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Is the measurement of international migration flows improving in Europe

Submitted by Belgium¹

1. The concept of international migration

Compared to other demographic phenomena, migration is a concept, which is hard to ignore. This phenomenon is increasing its importance in comparison with births and deaths. Moreover its importance in the political debate is becoming of the same magnitude as other problems such as fertility decline and demographic ageing.

The concept of migration involves both space and time. To be precise, space is concerned twice, once in the place of departure and a second time in that of arrival. The same is also true for time when the duration of the stay has to be defined in each of these places. Very generally, among all human movements, we can define those of migration as one or more movements resulting in the change of place of abode of an individual.

The **usual place of residence** of the individual might be defined as the place, or more precisely the dwelling, where he or she is accustomed to live. More subjectively, we speak of "home", "*chez soi*" in French, or "*thuis*" in Dutch ... In addition, the dwelling is usually defined as being the meeting place of the household to which the individual belongs whilst, in parallel, the household is made up of all persons whether or not linked by family ties living together in the same dwelling.

A part from these concepts introduced for statistical purposes there is also an administrative or legal definition of residence. The concept of usual place of residence is introduced in the context of a system of permanent population register, in order to attach each citizen a basic administrative unit and, in that way, to determine on a permanent basis the status of the local population. However for various reasons -which are reflected in the non-declaration of a change of residence to the administration concerned-, an individual's dwelling or usual place of residence may differ from his official administrative residence.

For the definition of international migration, the **space criterion** does not raise difficulties since it is clear that the places of departure and destination belong to two separate countries and that, consequently, the movement which forms the basis of the change of usual place of residence is made at least once across a national border. From this spatial point of view, international migration consequently appears as a change of usual country of residence. If for any reason the individual cannot or does not declare their new usual place of residence in the country of destination, there will be no record of this change of country of administrative residence and the individual will not be included in the *de jure* population of the country of destination. There will be no account of the related

¹ Prepared by Michel Poulain and Nicolas Perrin, G DAP – Universit  Catholique de Louvain
(e-mail:poulain@spri.ucl.ac.be)

international immigration. At the opposite side if somebody leaves the country without declaring it he will be considered as still living in the country and will remain a member of the *de jure* population of the departing country.

To summarise there are four different situations related to the declaration of change of residence:

1. If the declaration is done in the country of departure and in the country of arrival, an international emigration will be counted in the sending country as well as an international immigration in the receiving country. The migrant will be member of the *de jure* population in the receiving country and not any more in the sending country.
2. If the declaration is only done in the country of arrival, only the immigration will be counted and the migrant will be member of the *de jure* population of both countries (double account).
3. If the declaration is only done in the country of departure, only the emigration will be counted and the migrant will neither be member of the *de jure* population of the country of departure, nor of the *de jure* population of the country of destination (no count).
4. Finally if no declaration is done, no international migration will be counted and the migrant will continue to be a member of the *de jure* population of the sending country while he has effectively become a member of the *de facto* population of the receiving country.

The **time criterion**, on the other hand, poses more problems for the definition of migration, be it internal or international. It is closely connected with the definition of the usual place of residence of the individual. Two main elements intervene in the identification of this usual place of residence: the duration of stay and the reason for occupying the dwelling under consideration. In parallel with the modal case where an individual occupies only one dwelling in a "permanent" manner, certain persons successively, and periodically occupy, two or more separate houses that may be located in different countries. In this case, the selection criteria to identify the usual place of residence and subsequently the usual country of residence are generally connected with either the duration of occupation of each dwelling or the reason for it. In addition, certain dwellings occupied occasionally, on business trips or tourism, cannot be regarded as normal dwellings and their occupation does not involve a migration. It is evident that a strict time criterion regarding the minimum period of occupation of a dwelling is necessary in order to make a distinction between temporary and permanent dwellings, according to whether it is occupied for more or less than the selected time threshold. Related to this distinction, only changes of usual place of residence with a duration of stay which is larger than the threshold will be considered as a migration.

As regards to **international migration**, it is not the occupation of a dwelling, which matters, but the duration of stay in or away from the country concerned. Somebody will be considered as an **international emigrant** for a specific country if he or she leaves the country and transfers his or her usual place of residence outside the country for more than a minimal duration of time. In parallel somebody will be considered as an **international immigrant** a specific country if he or she enters the country to settle his or her usual place of residence for more than the same minimal time duration. In both cases, the transfer of usual place of residence will not be for specific reasons like tourism, health, and business... and therefore no international migration will be counted in these cases.

Within the criteria defining international migrations reasons for migration are important. In the case of some sub-populations, the right of entry and duration of permit should also be taken into account. The difference between the validity duration of the permit, the time that the migrant intends to stay and the actual duration of the stay should be emphasised. Ex post measurements of the actual duration of stay may be very useful in order to give an exact account of migrations but they will never be considered to revise international migration statistics that have to be published as early as possible by National Statistical Institutes.

Finally the context in which immigration and emigration are produced is frequently very different. While emigration is a right internationally recognised (2nd art. of the Universal declaration of Human Rights of 1948: "any person has the right to leave any country including his own one..."), it is not the case for an immigration. Whereas in democratic countries emigration is not controlled by the administration immigration for non-nationals is restrictive. Information on the person arriving has to be collected and check that he has the right to stay. Moreover criterions to identify an immigration or

emigration based on the duration of residence or absence may vary as in the Netherlands where a person is considered an immigrant after 120 days while a departure is only registered if it has to last more than 240 days. Specific national administrative rules are obviously the most important but it may introduce important bias if for example the duration of the stay of an immigrant and that of the absence of an emigrant is different for a foreigner and a national. It could be thought that the duration of residence or absence needed for an immigrant or an emigrant to be considered as such is the same. However, reality shows that this is not the case. In a country like the Netherlands, a person is considered an immigrant after 120 days while a departure is only registered if it has to last more than 240 days. The administrative necessity is obviously the most important but it introduces an important bias, as the duration of the stay of an immigrant and that of the absence of an emigrant is different for a foreigner and a national.

2. The UN recommendations as revised in 1998

The first set of United Nations recommendations on statistics of international migration was adopted in 1953. These recommendations were revised in 1976 (United Nations, 1980) and the last revision was made in 1998 (United Nations, 1998).

According to the United Nations recommendations², long-term migration exists when the period of stay is at least of one year. To be precise, long-term international immigration is recorded when an individual enters a country and establishes there his usual place of residence for one year or more. Similarly, long-term international emigration is recorded for any individual leaving the country and establishing his usual place of residence abroad for at least one year.

At the same time, the United Nations defines as short-term international migration when the duration of stay in the country, or away from the country, lies between three months and one year³. Note that in all the cases reference is made to duration of stay in or away from the country and no longer to duration of stay in a given dwelling. Thus a stay longer than a year will be recorded as international immigration even if it corresponds to the occupation of several separate dwellings for periods of less than a year. This poses problems for the symmetrical measurement of international migration⁴.

From a terminological point of view, parallel to these international definitions of long or short-term immigration and emigration, one could define long and short-term international immigrants and emigrants as the people who carry out these international immigrations and emigrations⁵. This involves

² United Nations, *Recommendations on statistics of international migrations. Revision 1*, Statistical Papers, series M No. 58, Rev. 1, New York, 1998, 95 p.

³ The current United Nations' recommendations moreover specify that the interested person has to really live in the origin or destination country.

⁴ In fact, this symmetrical character is not ensured by these definitions since international immigration in country A coming from country B will not always correspond to international migration from country B towards A. To convince oneself, it is enough to consider the following example: an individual leaves the country A for more than one year in order to remain successively in the countries B and C for two periods of time ranging between 3 months and one year. In this case, country A will record a long-term international emigration towards country B while the country B will record a short-term international immigration from A.

⁵ These definitions require a terminological order warning. It must be remembered that certain terms retained by the multilingual dictionary of the United Nations in the field of migrations pose problems. In its English version, this dictionary specifies in its 3rd note in Chapter 8: migrating: "one who migrates". Further on in paragraph 802, one finds: "An individual whose administrative unit of residence differs at the beginning and end of a certain interval is identified as a migrant". In its French version, the same 3rd note in Chapter 8 proposes no substantive to nominate the person at the time when it migrates, on the other hand, one can read as in point 802 a definition of the migrant corresponding to the English version: "any individual is said to be migrating when his residence at beginning and the end of the period being considered are different". Finally, the French version defined the immigrant as being every individual having had at least one different previous residence ~~of~~ from the current one, while the English translation says that "a migrant is any individual who has had at least one prior residence in a different administrative unit from his or her current residence". Vis-a-vis this imbroglio and while being limited to international migrations defined as a change of countries of residence, the most suitable proposal seems us to be as follows:

The individuals carrying out an immigration or migration are called immigrants or emigrants at the time when they carry out this migration. This makes it possible to characterise migrations, on the one hand, and the individuals who carry them out, the migrants, on the other. We should specify, in this case, that any individual can therefore appear several times as a migrant during

a distinction between the demographic events, on the one hand, and the individuals accomplishing them, on the other. As it will later be seen, most methods for measuring international mobility count the events, and not the individuals, so that one individual could be counted for several migrations during a given period of observation.

The last revision of the United Nations recommendations has simplified the definition of long-term immigrant. The 1980 recommendations defined him as “*a person who has entered a country with the intention of remaining for more than one year and who either must never have been in that country continuously for more than one year or, having been in the country at least once continuously for more than one year, must have been away continuously for more than one year since the last stay of more than one year*” (United Nations, 1980, par. 32). These statistics involve the collection of data on the past periods of residence in the country and their duration and this was difficult to organise. Moreover, the need for a *continuous* residence could introduce an important bias in an important migratory period as there would be an important number of people living in new counties that would have been left out as they had temporary stays in it. Finally, the key limit of “more than one year”, instead of “one year or more” introduced the risk of diminishing numbers of long-term immigrants to a great extent as those with a one year permit (exactly) would have been excluded. The new definition simplifies the problem by using the concept of residence despite the problem of defining the latter. Therefore “*a long-term should be defined as a person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months)*”, so that the country of destination effectively becomes his or her new country of usual residence” (United Nations, 1998, par. 36). The reference to an expected duration of residence (prospective) that was included in the former recommendations disappeared in the 1998 ones. No choice is voluntarily done and therefore leaves the possibility to pick between definitions (expected or actual duration). Even if the expected length of stay is difficult to analyse, the recommendations leave the possibility of using it. The expected duration of stay nearly ever reflects the time that the person wishes to stay but the duration of his residence permit. It is improbable that a country organises a great scale survey to ask new migrants for their expected length of stay when it can have the information on the duration of the residence permits. On the opposite side, it is also improbable that an immigrant who has a 6-month residence permit declares that he would like to stay permanently. A part of form the fact that some short duration residence permits are unluckily renewed or transformed into long stay residence permits while some people with a long duration permit leave before their permit ends. In many cases and counties there is first a short duration permit. Therefore, people who eventually will stay more than a year will not be taken into account if the expected time of residence is used.

It is true that it is necessary to wait for a year before the real duration of the stay is known (with a population register). However, if the collection system is reliable, and this time is necessary to obtain a statistic with a sense, it could be necessary to take it into account. If this is not so, it would be maybe necessary to explain the sense of statistics produced with the UN definition. That is to say, a statistic of people who are granted a long-term (one year or more) residence permit directly from the moment of their entry. This would possibly diminish data significance but would be more accurate.

3. The potential sources of statistical data on international migration

Having specified the concepts, which allow counting international migrations (and which also allow the compilation of statistics characterising immigrants and emigrants), we shall examine the way in which the various European countries collect their statistical data on international migration.

There are several types of sources:

- censuses which introduce specific questions on spatial mobility and particularly on international mobility;

a given period of observation. On the occasion of a census or on the occasion of a survey, one cannot identify migrants or immigrants, but rather individuals having carried out an immigration in a recent past. This consequently involves immigrants' stocks (recent). An indirect question could allow the parallel identification of the stock of -migrants (recent). The corresponding English expressions would be (recently) immigrated persons or (recently) out migrated persons.

- administrative population registers which, in addition to births and deaths, record the individuals' administrative residence as well as their entries and exits in relation to the national territory;
- entry or exit visas and the collection of statistics at the borders using ad hoc forms completed exhaustively or by surveys;
- records of the granting or renewal of residence permits and management of aliens' registers,
- specific surveys on international mobility and pertaining to samples representative of the population of a country or of a fairly precise part of it.

The majority of the European countries organised a census around 1990, more precisely between 1989 and 1991. Most included one or more questions making it possible to measure or consider, from one point of view or another, the level of international mobility. These questions and the way in which they allow to measure international mobility will be examined more closely in point 3.

One of the main sources of statistical data on international mobility remains the population register system which is widely used in Europe, including all the Central and Eastern European countries. When this system works properly it can provide good statistical data on internal spatial mobility. But this is not the case as regards international mobility.

The statistical collection of information using forms completed on crossing borders concerns only a few countries; the procedure is complex and heavy as a result of the increase in tourism and international movements. Only Bulgaria and the United Kingdom maintain a specific sample survey to measure international mobility from border crossings. Poland tried an exhaustive statistical form but, like Greece and Portugal, abandoned this method of measuring international mobility.

All the countries that have been studied have a system for issuing and renewing residence permits. However this certainly does not mean that all the countries publish statistical tables based on those data. Moreover, the implementation of this system varies from country to country and the ideal situation, which consists in the maintenance of a permanently updated central foreign population register, is difficult to attain.

Finally, among surveys allowing estimating the level of international mobility or of migrants' characteristics, there are those, which are mainly centred on spatial mobility, and others whose principal topic is different, but which nevertheless include one or more questions on spatial mobility. This is in particular the case of the Labour Force Surveys.

Table 1. Different data sources for the measurement of international migration (including date of census and name of register)						
	Census	Population register	Border Accounts	Visa system	Stay permits	Specific surveys
BELGIUM	1991 2001	Registre National des Personnes Physiques: Central Population Register				
DENMARK	1981	Folkeregister: Central Population Register				
GERMANY	1987	Melderegister: Current Adjustment of Population according to Municipal Population Register/ AZR (Ausländerzentralregister) : Central Register of Foreigners				
GREECE	1991	-	*		*	
SPAIN	1991	Padron Municipal de Habitantes: Municipal Population Register				
FRANCE	1990 1999	-			*	
IRELAND	1991	-	*			*
ITALY	1991	Anagrafe : Municipal Population Register				
LUXEMBURG	1991	Répertoire Général des Personnes Physiques : Central Population Register				
NETHERLAND	-	GBA (Gemeentelijke Bevolking Administratie Basis) : Municipal Population Register				
AUSTRIA	1991	Melderegister: Population Register / Ausländerzentral-Register : Central Register of Foreigners				
PORTUGAL	1991	-	*		*	
FINLAND	-	Vaestorekisteriasikirjat: Central Population Register				
SWEDEN	1990	Registeret over Totalbefolkningen: Total Population Register				
UNITED KINGDOM	1991	-	*			*
NORWAY	1990	Folkeregisteret: Central Population Register				
ICELAND	-	Thjodskra: National Register of Persons				
SWITZERLAND	1990	Individual Population Register / ZAR (Zentrales Ausländerregister): Central Register of Foreigners				
LIECHTENSTEIN	1990	Zentral Personen Vermaltung: Population Register				
BULGARIA	1991	ESGRAON	*	*	*	*
CROATIA	1991				*	
CZECH REPUBLIC	1990 2001	EVIDENCE OBYVATELSTVA Evidence de la population			*	
ESTONIA	1989				*	
F.Y.R.O.M.	1994					*
HUNGARY	1990	ALLAMI NEPESEGG NYAILVANTARTO (A.N.N.) – STATE POPULATION REGISTER	*		*	
LATVIA	1989			*	*	
LITHUANIA	1989		*	*	*	
POLAND	1988	PESEL (Powszechny System Ewidencji Ludnosci)		*		
ROMANIA	1992	EVIDENTA POPULATIEI - "Evidence de la population"		*	*	
SLOVAK REPUBLIC	1990	EVIDENCE OBYVATELSTVA - "Evidence de la population"			*	
SLOVENIA	1991	REGISTRAR STANOVNIJTV - population register			*	

N.B. The utilisation of border accounts, specific surveys and visa systems has only been used in countries where they can be pertinent. That is to say, those countries where they are the only existent or usable complementary source of information as others are of bad quality. Many countries should have visa statistics and border estimations even if they are never published. Population register systems can be used as a register of what is known as stay permits as the registration in the register is conditioned by the possession of a residence permit and the population register very often uses as a basis the residence permit one.

By examining these collection methods in greater detail, we can highlight their advantages and disadvantages, as well as the possibilities of comparison they offer.

3.1. Measurement of international mobility using the census

The main interest of the census with regards to the measurement of international mobility is to obtain information on the non-national population stock. This population is generally identified on the basis of legal nationality (citizenship). Though data generally provide reliable answers, interpreting them in order to determine international migration is difficult. Actually, the concept involved is primarily legal, and the acquisition of citizenship of the country concerned can erase any trace of the foreign origin of the individual. Thus, second-generation foreigners, who were born in the country and have probably never experienced international mobility are counted, whilst naturalised persons who have in fact probably carried out the international migrations, are counted as nationals. It is, however, possible to make the most of this question about citizenship either by pairing it with that on place of birth, or by asking for citizenship at birth. It can not be pointed out that neither the censuses of the Baltic States, (or indeed those of the other republics of the former-USSR), nor that of Poland raise the question of citizenship. The latest census of the Czech and Slovak Republics, like that of the United Kingdom, the United States or Canada asks specifically for the ethnic minority of the individual⁶.

The changes in the non-national population stock between two successive censuses are not devoid of interest, but provide only a skewed view of the scale of international migratory movements. In fact, those changes concern only the non-national population. Moreover, account has to be taken of the natural movements specific to the foreign population, and of the quite important role of acquisitions and losses of the citizenship in the host country.

More specifically, several questions allow determining spatial mobility, and can provide some information on international mobility. The question which is most generally asked and which gives indirect information on international mobility is the place or country of birth. Comparing it with the place of enumeration distinguishes natives from non-natives of the country concerned. The reliability of this question is good, but its use to measure international mobility nevertheless leads to some difficulties:

- First of all the place of birth may not have been the place of habitual residence at birth of the person and/or of his mother, (for example, the mother might have moved in order to give birth).
- It remains nevertheless a fact that the identification of the place of birth can raise some difficulties as a result of changes of border or of names.
- Finally, during the analysis, one can lose sight of the fact that the comparative study of natives and non-natives remains of a somewhat limited interest because these concepts describe a migratory behaviour during the persons life without making it possible to determine in any closer detail the mobility in itself.

Operationally, the statistical results obtained, even if they are broken down by sex, age and citizenship, bring little or no information on the scale and characteristics of international mobility at the time of the census.

The year of the first immigration in the country is collected in some countries. It can allow calculating the duration of stay in the host country although this calculation does not generally take account of any possible returns or stays in other countries. This also involves making sure that it is the date of first arrival in the country, which is taken into account, and not that of the most recent entry.

The two questions best suited to determine international mobility and more specifically international immigration are those related to the place of the previous dwelling (which provides us with the country of previous residence) and to the location of a dwelling occupied at a fixed date in the past (i.e. the country of residence at a fixed date in the past).

⁶ The answer to this question is obviously subjective and largely depends on the context which surrounds the response to the questionnaire of the census. In several Western European countries, it would be nowadays unimaginable to introduce such a question within the questionnaire of a future census.

Table 2. Questions asked in censuses in order to measure international migrations									
	Date	Place of birth	Citizenship	Ethnic nationality	Year of immigration	Place of residence in the past	Previous place of residence	Duration of stay in the residence	Emigrant status
BELGIUM	1991 2001	*	*		*			*	
DENMARK	1981								
GERMANY	1987		*						
GREECE	1991		*			*			
SPAIN	1991	*	*			*	*	*	
FRANCE	1990 1999	*	*			*			
IRELAND	1991	*			*	*			
ITALY	1991	*	*		*	*		*	
LUXEMBURG	1991	*	*			*		*	
NETHERLANDS	-								
AUSTRIA	1991		*			*			
PORTUGAL	1991	*	*			*			
FINLAND	-	*	**		*			*	
SWEDEN	1990	0	0		*				
UNITED KINGDOM	1991	*		*		*			
NORWAY	1990	*	0		*				
ICELAND	-								
SWITZERLAND	1990	*	*			*			
LIECHTENSTEIN	1990	*	*			*			
BULGARIA	1991			?			*	*	
CROATIA	1991	*		*			*	*	*
CZECH REPUBLIC	1990 2001	*	*	*					
ESTONIA	1989	*	*	*			1	*	
F.Y.R.O.M.	1994	*	*	*	*		*		
HUNGARY	1990	*	*	?		*	*	*	
LATVIA	1989	*	*	*			1	*	
LITHUANIA	1989	*	*	*			1	*	
POLAND	1988		0				*	*	*
ROMANIA	1992	*	*	*			*	*	
SLOVAK REPUBLIC	1990	*	*	*					
SLOVENIA	1991	*		*			*	*	*

0 Obtained by register

1 Only the rural or urban location of the housing is asked

Generally, the question about the situation of the previous dwelling allows to take into account the last migration of the individual concerned; it will be considered an international immigration in so far as the last occupied dwelling was located abroad. However if following the international immigration, another change of dwelling has taken place inside the country, only the latter will be taken into account thus completely masking the international immigration. This bias is considerable if one considers the high propensity to migrate among those who have recently arrived in a country. By coupling this question to another giving the duration of residence at the current dwelling it is possible to pinpoint, in space and time, the last international immigration of the individual, provided that it was also the last migration. Consequently these data only relate to an unspecified fraction of all international immigrants, and it is thus scarcely possible to infer from them an estimate of international mobility. Obviously, therefore, the question about the last migration, even if it allows a satisfactory measure of overall mobility including both internal and international, gives no precise idea of the scale of international mobility taken separately.

By asking the census respondent to specify the place where his dwelling was at a fixed date in the past, we are no longer concerned with migration as a demographic event, but with the individual personally, by comparing the location of his dwelling at two precise moments: at the census on the one hand, and one, five or ten years before, on the other.

When the dwelling occupied by the interested party in the past is abroad, it is certain that the person has carried out at least one international immigration since the earlier date. This approach gives the unquestionable advantage of asking only one, fairly precise, question. It will be noticed nevertheless that the remoter the date selected, the more answers will suffer from weaknesses in the respondent's memory. Moreover, it is important to note that neither this nor the previous question allow the precise identification of international immigration, but rather shows an individual's mobility over a fixed period.

All the questions proposed so far are limited to international immigration, since any international emigration is outside the scope of the census. There are nevertheless some approaches, which allow taking into account some of these international emigrations on the basis of the declaration of the household members who have remained in the country. The best approach is that proposed by Ireland which, in its Labour Force Survey, asks about household members residing abroad who a year before had been members of the surveyed household residing together in the country. Independently of the problem of the reliability of answers to this question, it must be noted that only emigrants with members of their household remaining in the country can be the subject of such a declaration. This consequently excludes all households emigrating in block, whilst all household dissolution's and transformations also influence the answers to this question.

The question about the place of birth of the respondent's siblings and children (or both), increasingly used by third-world countries, is not used and could constitute a significant source of statistical data on emigration. Finally, the attempts to count nationals who are more or less temporarily or definitively abroad do not seem very successful, given that the obstacles to be surmounted are important.

In conclusion, it is worth asking how useful the census is for measuring the level of international mobility. For several reasons the answer must be relatively negative:

- Due to its nature, the census can measure only international immigration and, in the majority of the cases, it can do so only indirectly. The only direct question consists in asking whether the respondent changed its usual place of residence from a foreign country to the present one during a given period. Attempts to measure international emigration were unsatisfactory.
- Because of its often very long periodicity of 5 to 10 years and, in certain countries, even more, the census does not allow to follow the development of migratory flows in any way.
- Finally, the census does not permit harmonisation with the definition of international migration proposed by the United Nations. The question which seems most appropriate would be that asking for the situation of the its usual place of residence one year before the census. Even if the answer indicates a location abroad, it cannot be concluded that it is a short- or a long-term immigration without information on the duration of the stay in the country. The only satisfactory approach to meet the proposals of the United Nations would be to ask to specify the date of the last change of residence from a foreign country, also called last international entry. In this case, those having resided in the country for longer than one year could be taken into account in counting long-term international immigrants. To the best of our knowledge, no country does this.

3.2. Measurement of international mobility from population registers

A population register gathers, in various forms, all demographic and administrative information concerning the individuals whose place of residence is in a given locality. This file is kept constantly up to date on the basis of adding the entries in the population of a locality by birth or immigration and subtracting the exits by death or emigration. Consequently, this system of administrative population management is likely to provide statistical data on spatial mobility in general and on international migration in particular. Only five EU Member States do not have system of files for population management at the level of the basic administrative unit. They are Ireland, the United Kingdom, France, Portugal and Greece while population files exist operationally or in a project phase in all of the Central and Eastern European countries.

Following the example of the Nordic countries, computer management of these population files at national or regional level is becoming general and progressing very rapidly. The transfer of information between local files and the central register at national or regional level varies appreciably according to country as well as data updating methods. The existence of a relative independence between the local files and the central register may be reflected, as is the case in Luxembourg, by the existence of discrepancies in the data.

How does the population register system allow measuring international mobility?

First of all, we should recall that the population register records the administrative residence of the individual and that the administrative nature of this 'residence' can result in a lack of correspondence between it and the dwelling actually occupied by the respondent. In central Europe this is mainly due to the difficulties of the housing market while such discrepancies also exist in numerous West European countries because, for example, of local variations in the level of taxation. To assess these discrepancies and measure their impact on the reliability of the measurement of spatial mobility, it is advisable to take into account all the advantages or disadvantages associated with a declaration of change of residence. Access to extended education, free health care, priority access to new housing, lower local taxes, etc.-there are many situations where financial advantage, can result in a false statement of change of residence or the more or less deliberate failure to declare an effective change of residence.

The population register is generally built on the principle of a unique place of residence and this will tend to underestimate spatial mobility because changes of dwellings between principal and secondary places of residence or between principal and temporary residence will not be taken into account, even if the occupation of temporary holiday residences exceeds substantially the thresholds applied for the identification of migration. This is also a problem in the case of international migrations, and more particularly tourists wintering in the sun. Thus, there are numerous British people on the Spanish coasts whose situation is illegal because they occupy a temporary residence in Spain for a winter period which often exceeds three months whilst they are not registered in the Spanish population register. The existence of individuals who have several residences cannot be neglected because they are becoming more numerous. Moreover, it is not rare that these multiple residences are in different countries, which disturbs the measurement of international mobility.

In most other countries, the document recording international migration is the same as for internal migration, but additional forms exist for immigration of non-nationals. Any international migration should, in theory, be the subject of two separate declarations, one in the country of departure and the other in that of destination. Except for the Nordic countries, there is no transfer of information between the administrations of the two countries concerned. It is easy to see that emigrations will be substantially under-declared, irrespective of the country of emigration and therefore immigration statistics are generally of better quality than or emigration ones. But as the quality of statistics varies according to the country, emigration statistics given by the country of departure for a given flow may perhaps be more satisfactory than immigration statistics provided by the host country.

Links between the body responsible for keeping these centralised registers and the National Statistical Institute differ from country to country. Table 3 allows comparing systems in force in the various countries for the transfer of information to the statistical offices. Two methods can be distinguished:

- Direct processing of statistical data from the central population register. This can be done directly when there are close links between the managers of the centralised register and the statisticians of the National Statistical Institutes, as is the case in Iceland, Norway and Sweden. In most countries, however, there is a transfer of anonymised individual data concerning all migrations, in machine-readable form.
- Statistical processing of the form recording international migration. Here, two procedures are used. In the first, the statistical tabulations are compiled by local administrations and results in the form of summary tables, are transmitted to regional level administrations (or regional statistical institute) before being centralised nationally (Italy and Switzerland). In the second, the original forms or copies intended for statistical use, are regionally (Czech Republic and Slovak Republic) or nationally (Romania and the Baltic Republics) centralised for computer processing and compilation of the statistical tabulations needed.

Table 3. The different ways the population register and the data collection are organised

	LOCAL Population Registers or files	Computerisation at local level (P = partial)	Centralisation at regional level (R) at national level (N)	Data collection on a copy of all migrations only	Use of statistical forms	
					at regional level	at national level
BELGIUM	*	*	N			
DENMARK	*	*	N			
GERMANY	*	P	R	*	*	
GREECE						
SPAIN	*	P	R		*	
FRANCE						
IRELAND						
ITALY	*	P	R		*	
LUXEMBURG	*	P	N			
NETHERLANDS	*	*				
AUSTRIA	*	P				
PORTUGAL			N			
FINLAND	*	*	N			
SWEDEN	*	*	N			
UNITED KINGDOM						
NORWAY	*	*	N			
ICELAND	*	*	N			
SWITZERLAND	*	P		*		
LIECHTENSTEIN	*	*	N			
BULGARIA	*			*		
CZECH REPUBLIC	*	P	N		*	
CROATIA	*	P	N			*
ESTONIA	*	P	R			*
F.Y.R.O.M.						*
HUNGARY	*	P	N	*		
LATVIA	*					*
LITHUANIA	*					*
POLAND	*	P	N	*		
ROMANIA	*					*
SLOVAK REPUBLIC	*	P	N		*	
SLOVENIA	*	P	N			*

3.3. Measurement of international mobility from border crossing records

On the contrary to what happens in the USA and Canada, the method of recording border crossings is little used by the statistical services in Europe because they have more effective alternative solutions. Three possible methods can be used in the statistical measurement of border crossings:

- exhaustive collection using a form filled out by all persons entering or leaving the country;
- exhaustive collection using a form distributed only to specific categories of persons, these categories being determined by the individual's status in relation with permission to stay or reason for travelling;
- large survey of a representative sample of the individuals crossing the border or of a quite specific category amongst them.

The *International Passenger Survey* organised in the United Kingdom by NOS on behalf of various government departments is a sample survey, which refers to passengers entering or leaving the United Kingdom by one of the main air or seaports. If the respondent intends to remain in the United Kingdom or to stay away for a year or more and had been abroad or in the country for at least a year, a number of supplementary questions are asked and the answers serve as a base for the published statistical tabulations on international mobility in the United

Kingdom. One must be careful however because of the weakness of the sample and the clear difficulty of making it representative in the context of increasing international mobility that reduces the quality of the statistical data provided by this method.

The statistical services in Bulgaria also organise a sample survey at the borders. Its aim is primarily statistical and is supplemented by surveys conducted by the embassies of the main Western countries and of international organisations. The objective of the operation goes beyond observing the scale of migration movements, seeking a more all-round and explanatory view, from the social point of view in particular, in order to typify and illustrate migratory flows.

In Poland, collection operations at borders were organised systematically in the past, but were abandoned very recently. Intensification of international movements, more particularly of tourism and business, made this collection extremely onerous and not particularly valuable for the measurement of international mobility.

Nevertheless, this type of collection has been operational again since the 1st of January 1993 in the Baltic States. This date corresponds to the liberalisation of the issuing of the international passports and abolition of exit visas. The aim was to provide information on emigration flows, which have increased in the various Republics of the former USSR.

Before closing this section concerning border crossings, it is necessary to point out that although all European countries have a system for allotting entry visas of various types. However the statistical tables which could be produced from the administrative process of issuing visas are of little use for the measurement of international immigration.

3.4. Measurement of international mobility from residence permit records, visa, passports and other administrative systems according permission to stay in the country

The system for granting and renewing residence permits is also a potential source of data to describe international mobility, in all European countries. However, it must be said that despite the potential of this source the current quality of the scarce statistical tables published from permit data despite the potential of this source is low (table 5).

Some comments are nevertheless necessary to explain this statement:

- First of all, it is clear that a residence permit is not needed by nationals, or certain specific categories of non-nationals. This has been the case for all citizens of the Community and EEA countries since 1 January 1993. Similar rules which allow individuals from Central and Eastern European countries to remain in the other countries of the zone without a residence permit do also exist. Therefore, this system should allow measurement of the international mobility of third-country nationals.
- Secondly, the links, if any, between this register of non-nationals holding a residence permit and the population register vary according to country. Residence permit issue generally falls within the competence of the police, specifically its aliens department. This service may be the responsibility of the Ministry of the Interior, of Foreign Affairs or of Justice, according to country. In addition, the population register, if it exists, is generally under the responsibility of the Ministry of the Interior, and there is not always a direct link between the two responsible institutions. Finally, the statistical services of the country rarely depend on the Ministry of the Interior, and this hampers the gathering of the statistical data of this type and heavily restricts data published from the file of foreigners holding a residence permit.
- Finally, it is generally noted that links and the exchange of statistical data between those responsible for residence permits and the statistical services are often tenuous. This is mainly due to the fact that the police generally seek to keep any statistical data on the non-national population confidential. This also touches upon the crucial problem of counting illegal immigrants. The difficulties encountered updating and anonymising files, and the fact that it is not statisticians who compile the statistical tables, are the two major reasons why little reliance can be placed on the statistical data available from residence.

Table 4. Statistical data collection at the border and visa system

	Data collection on international migration through arrivals and departures at the border?	Publication of statistical data on number of visas issued
BELGIUM	No	
DENMARK	No	
GERMANY	No	
GREECE	Yes (immigrants: only for non-EC passport holders / emigrants: only for Greek citizens or permanent residents in Greece)	For emigrants (according to embassies in Athens)
SPAIN		
FRANCE	Estimations by nationality based on traffic (entries and departures)	
IRELAND	Entries by country of origin for non-EC nationals (entry cards) + Survey at border for migrants, including Irish citizens	
ITALY	No	
LUXEMBURG	No	
NETHERLANDS		Statistics compiles by the Ministry of Justice, but only for its internal use
AUSTRIA	No	
PORTUGAL	Only from airports and sea-ports	
FINLAND		
SWEDEN		
UNITED KINGDOM	Yes (entry cards for non-EC citizens / Survey for all migrants, including British citizens, but excluding movement between UK and Eire).	
BULGARIA	Yes	Yes
CROATIA	No	No
CZECH REPUBLIC	No	No
ESTONIA	No	No
F.Y.R.O.M.	No	No
HUNGARY	Only on total traffic with some characteristics (e.g. citizenship)	Not by the Stat. Office, perhaps by the Min. of Int.
LATVIA	No	Only total numbers of issued visas
LITHUANIA	Estimations based on traffic	Only total numbers of issued visas
POLAND	No	Only total numbers of issued visas
ROMANIA	Yes only for nationals leaving for good	Only total numbers of issued visas
SLOVAK REPUBLIC	No	No
SLOVENIA	No	No

Table 5. Data file for the stock of non nationals with residence permit and statistical data collection		
	Is there a data file for the stock of non nationals with a residence permit	Availability of statistical data based on residence permits issued
BELGIUM	Yes (Registre National: Central Population Register)	Yes
DENMARK	Yes (Directorate of Aliens in the Ministry of the Interior)	Yes
GERMANY	Yes (AZR (Central Register of Foreigners))	Yes (from the AZR)
GREECE	Yes (Ministry of Public Order)	Yes (Ministry of Public Order and National Statistical Service of Grece)
SPAIN	Yes	Yes (Instituto Nacional de Estadistica and General Directorate of Migration of the Ministry of Employment and Social Security)
FRANCE	Yes (Ministry of the Interior)	Yes (from the OMI and OFPRA)
IRELAND	Yes (Department of Justice)	No
ITALY	Yes (Ministry of the Interior)	Yes (ISTAT)
LUXEMBURG	Yes	Yes
NETHERLANDS	Yes (PAZ-DVZ-2 system if the decision is made by the Ministry of Justice and PAZ-DVZ-3 system if the decision is made by the Aliens Police)	For internal use of the Ministry of Justice
AUSTRIA	Yes (Aliens register)	Yes
PORTUGAL	Yes (Service of Foreigners and Frontiers, Ministry of the Interior)	Yes
FINLAND	Yes (Register of Aliens (Centre for Aliens' Affairs of the Ministry of the Interior))	Yes
SWEDEN	Yes (Total Population Register)	Yes
UNITED KINGDOM	No	Yes (Home Office statistics)
NORWAY	Yes (Central Population Register)	Yes
ICELAND	Yes (Central Population Register)	Yes
SWITZERLAND	Yes (Central Register of Foreigners, ZAR)	Yes (Federal Office of Foreigners)
LIECHTENSTEIN	Yes (Central Register of Foreigners)	Yes
BULGARIA	SKRECK (Statistical data available but not compatible with other sources)	Only total numbers (Ministry of Interior)
CROATIA	Data available at the Ministry of Interior (will be published by the Stat. Off)	No
CZECH REPUBLIC	TUC/DUC (Statistical data available but not published)	No, but the information might exist at the Ministry of Interior
ESTONIA	Statistical data available at the Ministry of Interior but not well updated	No
F.Y.R.O.M.	Probably available at the Ministry of Interior	No
HUNGARY	Statistical data available at the Ministry of Interior but not well updated	No, except for short-term permits
LATVIA	Statistical data available at the Ministry of Interior	No, but can be produced
LITHUANIA	?	Yes, only total number (more data exist in the Ministry of Interior)
POLAND	No system	No
ROMANIA	Statistical data available at the Ministry of Interior	No
SLOVAK REPUBLIC	No system	Yes, only total numbers
SLOVENIA	CRP (statistical data produced by the Statistical Office)	No

3.5. Measuring international mobility from surveys

In parallel to the censuses, certain countries organise micro-censuses at more frequent intervals, or an annual Labour Force Survey. If the questions that can be asked in these to determine international mobility are the same as those which have been just detailed for the census, it means that in most cases the sample size or method of sampling precludes the measurement of international mobility. In point of fact, it must be firstly recalled that the phenomenon is relatively rare, in particular if one wishes to break down the results according to other criteria such as country of previous residence or of destination. Moreover, it is difficult to include recent immigrants for the sampling bases in a representative manner, and obviously to exclude emigrants. The encouraging results obtained by Ireland in this direction (with a more substantial survey rate) must however be noted. Certainly, immigration is not very high in Ireland but a degree of emigration exists and can be measured from the question about the household's members living abroad.

More limited and specific surveys such as biographical surveys may be carried out exclusively for the analysis of spatial mobility. Unfortunately, this type of survey, which aims to cover all types of spatial mobility of an individual and gives only limited information on international mobility. There are also other mainly specialised surveys on international mobility. Some try to follow migrants between the country of departure and the host country while others try to estimate the propensity to emigrate. This is the case of Bulgaria where specific surveys have been developed to evaluate this propensity to emigrate from the queues at foreign embassies and consulates and the representations of international organisations.

Despite these efforts, one can only note that specific surveys contribute very little at least from a quantitative point of view to our knowledge of international mobility in Europe.

4. Are these data sources appropriate to measure international migration flows along UN recommendations?

When evaluating the potentiality of each of the data sources for implementing the UN recommendations several criteria have to be considered. First of all the data source should use the UN definition for identifying an international migration as far as space, time and reason are concerned. For some data sources, like the centralised population register, if the definition is not exactly the same as requested by UN there may be some possibilities to adapt the counting process in order to fit the UN definition. **Nevertheless this first criteria is not sufficient to consider a specific data source as an appropriate one for the implementation of the UN recommendations.** Several other conditions have to be fulfilled. Two conditions are at least as important as the first one: the reliability of the data collection process and the assurance that the whole population is covered, including all sub-populations and types of migrants. The coverage of the data collection process is a major point. As an example it is essential to note that immigration countries are more inclined to count the entry of foreigners and their possible return to their country of origin, whereas the opposite occurs in the emigration countries.

Finally, if a new data collection system has to be introduced or an existing system has to be modified other conditions should also be taken into account. These are:

- the overall feasibility of the introduction of the new data collection system or the change of the existing one
- the cost related to the change or introduction of the new data collection system
- the respect of national rules on legal, administrative and statistical aspects
- the consideration of national problematics related to international migration and related national susceptibilities or sensibilities.

New data collection systems will not be introduced in administrative rules unless they are required for a specific administrative purpose like the introduction of new legislation which, for example, requires information about the last address or the country of origin.

Despite the differences that can exist among countries, methods for measuring migrations may be ranked from the less appropriate to the more suitable to fulfil the UN recommendations. The census is surely the less satisfactory solution as it can only directly give numbers of new immigrants from around the census. Long and short-term migrations cannot be differentiated unless a great number of other questions on the subject are included in the census and this is factually not possible. Cross border counting theoretically allows to count entries and exits. UN recommendations could be, always theoretically, followed by asking a question at the entry and another at the exit about the expected or real length of the stay or if passports are stamped. However, the

reliability of existing systems is low and an improvement is not easily foreseeable. The recollection of statistics based on the delivered residence permits, passports and visas show theoretically better fill the existing lack of sources on international migration. However, their utilisation is limited. On the one hand, not all migrants need a visa (non-of the EU citizens, for example, have this obligation). Moreover, the fact of obtaining a visa or a residence or work permit does not mean that this person is going to use it nor stay until its expiry, which would allow to determine the duration of the stay. The difficulty to update carefully residence permit or work permit files is notable. Specific surveys can be considered as a progress, but the size of the sample limits its utilisation. The population register allows to make undeniable progress as it is the only source which records both immigrations and emigrations and in which the link between each individual's entry and exit can be made and therefore the real long or short duration of the stay can be established. However all population register are not reliable. Only the fact that they are centralised guarantees the reliability of the system, making sure that the entries and exits are correctly established avoiding double counts. Even using a reliable centralised population register does not guarantee an international compatibility between immigration and emigration figures as the double matrices have shown. For this, on top of or apart from the population register there should be a removal card system. Any person leaving the country A would receive a form to be filled and that should be given to the authorities in country B at his arrival. Thereafter the country B will decide whether or not it is an international immigrant (short term or long term according the UN definition) and inform the country A on this decision. Doing so compatibility between immigration and emigration statistics will be ensured as proved by the Nordic countries.

In summary, sources could be classified in this order from the least to the most satisfactory for the implementation of the UN recommendations:

- Census
- Border crossing records
- Permit, passport and visas
- Specific surveys
- Local Population Register
- Centralised Population Register
- Removal card.

5. Confronting international migration statistics within Europe

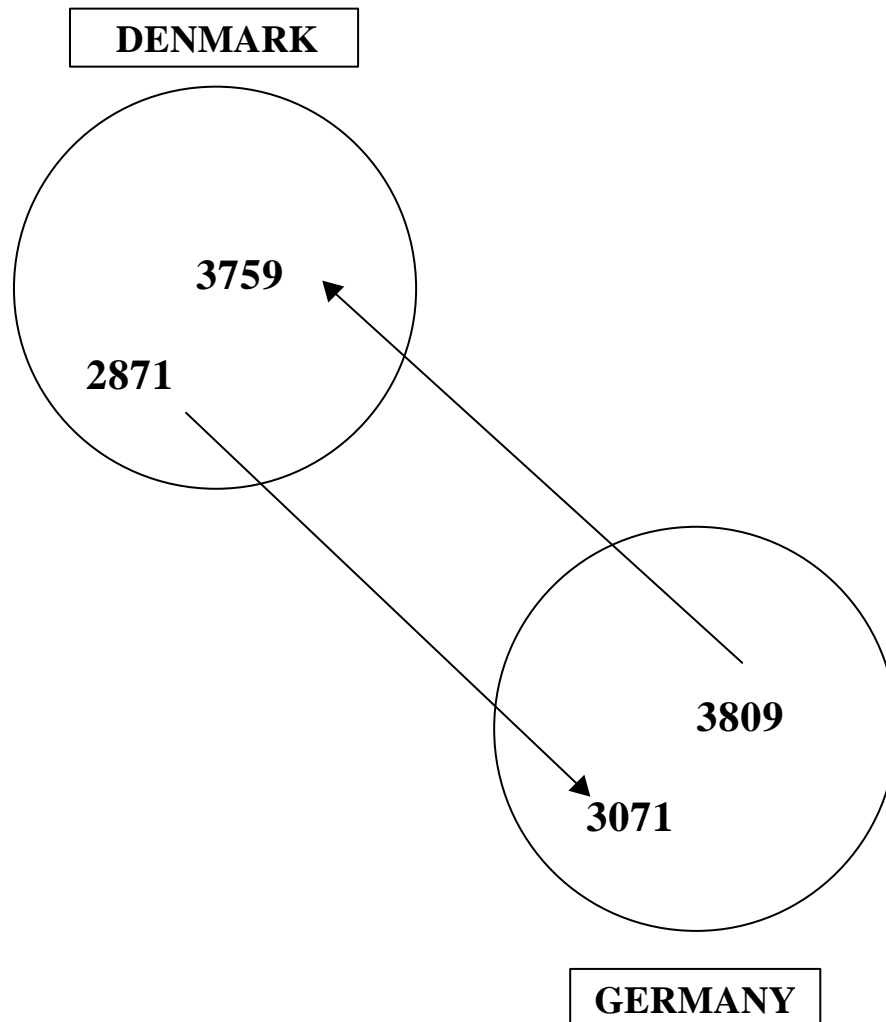
International migration is the only demographic statistical phenomenon, which is currently produced simultaneously by two different National Statistical Institutes, the one of the country of departure and the one of the country of arrival. Therefore, it is a very interesting subject for studying the reliability of statistical data on a general basis, especially in a case where, everybody will agree, the reliability problem is a major one. In the field of population projections and forecasts, reliable international migration data are urgently needed. Moreover, from a European policy point of view, international migration is nowadays a very important matter. In this context, EUROSTAT, UN-ECE and other international bodies put a lot of energy in order to improve the overall reliability and comparability of the international migration data collection.

A double matrices of intraeuropean international migration has been introduced in the '70 by ECE and later developed under the auspices of Eurostat on the basis of the figures provided by each country for:

- international immigrations by country of origin or country of last residence
- international emigrations by country of destination or next residence

In this double matrices you can find two figures in each cell $M(i,j)$ for the migration flow between a specific pair of countries i and j : the one on immigrations in the country of destination and the one on emigrations in the country of destination. Figure 1 shows an example of comparison of statistics for the migration flow between Denmark and Germany in 1998 while annex 1 presents the full European double matrices for the year 1995.

Figure 1. Migration flows between Denmark and Germany in 1998: immigration figure in Germany (3071) may be compared with emigration one in Denmark (2871) while emigration figure in Germany (3809) is to compare with immigration in Denmark (3759) (Source: Eurostat)



A short examination of the double matrices for 1995 that covered 33 European countries confirmed that there is still a long way to go in order to achieve a minimal comparability level. Looking at the cells of this double matrices, we can observe that several countries like France, Portugal, Albania, Bosnia-Herzegovia and Yougoslavia don't provide any data at all while Spain, Greece, Ireland and Bulgaria only propose data for immigration. Beside this, it is clear that for some countries, the figures are only rough estimations or proxies.

When both figures are available for the same migration flow between country *i* and country *j* measured as emigrations in *i* and immigrations in *j*, a direct reliability check is possible. If we only consider the

EU countries are there only 72 couples of figures, out of 210, which are comparable, that means about one third. The immigration figure is higher than the emigration one in one case out of two, while in the other case, the emigration figure is higher. That fact doesn't confirm the general feeling that immigration figures are always better than emigration ones. In 17 cases, the two figures differ for less than 10% while in 48 cases, the difference overpasses 100%. More specifically, that means that in 22 cases, the immigration figure is more than twice the emigration one and in the opposite sense, in 26 cases, the emigration figure is more than twice the immigration one.

How is it possible to explain so large differences between statistical figures supposed to describe the same migration flow? First of all we have to take into consideration the fact that often the national definition is different from the internationally recommended one and differs between the two compared countries. Beside we have to consider the poor reliability of international migration data. In fact, even if two countries are using the same definition to measure international migration flows, the problem of non-reliability of the data collection system may involve very large differences between the two figures of the same migration flow. We have also to consider the coverage of the data collection by identifying all sub-populations that are involved and those who are excluded and will automatically lead to differences in the statistical figures.

Therefore, it seems clear when analysing the double matrices that in order to improve the overall comparability of international migration statistics the problem of poor reliability of the international migration data collection systems in each country is certainly as important as that of harmonisation of concepts.

In order to obtain this minimal comparability between data produced by all European countries, some approximation methods have to be applied in order to take into consideration the fact that often the national definition is different from the internationally recommended one but also taking into consideration the poor reliability of international migration data. In fact, even if two countries are using the same definition to measure international migration flows, the problem of non-reliability of the data collection system may involve very large differences between the two figures of the same migration flow.

Comparability of international statistics is so low that it frequently stops the development of a correct analysis. In parallel with the overall improvement process, two approaches have been developed.

The first approach developed in order to improve the present situation consists on the bilateral cooperation between pairs of countries in order to examine in further detail where do the two data differ. Eurostat has given this possibility to Belgium, on one side, and Denmark, Sweden and Italy, on the other (JOHANESSON, I. LANGE, A., POULAIN, M. (1997), *La mesure des courants de migration internationale entre la Belgique, d'une part, le Danemark et la Suède, d'autre part*, Eurostat Working Paper, E4/1997-2, 18 p. / Bisogno, E., Poulain, M. (1999), *La fiabilité de la mesure des courants de migration internationale entre la Belgique et l'Italie*, Eurostat Working Paper, 3/1999/E/n°4). The main interest of this research was the fact that for the first time individual data were linked between two data files produced by two completely different systems in two different countries. Therefore, we are no longer comparing aggregate data but individual data on an anonymous basis. The linkage between individual data provided by Belgium, on one side, Denmark, Sweden and Italy on the other has been done through the date and place of birth of each individual involved in the migration flow between each pair of countries. In the case of Italy, all migrations registered by the two countries between 1991 and 1995 have been considered but only the migrations occurred between 1992 and 1994 have been submitted to the linkage with all others.

Figure 2a shows that only 2222 migrations from Belgium to Italy have been registered in both countries while nearly 2000 are registered only as immigration in Italy and more than 6000 only as emigration from Belgium. Figure 2b which shows the flow from Italy to Belgium enhances the magnitude of the comparability problem because we can see that even if the two figures are quite similar and are in favour of a relatively good reliability level, the analysis of individual data clearly

shows that most individuals involved in this migration flow are not registered in both countries and therefore the exact figure may be as high as 18.000 migrations!

Figure 2a. Migration flow from Belgium to Italy as immigrations in Italy and emigrations in Belgium for the years 1992 - 1994 (INS ISTAT)

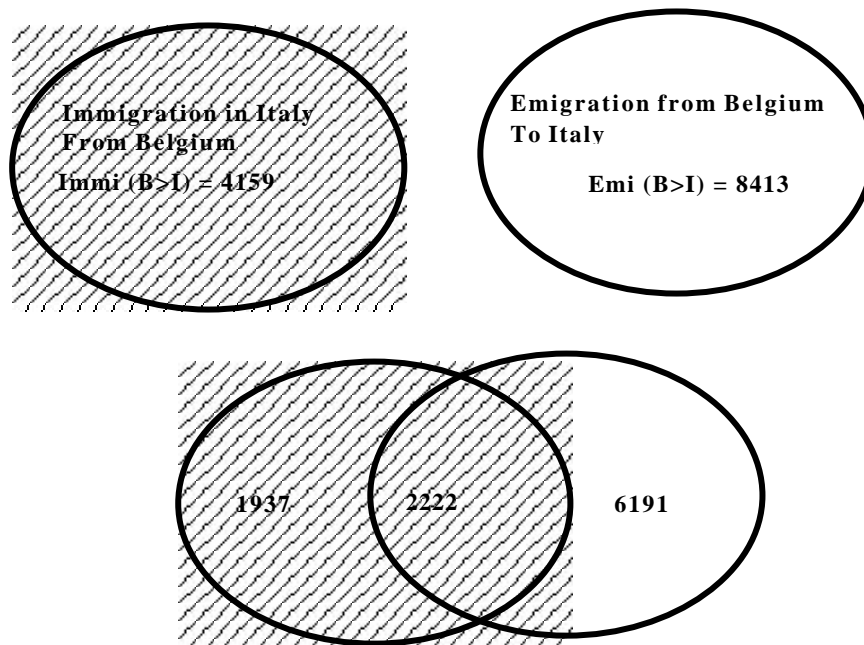
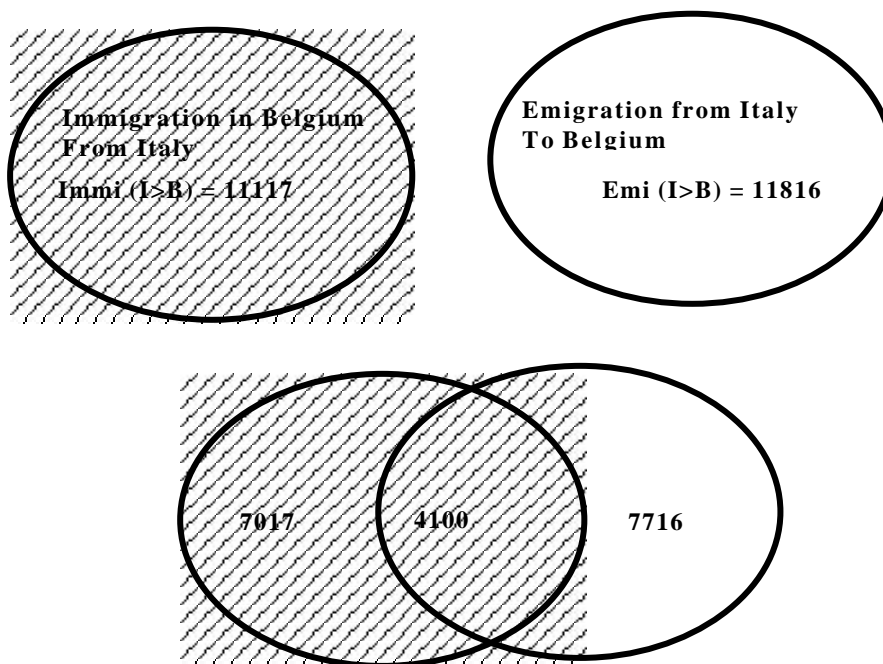


Figure 2b. Migration flow from Italy to Belgium as immigrations in Belgium and emigrations in Italy for the years 1992-1994 (INS - ISTAT)



In this context of very poor reliability, a second approach was proposed with the only objective to provide a rough estimation of the magnitude of each migration flow. By doing so we will try to fill the intra-European migration matrices with estimations that must never be considered as the reality. The exact figures will probably be unknown for a long time...

In the second approach a mathematical method is developed that provides a « corrected » estimation of each intra-European flow from a basic mathematical model and hypotheses, which have been considered as acceptable. This should allow a first analysis of migratory exchanges between European countries including central European ones and if may not be considered in any means as a substitute for the criteria and collection harmonisation process between European countries (POULAIN, 1999, *Confrontation des statistiques de migration intra-européenne: vers une matrice complète?*, Eurostat Working Paper, 3/1999/E/n°5). The correcting factors proposed in table 7 give an idea of the relative underestimation for immigration and emigration flows in the different European countries. Only a few countries producing a large range of data on intra-European migration flows are concerned and the values indicate that the highest number of migration is recorded for immigration in Germany. If we compare this registration level for immigration in Germany with the similar one in Denmark, we can conclude that Denmark underestimate immigration flows by 50%. In fact the definition used in Germany and in Denmark are different: in Germany every entry is considered as an immigration after 7 days while in Denmark an intended duration of 3 months is requested. Therefore all very short-term migrations are included in Germany and not in Denmark.

Table 7. “Correcting factors” for immigration and emigration figures according the country of registration		
COUNTRIES	Immigrations	Emigrations
	Correcting factors	Correcting factors
B	4,6669	1,7660
DK	1,5834	1,5229
D	1,0000	1,2034
L	2,0837	3,1935
NL	1,4839	1,2763
A	1,7792	1,7724
FIN	2,1490	1,7736
S	1,9248	1,9365
IS	1,8054	1,7295
N	1,8682	1,8705
CH	1,3376	1,3232

Therefore, based on these two approaches, it seems clear when analysing the double matrices that in order to improve the overall comparability of international migration statistics the problem of poor reliability of the international migration data collection systems in each countries is certainly as important as that of harmonisation of concepts.

6. As a conclusion: has the international migration data collection really improved in Europe during the '90?

In order to help identifying any improvement in the migration data collection system, let's have a look to compared figures for specific pairs of countries. In figure 3, migration flows between Germany (D) and Denmark (DK) are compared between 1981 and 1999.

Figure 3a. Migration flow from Denmark to Germany: comparison of emigration figures recorded by Denmark and immigration figures from Germany (Source: Eurostat)

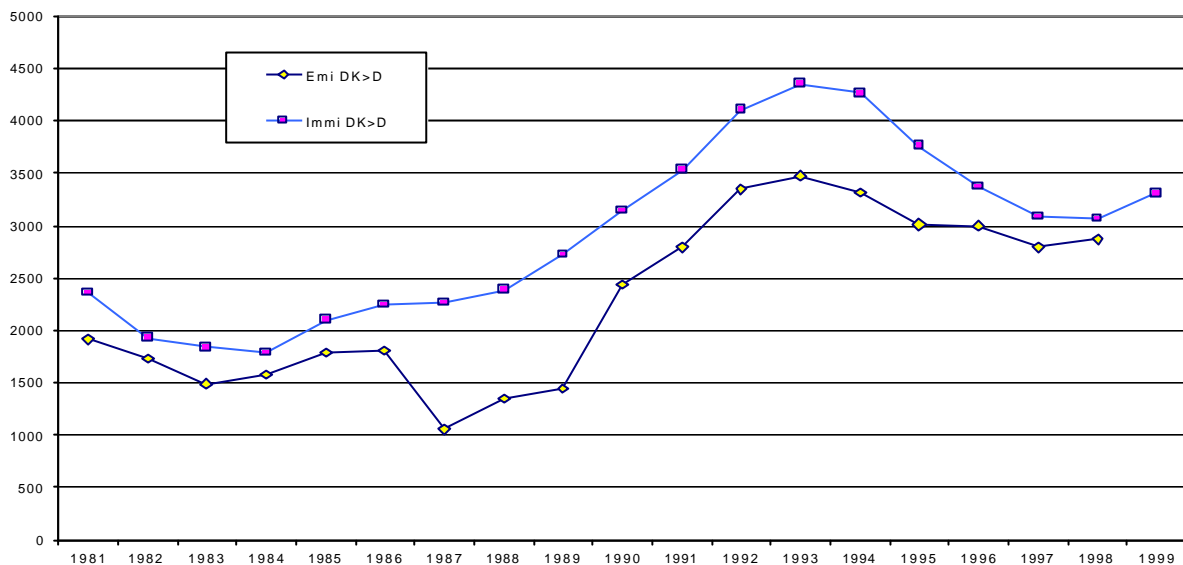


Figure 3b. Migration flow from Germany to Denmark: comparison of emigration figures recorded by Germany and immigration figures from Denmark (Source: Eurostat)

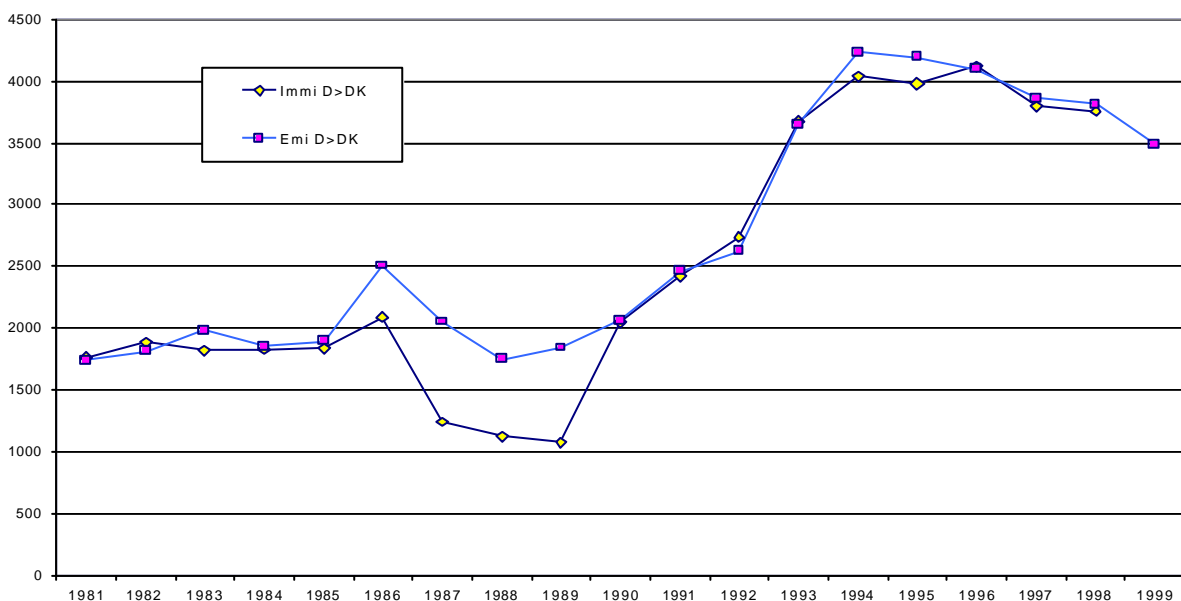
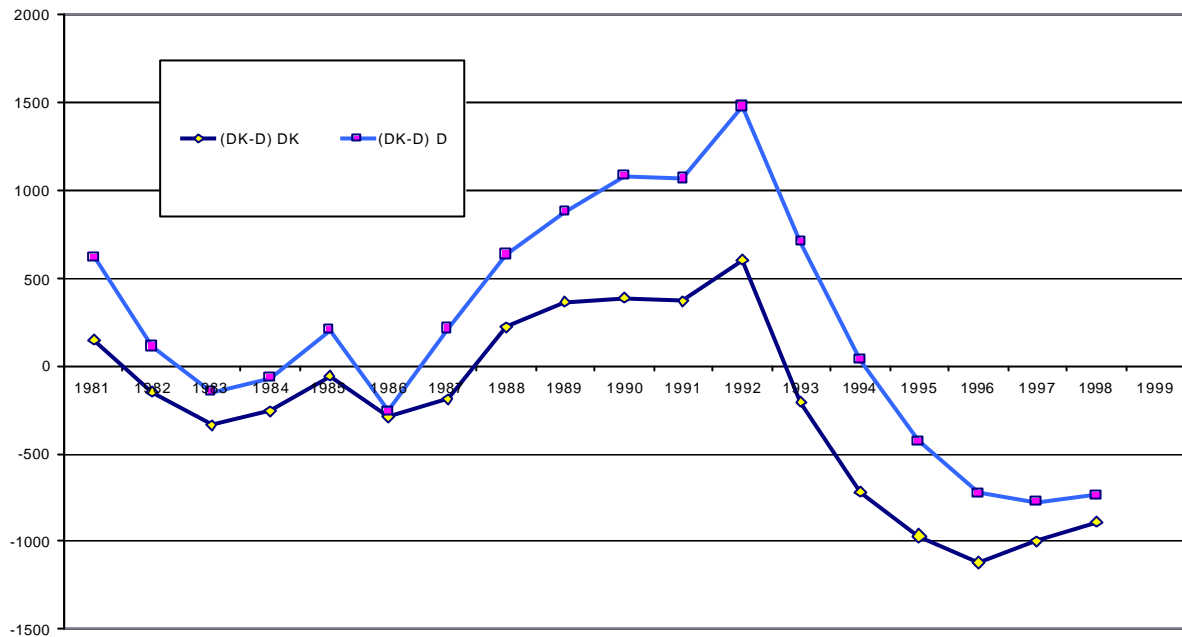


Figure 3c. Net migration between Germany and Denmark (in favour of Germany) according the statistics of both countries (Source: EUROSTAT)



In figures 4a, 4b and 4c, UK and the Netherlands are concerned and we can easily see that the UK figures are obtained through a survey while the Dutch figures are register based.

Figure 4a. Migration flow from UK to the Netherlands: comparison of emigration figures recorded by UK and immigration figures from the Netherlands (Source: Eurostat)

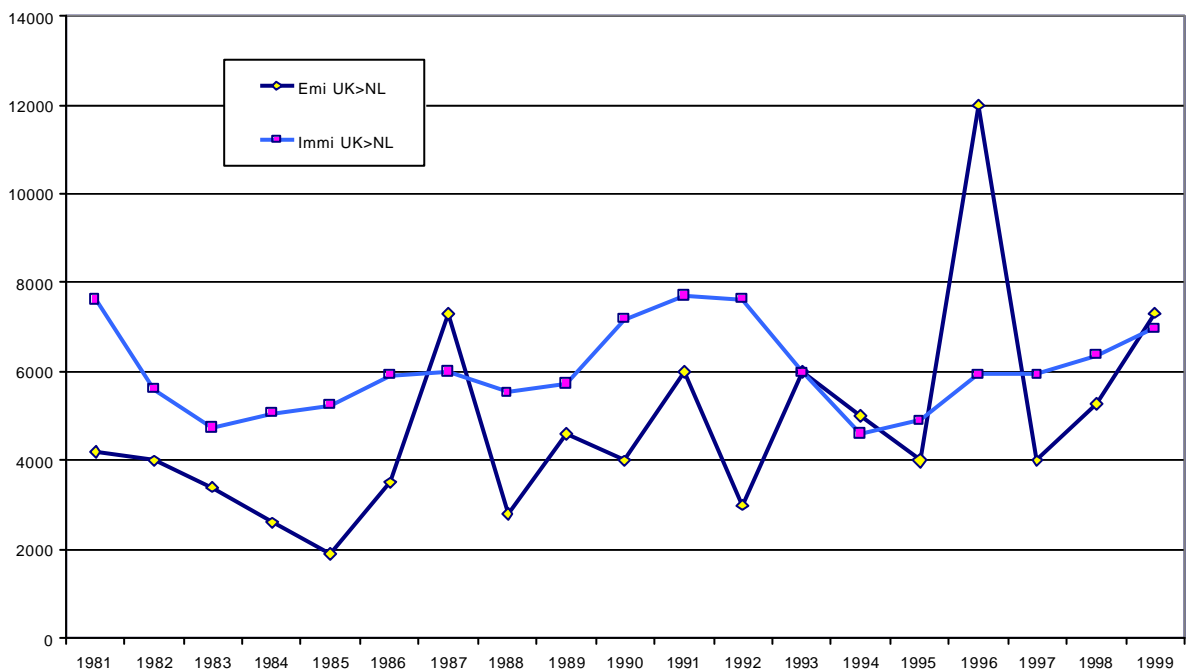


Figure 4b. Migration flow from the Netherlands to UK: comparison of emigration figures recorded by the Netherlands and immigration figures from UK (Source: Eurostat)

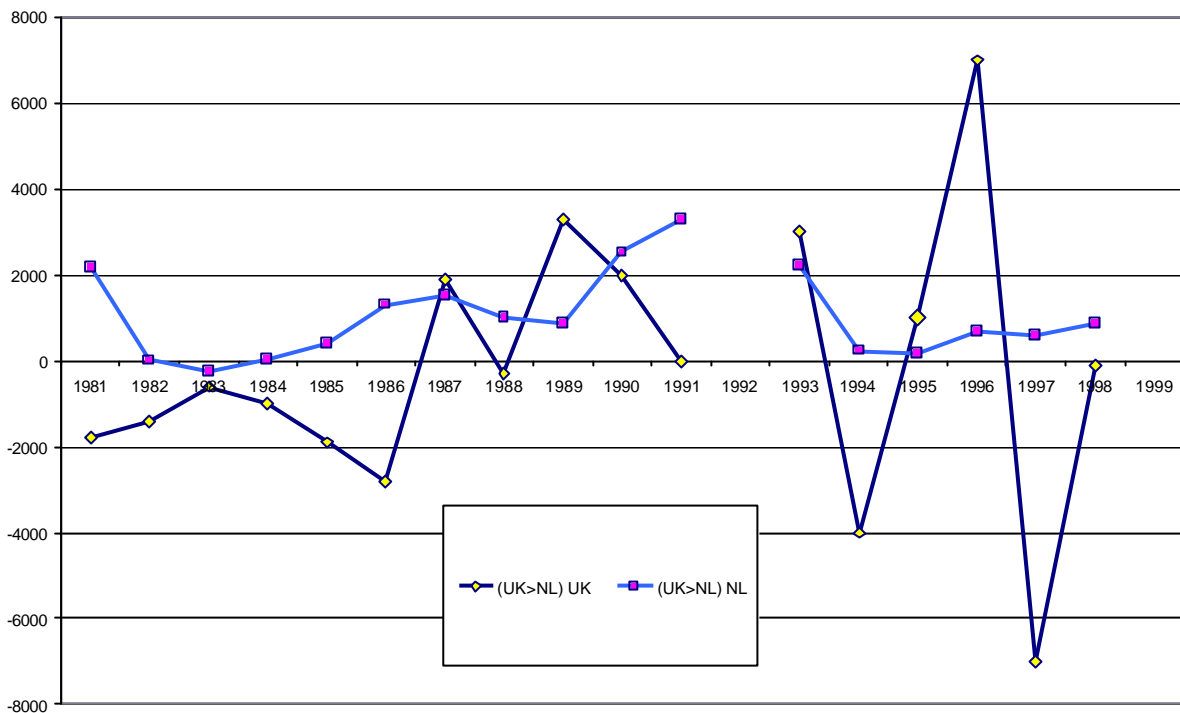
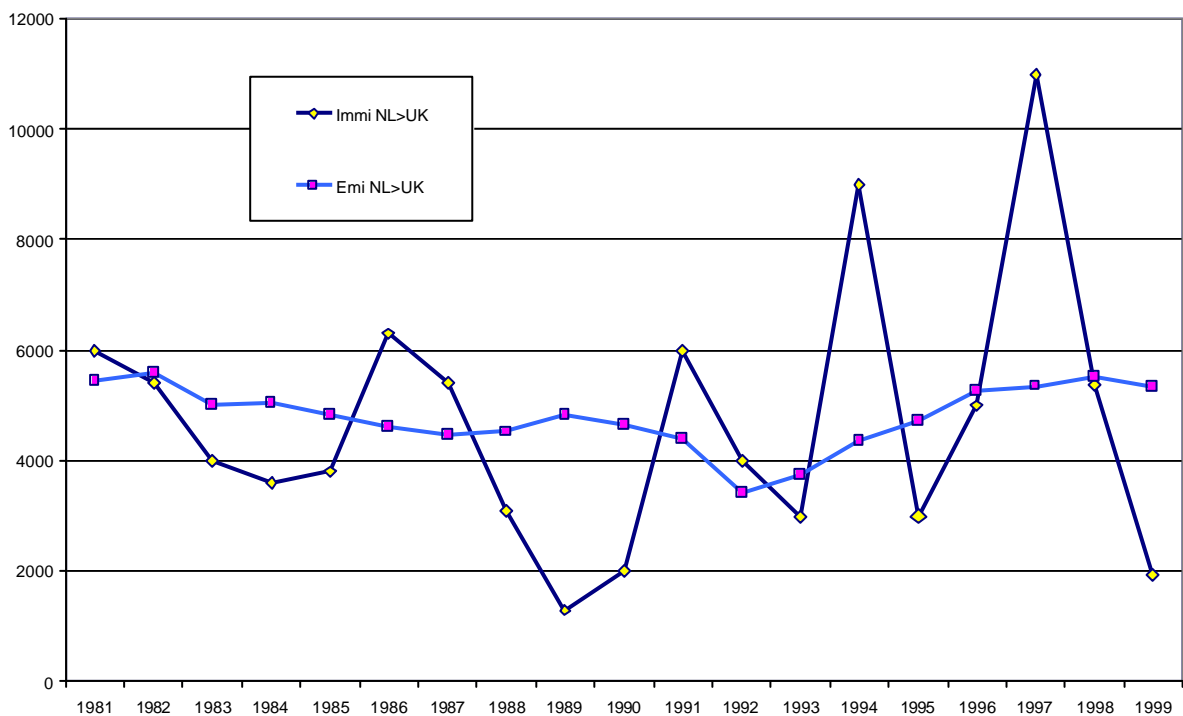


Figure 4c. Net migration between UK and the Netherlands (in favour of UK) according to the statistics of both countries (Source: EUROSTAT)



For figures 5a, 5b and 5c, we consider migrations between Germany and Italy and we can see the large differences even if some figures have still to be found.

Figure 5a. Migration flow from Germany to Italy: comparison of emigration figures recorded by Germany and immigration figures from Italy (Source: Eurostat)

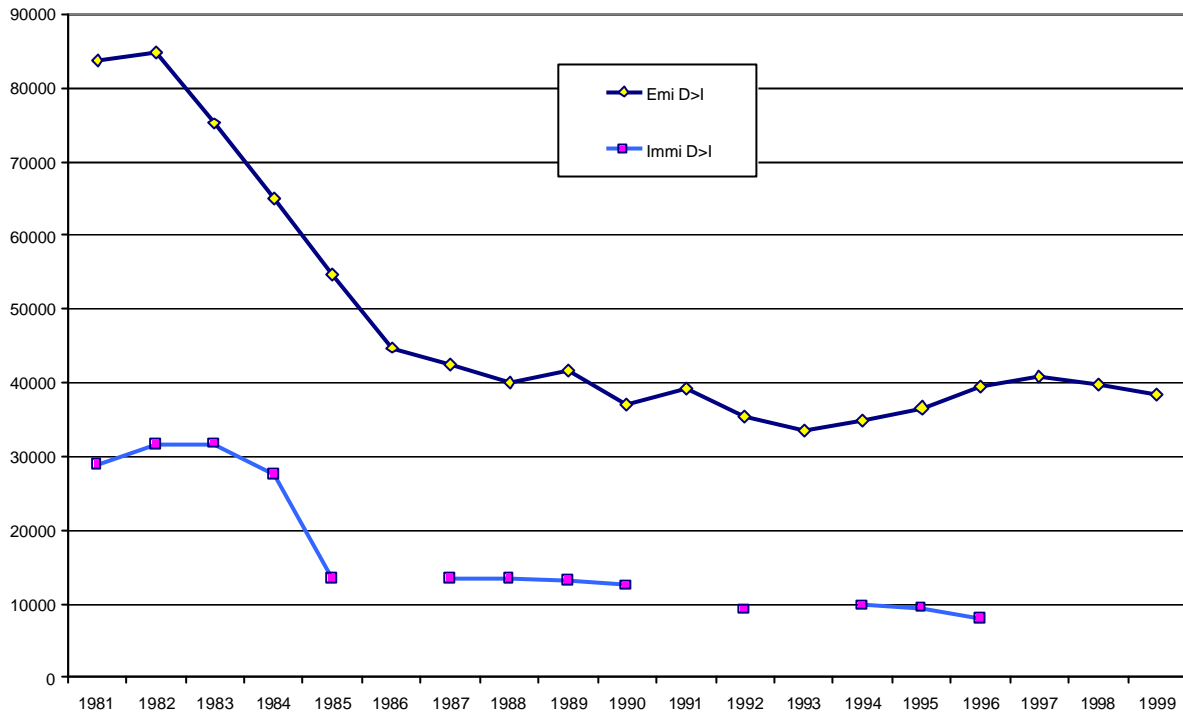


Figure 5b. Migration flow from Italy to Germany: comparison of emigration figures recorded by Italy and immigration figures from Germany (Source: Eurostat)

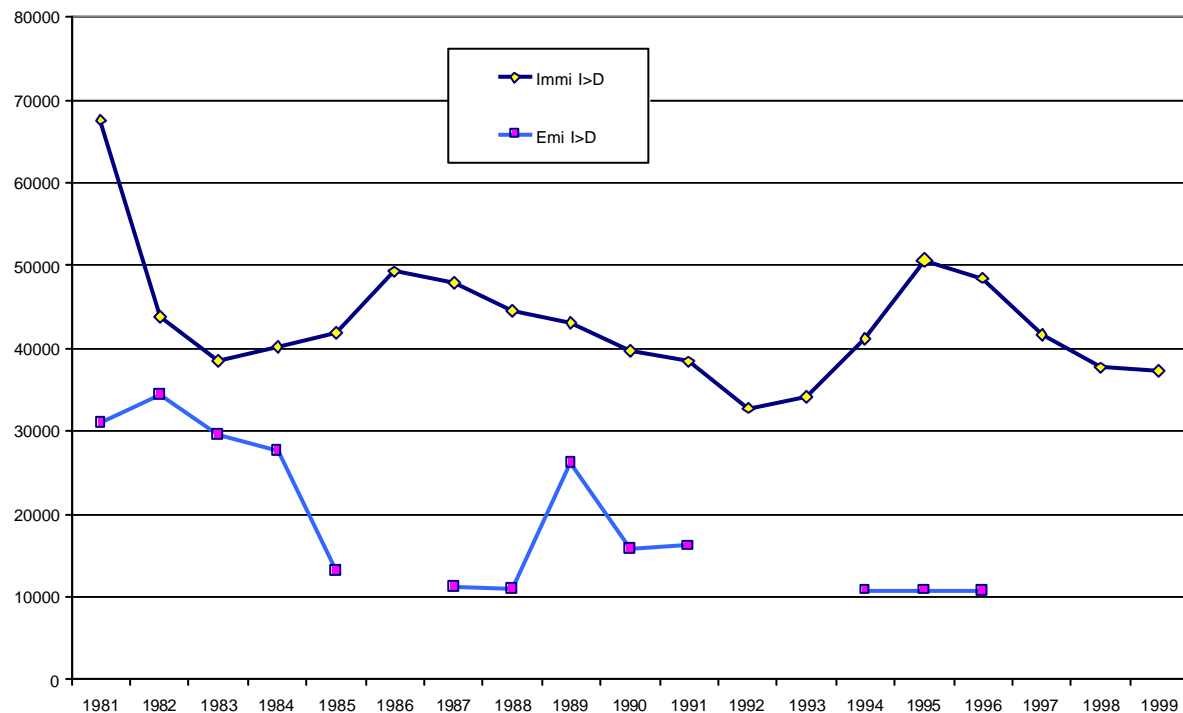
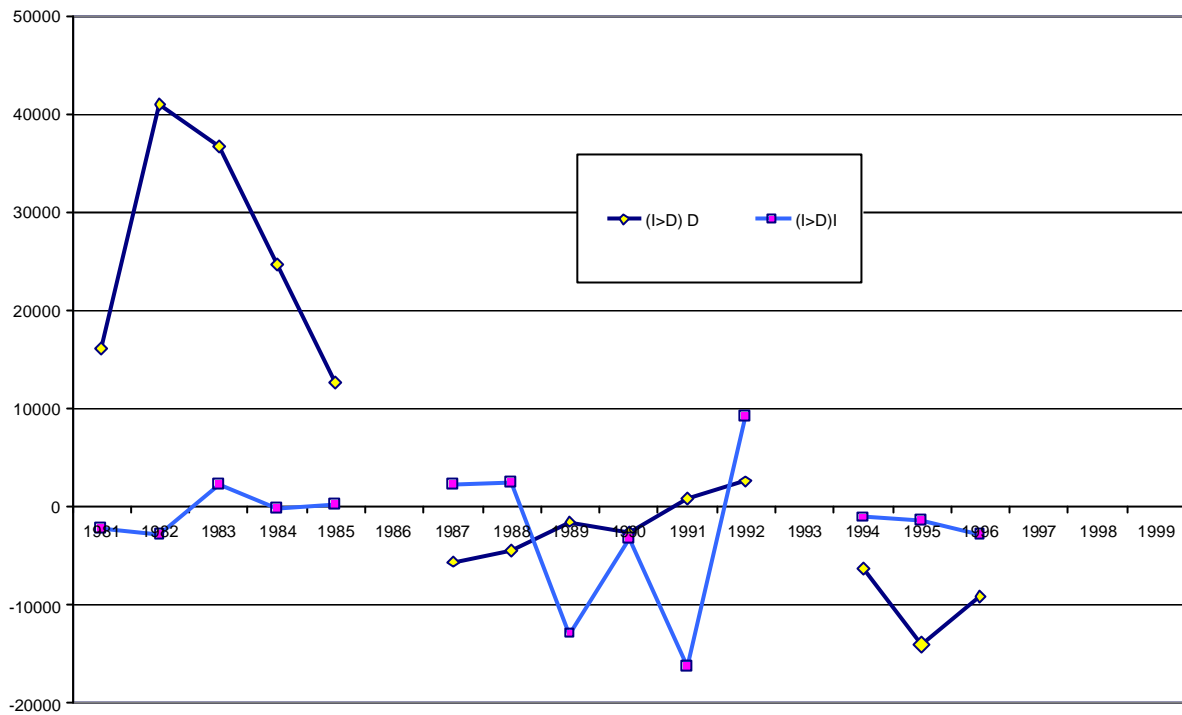


Figure 5c. Net migration between Germany and Italy (in favour of Italy) according the statistics of both countries (Source: EUROSTAT)



Finally with figures 6a, 6b and 6c, let's consider the situation between a pair of Nordic countries, Norway and Denmark.

Figure 6a. Migration flow from Denmark to Norway: comparison of emigration figures recorded by Denmark and immigration figures from Norway (Source: Eurostat)

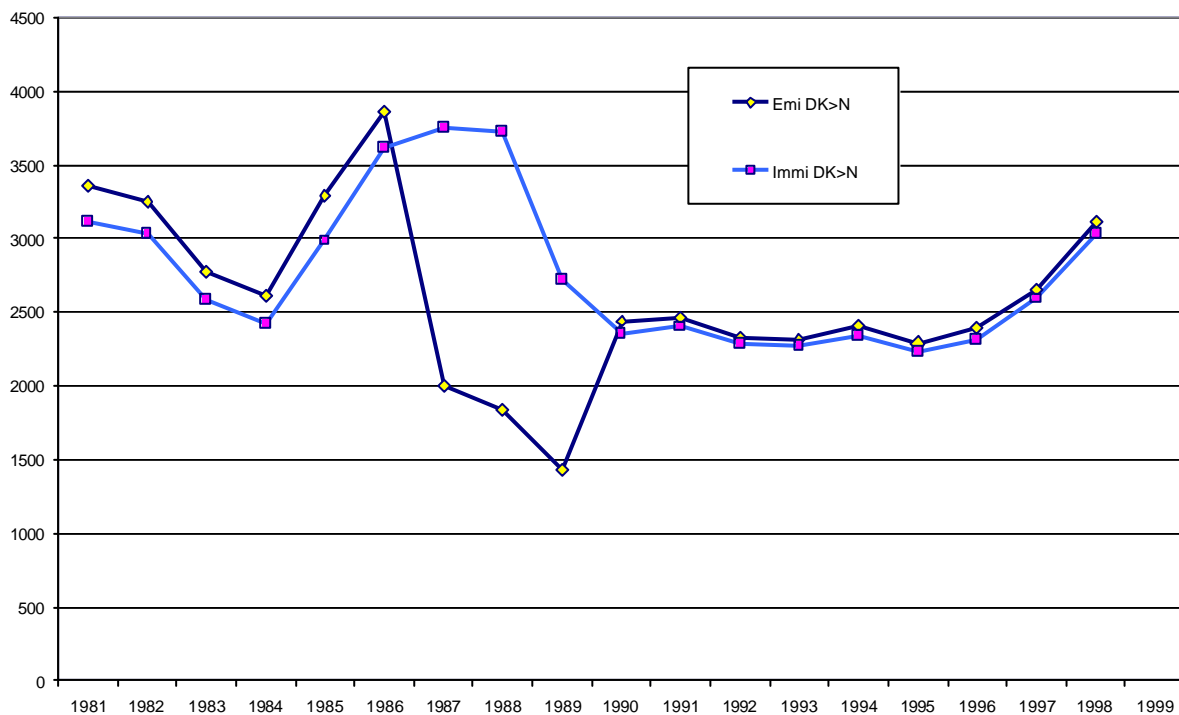


Figure 6b. Migration flow from Norway to Denmark: comparison of emigration figures recorded by Norway and immigration figures from Denmark (Source: Eurostat)

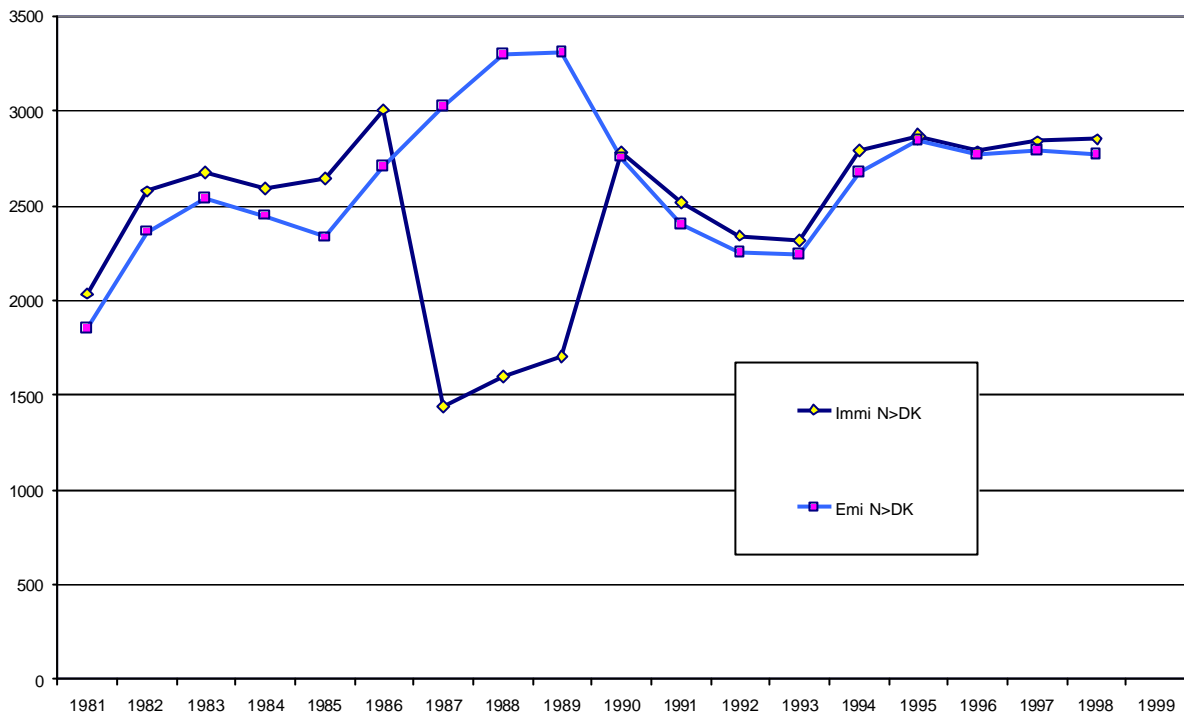
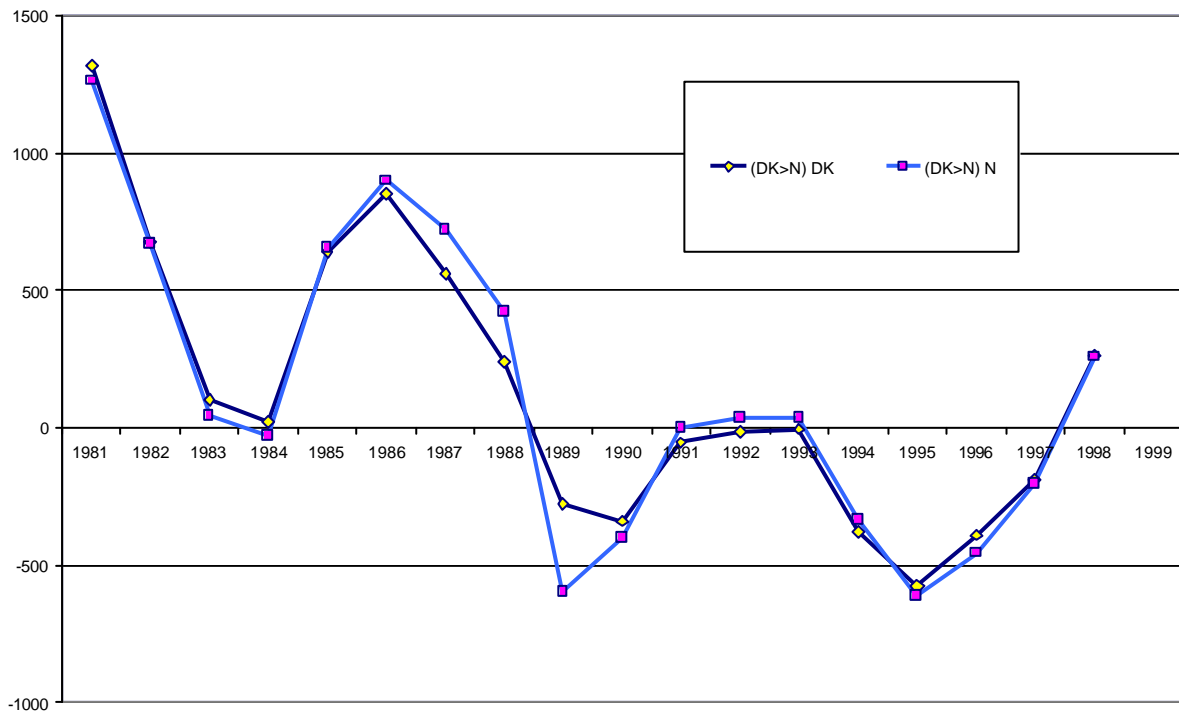


Figure 6c. Net migration between Denmark and Norway (in favour of Norway) according the statistics of both countries (Source: EUROSTAT)



Why are international migration figures so different and remain so after a decade of efforts?

- Firstly, there is a strong fluctuation in figures and very possibly in the phenomenon itself as migration flows fluctuate a lot.
- It should also be noted that all the sources that have been presented are not necessarily the most appropriate to measure international migration. Except for the specific surveys, sources are not generally put in place with the aim to count international migrations. In all cases, the statistical collection of data is usually a by-product of administrative data collection systems.
- Countries do not generally have the same interest in collecting data on immigration and emigration. Therefore, the comparison between immigration and an emigration datum has a collection bias even if they both describe the same flow.
- The frequent statistical confusion between migration and migrant and between migratory flows and stocks does not help the amelioration of data collection on neither migrant flows nor stocks.
- The closure of frontiers and the subsequent rise of illegal migration, asylum seekers and clandestine migrants has made the calculation of migration flows more difficult, making it necessary to differentiate the country's de facto and de jure population.
- The increase in intra-European mobility and the decrease of "classical" migrations, understood as a change of the usual country of residence, in it has made it more difficult to measure the phenomenon.

However concrete efforts has been done in much country along the following lines:

- Introduction of new measurement tools (administrative or statistical)
- New use of existing administrative source
- Improvement of the reliability of an existing source (stricter rules and automatic verification)
- Extension of the relative coverage of a source so that it includes other specific sub-populations
- Comparison between sources within the country so that the global quality of information on migration flows is improved
- Explicit co-operation between pairs of countries so that the information on migration flows between the two countries is improved.
- Modification of data collection criteria to base them on those proposed by the UN
- Adaptation of analysis criteria to produce statistics based on the UN recommendations.
- Extension of the range of existing data and tables to satisfy the needs of the data collection program which is being carried out by international statistical institutions.

The introduction of new measurement tools has been relatively scarce except for that of the Labour Force Surveys, which is not adapted to migration flow measurement. However, we must note that a migration data collection associated with a new population register has been introduced in Austria. In other countries, administrative sources have been more systematically used to produce statistics. Residence permits, which are nowadays often used for statistical purposes, would be an example. This would be the case of France, which in the absence of data on flows has improved the ways it uses delivered residence permits. As existing administrative sources are increasingly used, their reliability is also improved. In this sense we must only remind population register general computerisation in Western Europe and its slower completion in central and Eastern Europe. Generally speaking, there have also been improvements in population register quality in Western Europe. In Spain, for example, revisions, which were made every five years, are now permanent. Countries like Belgium and the Nordic countries have centralised their registers and have improved links between their diverse

administrative files (Social security, property records, employment records, activity records....) including the population register, avoiding in this way the existence of double counts and improving the possibilities of data verification. As the computerisation grew so did the amount of information produced, both from the point of view of the variety of variables and tables available and in definition terms. Diverse countries, specially the Nordic ones have been able in this way to produce data according to different definitions. The adoption UN analysis criteria has not been imposed anywhere. However, analysis trying to correct the effect of national definitions have increased in numbers⁷.

The harmonisation of all criteria used to define an international migration is definitively an important target for Europe. However a relatively high level of harmonisation may only be obtained when introducing a new data collection system like that of the *Labour Force Survey*, for example. When a data collection system already exists, as it is the case for international migration in all countries, each country shows specificities in relation with facts from their national history and the development of national migration policies. Therefore, the achievement of harmonisation will impose to change some of the national practices in order to introduce the internationally recommended definition (see the last UN recommendations). For a few countries, the gap between the national definition and the international recommended one is not so big and therefore a harmonisation may be expected. But in a large number of countries, the data source and the national practices are so different from the internationally recommended definition that a harmonisation is quite impossible. Therefore a reachable objective should be to achieve a minimal comparability without forcing countries to an overall harmonisation.

The Nordic experience as an example and the UN recommendations as a target

The reliability of international migratory movement's recordings would improve if the example of the Nordic countries were followed, with all countries collaborating either bilaterally or within the framework of a multinational collaboration. This co-operation could foster the harmonisation of the statistical data collected on international mobility, although the first aim must be to ensure harmonisation of the concepts and criteria used, the collection methods and the variables and data collected. The United Nations recommendations have been reviewed with this in view. Ideally, all the countries with a system of population registers and recordings of changes in the place of residence could, at least in the long term, exchange minimum information on international migrants. With this aim, a common body of questions should exist in all countries' forms for declaring a change of residence. Finally, data exchange between statistical services or qualified administrations could prove very useful.

Finally we can say that UN recommendations are a target, an ideal to attain (see differences with the 1976 requirements). Moreover, a real harmonisation will not be attained if there is not a real political will for it. Up to now, national worries have been stronger than that of the need to produce international comparable statistics. The lack of reliability is obviously a problem at a national scale; however, international confrontations have brought it into the light its real dimension. Only a precise political will at a European scale could lead to a substantial improvement of the estimation of migration currents. We must say that the objective is not to record a maximum number of migrants, as Germany does, but to do it in a way, which is as near as possible to the UN definition.

⁷ A part from the mentioned publications we can refer to BRETZ, M., VOIT, H. (1999), *Links between Stocks and Flows of the foreign Population in Germany*, Eurostat : Luxembourg, Office de Publication des Communautés Européennes, Eurostat Working Papers, Coll. "Population et conditions sociales", 3/1999/E/n°6, 49 p.