in sending countries, the migration data exchange recommended above would be viewed as a useful step in the process of achieving an overall comparability of data on international migration across countries.

58. There are two principles underlying the data exchange:

- Countries should use existing national data sources on immigration;
- The selection of the data source should be guided by its completeness in covering all groups of arrivals into a country. In an absence of such comprehensive data source, a several, complimentary data sources should be used so together they would provide the best possible coverage of all groups of arrivals into the country (Section 2).

59. It is recommended that 7 standard tables are considered for the data exchanges (Appendix, Tables 1 to 7). In the below description, the partner country means a country with which a table is exchanged.

Table 1. "Residence one year ago in the partner country, by place of birth"

Table 2. "Residence one year ago in the partner country, by citizenship"

60. These tables present the number of persons who lived in the country at a particular date but were living in the partner country (country of origin) one year before by sex. In Table 1, this number is broken down by place of birth (host country, country of origin or elsewhere). In the second table, the number is broken down by country of citizenship.

Table 3. "Immigrants by country of last residence"

Table 4. "Immigrants by country of citizenship"

Table 5. "Immigrants by country of birth"

61. These tables present the number of immigrants whose origins are in the partner country, broken down by age group and sex. In each of these 3 tables the origins are defined using 3 different concepts: country of last residence (Table 3); country of citizenship (Table 4), and country of birth (Table 5).

Table 6. "Population by country of birth and citizenship"

62. This table presents data on population by country of birth, which is broken down by country of citizenship. A break down of citizenship is limited to three groups of country of citizenship: the host country, the partner country and the other citizenship. In the case of citizens of the host country who were born in the partner country, a distinction between citizens by birth and naturalized citizens is shown.

Table 7: "Population by country of birth and country of birth of parents"

63. This table presents data on population by country of birth and country of birth of parents. All possible combinations of different country of birth of parents are shown in order to identify immigrants and descendants of immigrants.

64. A country may wish to use the following steps in a preparation of the tables for exchange.

Step 1

When available, it is recommended that a country tabulate, annually, data on all arrivals using a concept of country of residence 1 year ago. This approach would provide for a uniform definition of immigrant. When broken down by citizenship and country of birth, the data would give sending country information on nationals and foreigners, or native and foreign born residents, respectively, departed for a minimum stay of 12 months, together with their country of destination. It would be up to the country tabulating the data to decide what source would be the most appropriate. (Table 1 and Table 2)

Step 2

When data on arrivals using a concept of country of residence 1 year ago cannot be tabulated (there is no source which provide such data for all arrivals or any subset of it, or there are quality issues with these data for a particular country of previous residence), the annual data on arrivals, indicating duration of residence, should be tabulated by country of previous residence (Table 3). If country of previous residence is not available, data by country of citizenship should be tabulated (Table 4). In case neither of this information is collected, information on country of birth should be used (Table 5).

Step 3

It is recommended that, when available, stock data for the country population is tabulated by:

- country of birth and country of citizenship (table 6)
- country of birth and country of birth of parents (table 7).

Step 4

It is of great importance that for each of the tables, a detailed description of data source used be provided. This is essential information for the sending country to properly interpret the tabulated data and use it to fill its gaps in emigration statistics.

VI. PROPOSALS TO IMPROVE DATA AVAILABILITY AND QUALITY IN THE LONGER TERM

65. Despite the gap in statistics, it may be argued that availability of good emigration data remains crucial to know population trends in every country. The production of accurate population estimates, as well as knowledge of specific groups of emigrants (such as the highly skilled), depend on the availability of inflow

and outflow statistics. This is still more relevant in increasingly mobile contemporary societies, where both nationals and non-nationals are involved in cross-border movements.

66. The wider availability of migration statistics at destination countries, as compared to sending ones, suggests that the former must be widely used by the latter. This implies the need of having a strong exchange of data and metadata between countries, at the short term, and the need of a harmonized system of migration statistics, at the medium and long-term. The sharing of data between countries also means important economies of scale, since scarce resources may be allocated to a more solid system of national migration statistics.

67. Despite these considerations, important obstacles remain to a regular exchange and use of international immigration data for sending country's national purposes. First, the wide variety of sources existing to measure flows – census, surveys, administrative sources – conceals, even when using similar concepts, a comparable measurement. Secondly, the need of an equivalent concept of emigration and immigration must continually be put forward. Only with a harmonized system it will be possible to know the picture of international migration at a worldwide level, not only at a national one. Thirdly, inter-institutional cooperation must be promoted, to facilitate and encourage the exchange of data between different countries.

68. In order to have substantial improvements, long-term plans need to be discussed and initiated. These concern data production, at the one hand, and data dissemination, at the other.

- *Data production*

Regarding data production, a set of actions must be carried on in order to improve statistics from different sources, particularly regarding the perspective of the host countries. This improvement is crucial in every situation, regardless of the importance of using immigration data to estimate emigration. Having good immigration data, at the national level, is a current priority in national statistical systems. The current increase of population mobility also suggests that attention cannot be restrained to statistics on foreigners, the usual priority in receiving countries, but also to every group of mobile persons (nationals and non-nationals).

The main sources to be considered are the following:

- Population census: in this field, the 2010 CES recommendations must be taken into account, since they allow a better use of census to produce internationally comparable migration data. As a consequence, the inclusion of recommended questions, the attention to specific population groups (e.g. irregular migrants), and the adoption of recommended definitions, such as on usual residence, must be considered. The use of common questions and rules of residence would allow to compiling comprehensive figures on emigration data, by assembling data from as many as possible receiving countries.
- Household surveys: these must include some basic questions (such as residence one year before, country of birth, citizenship, country of birth of parents, etc.), both in major household surveys, such as the Labour Force Survey, and other surveys. Another possibility is the development of a “standard migration survey”, in the form of a dedicated survey or a module, to include in other household surveys. A good example in this area is the inclusion of an ad-hoc module on immigrants' labour market integration in the next LFS 2008 in EU countries. Moreover, by aggregating data from several national samples, it could be possible to overcome estimation problems due to reduced sample size.

- Administrative sources: the improvement of registers and other administrative sources is crucial to produce regular and accurate data. These sources must encompass all possibly mobile groups, regardless of citizenship. Possibilities of data exchange between national administrations must be explored, to allow a broad use of these statistics. Regular exchange of data, as occurs in the framework of the Inter-Nordic Migration Agreement, should be an ideal situation across international spaces.

Besides the improvement in data collected from different sources, additional efforts must exist at the conceptual level. In this regard, work must continually be developed to obtain agreement in this field. The UN international recommendations and the EU forthcoming regulation are examples of this attempt, which must be encouraged. Immigration data only can be used to produce emigration statistics, and related population estimates, in the sending country if similar concepts are used.

- *Data dissemination*

Regarding data dissemination, systematic exchange of data between countries must be achieved in the long-term, in order that sending countries can use host countries' data to improve their own national statistics. Diverse data collection exercises, such as the Joint Migration questionnaire and the EU forthcoming regulation, may help to understand what needs to be done in order to improve data availability and reliability. Besides data, relevant metadata must also be exchanged, detailing sources, concepts and population universes.

69. The need for a systematic data exchange also suggests that a stronger inter-institutional cooperation must exist between countries, as well as reciprocal trust. Besides a regular information exchange, the use of other countries' statistical information to improve national data production should be considered. Until today, and with few exceptions, national official migration statistics are only those internally produced in each state. An exchange system will challenge this view, so that countries may include other countries' statistical data and metadata as a reliable source of information to improve their own statistics.

Table 6: Population by country of birth and citizenship

COUNTRY OF BIRTH	Citizenship	Year
PERSONS BORN IN COUNTRY X	Citizens of country X	
	Citizens of your country (<i>nationals</i>)	
	<i>thereof:</i>	
	- citizens of your country since birth	
	- citizens of country X at birth who became citizens of your country following naturalization	
	Persons with other citizenship	
	TOTAL PERSONS BORN IN COUNTRY X	
PERSONS BORN IN YOUR COUNTRY (native-born)	Citizens of country X	
	Citizens of your country (<i>nationals</i>)	
	<i>thereof:</i>	
	- citizens of your country since birth	
	- citizens of country X at birth who became citizens of your country following naturalization	
	Persons with other citizenship	
	TOTAL PERSONS BORN IN YOUR COUNTRY	
PERSONS BORN IN OTHER COUNTRIES	Citizens of country X	
	Citizens of your country (<i>nationals</i>)	
	<i>thereof:</i>	
	- citizens of your country since birth	
	- citizens of country X at birth who became citizens of your country following naturalization	
	Persons with other citizenship	
	TOTAL PERSONS BORN IN OTHER COUNTRIES	

TOTAL POPULATION	Citizens of country X	
	Citizens of your country (<i>nationals</i>)	
	<i>thereof:</i>	
	- citizens of your country since birth	
	- citizens of country X at birth who became citizens of your country following naturalization	
	Persons with other citizenship	

Table 7: Population by country of birth and country of birth of parents

Country of birth	Country of birth of parents	Year
Persons born in country X	<i>Both parents born in country X</i>	
	Only one parent born in country X	
	No parent born in country X and at least one parent born in your country	
	Both parents born in other countries	
PERSONS BORN IN YOUR COUNTRY (native-born)	<i>Both parents born in country X</i>	
	Only one parent born in country X	
	No parent born in country X and at least one parent born in your country	
	Both parents born in other countries	
PERSONS BORN IN OTHER COUNTRIES	<i>Both parents born in country X</i>	
	Only one parent born in country X	
	No parent born in country X and at least one parent born in your country	
	Both parents born in other countries	
TOTAL POPULATION	<i>Both parents born in country X</i>	
	Only one parent born in country X	
	No parent born in country X and at least one parent born in your country	
	Both parents born in other countries	
