

Looking for immigrants in the  
European Labour Force Survey  
and the EU census: a comparison  
based on the 2011 figures

2018 edition





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# Introduction

Labour mobility refers to the extent the workers are able or willing to move between different jobs, occupations, and geographical areas. In the specific context of the European Union (EU), as the individuals have the right to freedom of movement between countries, it refers mainly to inter-country geographical mobility. This has driven important labour force movements across the EU territory. As such, the active participation of migrants and of their immediate descendants in the EU labour market and, generally speaking, in daily life is very important for social cohesion and economic efficiency.

In order to meet these objectives, the EU priorities include better policies in the field of labour mobility and skills. Through the Europe 2020 Strategy the European Commission engaged to work, among other things, 'to facilitate and promote intra-EU labour mobility', to 'better match labour supply with demand' and 'to promote a forward-looking and comprehensive labour migration policy which would respond in a flexible way to the priorities and needs of labour markets' In addition, the Commission put in place policies to enhance the integration of non-EU nationals in EU societies.

Therefore, an increase in labour mobility in the EU, coming both from other Member states and from countries outside its territory, creates a need for detailed and up-to-date statistical information to feed current political discussions on labour market policies in general and on labour mobility in particular. The two main data sources for obtaining information on the topic are the EU Labour Force Survey and the Population and Housing Census, supplemented by yearly administrative population data.

The objective of this report is to compare the data obtained from the EU-LFS and the EU Census regarding characteristics of the foreign-born population residing in the EU. Combining these two data sources could bring new opportunities for analysing this group. The purpose of this paper is therefore to provide a clear overview of the differences and similarities when comparing the results coming from the two data sources for the same reference year, 2011. Potential explanations for the differences identified are also put forward. The main question is whether it would be possible to update the more structural information in the EU Census with the more timely data available in the EU-LFS when publishing statistics about the foreign born population.

# 1

## Data sources

### EU Labour Force Survey

The main data source for measuring labour mobility is the European Union's Labour Force Survey (EU-LFS), the largest EU sample survey covering the resident population aged 15 and over, living in private households and residing in the EU. It provides detailed quarterly and annual data on employment and unemployment, broken down along many dimensions. One of the major benefits of having a large sample size is to be able to study the characteristics on the labour market of the foreign-born population (i.e. persons born in a country other than her/his country of residence and whose residence period in the host country is, or is expected to be, at least 12 months). The current situation is still in need of improvement as, even if the sample size is large, the desired level of detail cannot be achieved all the time due to a combination of several factors: the sample was not specifically designed to follow immigrants, the migration phenomenon is still relatively marginal in absolute numbers (e.g. in 4 countries this population counts for less than 30 000 persons), the patterns (origin countries versus destination countries) and size largely vary across EU Members States (e.g. from about 11 000 persons to 11 000 000 persons). In addition to the fact that the sample is not specifically designed to capture well the immigrants, there can also be significant delays for their presence in sampling frames due to mainly time delay necessary for registering/deregistering. Thus, many breakdowns available for native-born population may be unavailable for the foreign-born population, the corresponding data being confidential or not enough accurate. Moreover, EU-LFS data collection targets usual residence definition (actual or intended stay of 1 year or more) which translates into a shortage of data on shorter-term labour mobility.

Since 1999, the EU-LFS is supplemented every year with so called EU-LFS ad-hoc modules. The aim of the ad-hoc modules is to provide users with statistics on a specific topic concerning the labour market by adding each year a set of variables to supplement the core EU-LFS. The topics vary from year to year and are chosen in cooperation between the National Statistics Institutes, various policy directorate generals of the European Commission and Eurostat, on the basis of policy and analysis needs. The topic 'the labour market situation of migrants and their immediate descendants' has now been covered two times in the EU-LFS ad hoc modules: in 2008 and 2014. The next round is foreseen for 2021.

### Population and Housing Census

Population and housing census bring the powerful strength of an exhaustive survey and provide the most reliable and geographically detailed count of the population and cross-classify it in great detail for a set of selected characteristics. Overall, the set of characteristics covered by population censuses includes geographic, demographic, economic and educational characteristics of persons, international and internal migration characteristics as well as household, family and housing characteristics. "This makes censuses

one of the richest sources of data on the regional distribution of people living in a country and their most salient characteristics." <sup>(1)</sup>

The EU census data are disseminated in an aggregated form which translates into a set of multidimensional cross-tabulations called "hypercube". Their structure are defined in the legal implementing rules for the EU census and agreed with all Member States. More precisely, they are result of the extensive planning and close cooperation and consultations between Eurostat and EU Member States. Census Hub – the data collection and dissemination platform – differs substantially from traditional Eurostat on-line dissemination platform, the main differences being that the data are (a) physically stored in Member States, (b) owned by Member States and published under their own responsibility. In this context, it is important to note that the EU Census's output is restricted to the well-defined set of hypercubes, no customised data extraction being possible as it is the case for EU-LFS, where Eurostat has access to microdata. In specific terms, this implies that while variables collected in EU-LFS can be combined in any desired combination subject to ensuring the minimum accuracy requirements and to confidentiality rules, in EU Census the combinations are pre-defined and they cannot be customised by adding variables and/or categories not included in the corresponding hypercube. It has also to be mentioned that not all dimensions included in a hypercube can be crossed altogether. The explanatory notes for 2011 EU Population and Housing Censuses clearly specify the compulsory cross-tabulations within a hypercube, all the other possible cross-tabulations being optional, each country taking the decision to disseminate them or not. Therefore, the data extraction possibilities at EU level are even more restricted beyond the composition of each hypercube.

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<sup>(1)</sup> EU legislation on the 2011 Population and Housing Censuses Explanatory Notes



# 2 Consistency

## Target population

One of the aims in migration statistics is to look at the size and structure of migrant populations by generation and origin and then, to compare their socio-demographic characteristics with those of native-born population. If we further look at statistical needs for labour mobility, an important aim is to produce comparative evidence on the participation of immigrants and native-born with native background on the labour market.

Differentiated analyses are needed by generation and migration background. For instance, there is a need to look at first- and second-generation immigrants and analyse whether and to what extent the native-born descendants of immigrants participate differently in comparison to their counterparts with native-born parents, how do they develop compared with first-generation immigrants and whether the origin of their foreign-born parents influence their the labour market indicators. But second-generation immigrants cannot be identified in the EU Census. Currently the same is true for the core EU-LFS. Starting with 2021 reference year, the variable 'country of birth of parents' will be introduced in EU-LFS and it will allow distinguishing the two generations of immigrants. For the time being, the topic 'the labour market situation of migrants and their immediate descendants' has been covered two times in the EU-LFS ad hoc modules, in 2008 and in 2014. As this paper analyses the comparability of the two data sources for 2011 reference year (as this is the one in which the most recent EU Census has been collected), only the subpopulations foreign-born and native-born can be analysed. Regarding the migration background, it can of course only be analysed for foreign-born population.

Accordingly, the first issue to be addressed is the identification in both data sources of the following target populations:

- 'native-born' (i.e. born in the country of residence)
- 'foreign-born' or 'first-generation immigrants' (i.e. born in a country other than her/his country of residence and whose residence period in the host country is, or is expected to be, at least 12 months)
  - 'born in another EU Member State'
  - 'born outside EU'.

The EU-LFS covers the total population usually residing in Member States, except for persons living in collective or institutional households. While demographic data are gathered for all age groups, questions relating to labour market status are restricted to persons in the age group '15 years or older', and the sample is designed to be representative for the 15-74 age group.

EU Census data covers the whole resident population irrespective of age and/or whether living in private or institutional households, and the age groups '15 years or older'/ 15-74 can be identified.

## Conceptual consistency

### Residence

The concept of usual resident population is used for 2011 EU Census. According to Regulation (EC) no 763/2008 on population and housing censuses, the "usual residence" shall mean the place where a person normally spends the daily period of rest, regardless of temporary absences for purposes of recreation, holidays, visits to friends and relatives, business, medical treatment or religious pilgrimage. The definition of resident population used for 2011 EU LFS is that defined in the European System of Accounts (ESA95) and fits the UNECE/Eurostat recommendations for the 2011 round of census (see EU Labour force Survey – Explanatory notes, 2011, page 4). Therefore, the same definition for resident population applies in both data sources analysed.

### Country of birth

The variable 'country of birth' is used in both sources to distinguish between native-born and foreign-born residents. In 2011 EU-LFS, the 'country of birth' is defined as the country of residence of the mother at the time of birth and the current national boundaries should be considered. In the 2011 EU Census the 'place/country of birth' is the place of usual residence of the mother at the time of the birth, or, if not available, the place in which the birth took place. Current national boundaries should be also considered. The current experience shows that the number of cases where the two criteria differ is not significant, especially at EU and national scales. Therefore, we conclude that the conceptual difference is not significant and it could only marginally affect data comparability and consistency.

### Household concept

In order to make the data comparable, we also need to exclude from EU Census the persons living in collective or institutional households. This is possible by using the EU Census variable 'household status' and selecting the category 'persons living in a private household'.

In both data sources, the 'housekeeping' concept is applied to identify private households, or, if not possible, the 'household-dwelling' concept. According to the 'housekeeping' concept, a household is defined as a group of one, two or more persons living together who make common provision for food or other essentials for living. The persons in the group may pool their incomes and have a common budget to a greater or lesser extent. Also, they may be related or unrelated persons or a combination of persons both related and unrelated. According the other concept 'household-dwelling', a household consists of all persons living together in a housing unit. Similar to variable 'country of birth', the experience proves that in practice, the two household concepts give the same outcome in vast majority of cases. Therefore, we conclude that the conceptual difference is not significant and it could only marginally affect data comparability and consistency.

Summing up, 'country of birth' is the only EU-LFS variable needed to identify the two target populations while for EU Census it has to be supplemented by 'household status', selecting the category 'persons living in a private household'. The conceptual differences although existent, cannot alone hamper data comparability, especially at scales as large as the national level or the EU as a whole.

### Variables of interest for data analysis

For most of the variables on which the analysis is based (e.g. sex, education, activity status, occupation, activity, etc.) the definitions and categories are identical in the two data sources, as they use common EU classifications. For instance, highest education attained, occupation and activity comply with same classifications: ISCED (International Standard Classification of Education), ISCO (International Standard Classification of Occupations) and NACE (Statistical classification of economic activities in the European

Community).

Even though both data sources cover the whole resident population of working age (from 15 to 64), different age groups are defined in the two data sources. While EU-LFS offers total flexibility in selecting the most appropriate age groups (as the analysis is based on microdata), EU Census is more restrictive. This is because EU Census data are disseminated in aggregated form and subject to regulatory download restrictions (the hypercube needs to not exceed 100 000 cells). Thus, the best compromise for analyses by age group is using the EU Census classification: '15-29 years', '30-49 years' and '50-64 years'. In the particular case of unemployment, the age group '15–29' is valuable for analysis given the significance of this indicator for the young active population. On the other hand, the analysis on labour market situation of immigrants normally focuses on the '25–54' age group, with the aim of excluding migration related to non-economic reasons, such as study and retirement. Due to the above mentioned restrictions, the age group '30-49' could be used instead.

'Current activity status' (CAS-Census) versus 'Status in employment' (ILOSTAT-LFS): in both data sources, the individuals are classified in three categories as employed, unemployed or economically inactive. In both sources, these definitions follow the Resolution of the 13th International Conference of Labour Statisticians, convened in 1982 by the International Labour Organisation. However, there are concerns of incompatibility based on the difference of collection vehicles, as well as the fact that for the collection of the EU-LFS countries follows prescribed methodology (as this variable is crucial for labour market indicators), while for census there is more variety and less adherence to the methodology. Fewer questions are asked in the case of the Census to obtain the same variable. Studies show that even small deviations from the definition can lead to major differences.

## Data collection mode

Beside the variables definitions and categories used, it is of high importance whether the data are collected in a similar way (timing and methodologies). Moreover, beside the differences arising from survey type – exhaustive versus probabilistic sampling – the way people participate to the survey – compulsory or on voluntary basis – highly impacts on data and differences between the two data sources. Therefore, while participation in EU Census is compulsory whenever the data is directly collected from individuals, participation in EU-LFS is voluntary in 19 out of 28 Member States (see table below). Thus, the imputation and calibration technics have a much higher impact on EU-LFS estimates than linkage and imputation technics have on EU Census data. Generally speaking, the non-response rate is higher in surveys and this combined with running a probabilistic sampling survey introduces additional bias in EU-LFS compared with EU Census. On the other side, EU Census is nonetheless affected by other type of bias related to less strict adherence to methodology for non-demographical variables like the ones related to the labour market. Data collection in EU Census is organised for a reference date (usually in spring) while the data collection in EU-LFS is evenly spread over 52 weeks allocated proportionally throughout the year (13 per quarter). In addition, EU-LFS data are collected, with very few exceptions, through interviews and using a variety of survey modes that are detailed in Table 1, while EU Census takes its information from interviews, administrative data sources and self-completed mail questionnaires. There is a clear tendency to gradually replace the traditional census with administrative census, where direct data collection is less and less used. Calibration techniques used in EU-LFS could diminish the gaps between the two data sources especially if we consider that the calibration sources are registers and administrative data sources from which the information is collected for the EU Census as well. But the categories of calibration variables – most countries use region, sex and age group – are quite broad and thus not enough to guarantee sufficient convergences between the two data sources, when multiple variables are used for calibration at the same time.

**Summarizing, while variables definitions and categories used ensure all premises for a good convergence of the two data sources, the differences in data collection particularities and data treatments could introduce important differences in data when comparing EU-LFS and EU Census.**

**Table 1:** Data collection mode in EU-LFS by Member State

Reporting Country	Participation in the survey	Sampling design	Rotation	Calibration variables	Data collection
Belgium	Compulsory	two-level stratified sampling	No	region, sex, 5-year age groups	CAPI
Bulgaria	Voluntary	two-stage stratified cluster sample	Yes	districts, urban/rural areas, sex, four age groups	PAPI
Czech Republic	Voluntary	stratified two-stage probability	Yes	12 age groups, sex, districts	CAPI and CATI
Denmark	Voluntary	stratified sample design	Yes	sex, age group, socio-economic status, income, nationality, level of education, status in the unemployment register, region, and whether the dwelling place was recently changed or not	CATI and CAWI
Germany	Voluntary	LFS is part of the annual micro-census	Yes	region, sex, 3 age groups, nationality (German/EU foreigners, non-EU foreigners (except Turkey), Turkey)	CAPI supplemented by self reporting (on paper questionnaire)
Estonia	Voluntary	stratified systematic sampling	Yes	sex, 5-year age groups, urban/rural area, NUTS 4 level plus capital	CAPI
Ireland	Voluntary	two-stage sample design	Yes	5-year age groups, sex and NUTS 3 regions	CAPI
Greece	Compulsory	two-stage probability sampling	Yes	NUTS 2, age groups, sex	PAPI supplemented by telephone interview
Spain	Voluntary	stratified two-stage sampling	Yes	2 age groups, NUTS 3 regions	CAPI
France	Compulsory	stratified three-stage sample design	Yes	5-year age groups, sex, NUTS 2	PAPI supplemented by telephone interview
Italy	Compulsory	stratified two-stage sampling	Yes	sex, 5-year age group, NUTS2	CAPI and CATI
Cyprus	Compulsory	stratified two-stage probability sampling	Yes	sex, 5-year age groups	CAPI and CATI
Latvia	Voluntary	stratified two-stage probability sample	Yes	quarterly weights: degree of urbanisation, 14 age groups, sex (supplement NUTS 3 for annual weights)	CAPI and CATI
Lithuania	Voluntary	stratified single random sample	Yes	municipalities, 13 age-groups, sex and urban/rural areas	PAPI and CATI
Luxembourg	Voluntary	single stage random sample	No	sex, 12 age groups, nationality (Luxembourgish/foreigner)	CATI
Hungary	Voluntary	multi-stage stratified sample	Yes	geographical units, age, sex	PAPI AND CATI
Malta	Compulsory	one-stage systematic random sample	Yes	sex, age-group, district	PAPI and CATI
Netherlands	Voluntary	stratified three-stage probability sample	Yes	gender, age, ethnic background, place of residence, some regions	CATI and PAPI
Austria	Compulsory	stratified single random sample	Yes	region, age groups, nationality, household size, sex	CAPI and CATI
Poland	Voluntary	two-stage stratified probability sampling	Yes	urban/rural areas, sex, 12 age groups plus three age groups for children	PAPI or CATI
Portugal	Compulsory	two-stage cluster sampling	Yes	region, sex, 5-years age groups	CAPI
Romania	Voluntary	two-stage probability sampling	Yes	urban/rural areas, sex, 14 age groups, region	PAPI
Slovenia	Voluntary	stratified systematic random sampling	Yes	8 age groups, sex, NUTS 3 level	CAPI and CATI
Slovakia	Compulsory	stratified two-stage probability sampling	Yes	NUTS 3, sex, 5-year age groups	CATI
Finland	Voluntary	stratified systematic sampling	Yes	sex, age group, region, working status	CATI
Sweden	Voluntary	stratified single stage simple random sampling	Yes	sex, age (13 age groups), NUTS 3, nationality at birth, information on employed persons by industry and persons who have enrolled at a job-centre as unemployed and are looking for work	CATI
United Kingdom	Voluntary	stratified single stage systematic probability sampling	Yes	district, sex, age group	CAPI and CATI

## Data consistency

According to the program defined for 2011 EU Census, three hypercube can be used to analyse foreign-born residents and compare them with native-born residents.

**Table 2: 2011 Census — available hypercubes**

Variable code	Variable label	HC01	HC02	HC03
GEO.L	Country of residence	✓	✓	✓
SEX.	Sex	✓	✓	✓
HST.H	Household status	✓	✓	✓
CAS.L	Current activity status	✓	✓	✓
POB.L	Place of birth	✓	✓	✓
COC.L	Country of citizenship	✓	✓	✓
AGE.M	Age group	✓	✓	✓
LMS.	Legal marital status	✓	✗	✗
EDU.	Educational attainment (highest completed level)	✗	✓	✗
SIE.	Status in employment	✗	✗	✓

The corresponding multidimensional cross-tabulations are extracted from the two data sources; compute the share of each category in total corresponding population (i.e. either total population or total foreign-born population) and compare EU Census versus EU-LFS. In order to assess the similarity of the two data sources, we look at the difference between them in percent points by subtracting category's share according to EU-LFS estimates from the corresponding share according to EU Census data. For instance, for a given category of a dimension, the percentage point difference is computed as:

$$PERCENT\ DIFFERENCE_{country\ i} = SHARE_{country\ i}^{Census} - SHARE_{country\ i}^{EU-LFS}$$

As a rule of thumb, we consider that the two data sources are very similar (dark green) if the difference does not exceed  $\pm 2$  pp, similar (light green) if the difference is more than  $\pm 2$  pp but less than  $\pm 5$  pp and not similar (red) if it exceeds  $\pm 5$  pp. This also takes into account the fact the EU-LFS is a survey; therefore the point estimates produced are within a confidence interval.

The dimensions used for cross-tabulations are reporting country and migration status on one hand and a third variable on the other hand (age or sex or attainment education level or working status). For instance, the foreign-born population (migration status dimension) in a country is split by the three age groups. In addition to these cross-tabulations; a comparative table for active and employment rates is presented. All detailed cross-tabulations and their percent differences are presented in the Annex.

# 3

## Analysis

When looking at the percentage of foreign-born in the total population, the two data sources present a very similar structure of the population by migration status. In general, EU-LFS slightly overestimates share of native-born population while slightly underestimates the corresponding share of foreign-born, no matter their origin (e.g. intra/extra EU). This is the case in most countries, except Germany, Spain, Italy and Sweden. This tendency is easily explained by the fact that EU-LFS is not specifically designed to capture the foreign-born population as the presence of foreign-born people in the sample is not controlled by sampling design. Despite this, the quite small percent point difference compared with EU Census proves very high power of EU-LFS to capture foreign-born population. Looking at country level, the average percent distance is  $\pm 1.7\%$  for foreign-born population. This difference is smaller than 1 percentage point in 12 Member States (Belgium, Bulgaria, Germany, Spain, France, Italy, Luxembourg, Austria, Poland, Romania, Finland and the UK), while exceeding 4% only in Greece, Croatia and Malta.

When analysing in more detail the foreign-born population we note that the two data sources also show a very good similarity for the breakdown by sex. With the exception of Bulgaria and Romania (for which EU-LFS estimates are either of low reliability or unreliable), the average percent distance (across countries) between the two data sources is of  $\pm 1.3\%$ . Lithuania and Luxembourg show identical distribution of foreign-born by sex while other 14 out of 28 countries show a percent difference less than  $\pm 1\%$ . The difference is higher than 4 percentage points only in Slovenia. It is interesting to note that in most cases the male population is slightly overestimated in the EU-LFS compared with the EU Census. The opposite is true only in Germany, Greece, Croatia and Italy, besides Romania and Bulgaria for which these figures are of low reliability.

The similarity of the two data sources remains good (for 7 out of 28 countries) to very good (for 16 out of 28 countries) when the breakdown by age group is analysed. This is probably due to the fact that all Member States calibrate EU-LFS estimates with information from EU Census. Thus, the population structure by sex and age group taken separately is similar across the two data sources analysed. While some breakdowns by age group for EU-LFS estimates are not available due to low reliability (in particular, for the core age group 15 to 64) the breakdown by sex for all LFS estimates are of good enough reliability. Therefore the comparability seems worse when looking at age group as compared to sex because there are more missing data for the former. The proportion of those in the active age group (15-64) seems to be generally overestimated in the EU-LFS compared to the EU Census data, with the exception of Belgium, Czech Republic, Denmark, Ireland, France, Croatia, Latvia, Luxembourg and Slovenia. This is to be expected as this is the main focus of the survey. Except the countries where the reliability is low or the data is not available, the differences are 5% and over only in Hungary and Sweden (where it reaches a quite high percent difference of 11.7 pp).

Looking at the attainment education level, some significant discrepancies come into sight. The lower the attainment education level the greater the discrepancy. Therefore, for 18 out of 28 countries the similarity for tertiary graduated foreign-born is good to very good while for those with only primary education, the similarity is rather weak (13 out of 28 countries). This pattern reinforces the hypothesis that the EU-LFS sample rather captures high educated foreign-born (attaining secondary and tertiary education level) than the low educated foreign-born. Those with a lower level of education are probably more reluctant to answer to surveys, because of cultural and language barriers. In addition, in register countries (Denmark,

Sweden, Austria), EU Census collect information on education attainment level mainly from administrative data sources while EU-LFS collect the self-declared education attainment level. On the opposite, in Member States in which the EU-LFS data is also partly collected from administrative sources (Belgium, Denmark, French, the Netherlands, Slovenia, Finland, Sweden), the information on education attainment level may be acquired from administrative data sources instead through self-declaration. Besides the problem of quality of EU-LFS estimates which is also observed in the analysis of the level of education, there is another issue that impedes the comparison of data sources: the proportion of unknown cases is too important in some countries either in one source or in both sources (over 10% and up to 34% for EU Census data in Belgium). The proportion for which the information is unknown being so important introduces an important bias in the foreign-born population distribution by education level and makes the comparison meaningless in some cases.

However, even when comparing tertiary graduates, the comparability is not as good as for other demographic variables. The difference is smaller than 1% only in Ireland, Spain, Croatia, the Netherlands, Poland and Portugal, while it exceeds 5% in 9 Member States, reaching more than 10% in Belgium and Luxembourg. However, it should be noted that these two Member States are in situation mentioned above regarding the very high proportion of the information missing for this variable in the EU Census. The same is true for the majority of the 9 Member States for which the comparability is not good, with the exception of Bulgaria, Greece and Finland.

Both activity and employment rates among foreign-born are similar across the two data sources for 16 out of 28 Member States. Moreover, in 9 out of these 16 Member States, both rates show a very good similarity (the difference is less than 2%). This is the case in Germany, France, Croatia, Italy, Latvia, Lithuania, Hungary, Malta, Poland and the United Kingdom. But in 6 out of 28 Member States, some of them having important share of foreign-born population (over 10%), both activity and employment rates are very discrepant, the absolute percent difference being 10% or over in the Czech Republic, Finland and Sweden. In most cases, as expected to some extent, the proportion of those active or employed is overestimated in the EU-LFS, with the exception of Bulgaria, Ireland, Hungary, Latvia, Slovenia and the United Kingdom. No clear conclusion can be drawn as no pattern can be identified for similarity or discrepancy. It does not appear that Nordic countries which use administrative data more extensively for both surveys and the Census achieve better similarities. On the other hand, some countries for which the difference is small have large populations of migrants among their residents (Germany, France, Italy and the United Kingdom) but the same is true for Luxembourg, Spain and Sweden, for which the data comparability is not so good.

Table 2 summarizes the percent difference by taken the reference category of each variable. To be noted that in 10 Member States (Germany, Ireland, France, Croatia, Italy, Cyprus, Malta, Austria, Poland and Slovenia) the similarity is good to very good for all variables of interest. It is difficult to identify a clear pattern to determine which reasons behind this better comparability are. The matter must be investigated in more detail with the respective Member States, in order to establish best practices that can be promoted for the others to follow as well. The remaining countries shows very diverse situation, from very weak similarity or clear discrepancy to missing data points due to unreliable EU-LFS estimates.

## Conclusion

The current situation is not favourable to combining the two data sources for getting more frequently estimates for foreign-born population. Despite the high power of EU-LFS to capture the foreign-born population important weakness arise when this population is broken down by some of the dimensions analysed in this paper, and in particular those that are of high relevance for looking at their labour market situation.

The recommendation is to look for solutions to substantially increase the power of capturing foreign-born population in a sample so that it can be analysed by its multiple facets, and to collaboratively look for best practices for better collecting this population that is of very high relevance in a policy perspective.

**Table 3:** Percent difference between the same categories identified in the EU-Census and the EU-LFS in the same reference year, 2011 (percent differences)

Country of residence	Migration status	Sex	Age group	Education attainment level	Activity status
	% foreign-born	% male foreign-born	% 15-64 foreign-born	% tertiary education foreign-born	Employment rate foreign-born
Belgium	0.4	1.4	0.8	-10.3	-3.9
Bulgaria	0.8	7.1	-7.5	7.5	2.4
Czech Republic	3.6	0.9	1.9	-5.9	-14.2
Denmark	1.3	2.5	1.0	-2.9	-6.1
Germany	-0.1	-0.3	-4.2	3.5	-1.1
Estonia	1.2	0.6	-1.1	9.7	-2.9
Ireland	1.0	0.2	1.4	-0.5	0.6
Greece	4.9	-0.8	-4.6	5.3	-5.9
Spain	-0.8	3.0	-4.4	0.3	-9.1
France	0.2	0.4	0.2	2.4	0.2
Croatia	4.3	-1.3	1.8	0.4	-1.4
Italy	-0.2	-0.8	-1.7	2.1	-2.0
Cyprus	3.0	1.4	-0.2	-4.4	-3.2
Latvia	1.1	0.8	1.9	5.4	0.7
Lithuania	2.2	0.0	-0.3	1.5	-1.8
Luxembourg	0.8	0.0	0.3	-15.2	-9.3
Hungary	2.1	0.5	-5.0	1.5	0.7
Malta	4.6	2.5	-3.9	4.2	-0.8
Netherlands	1.5	0.4	-2.4	0.0	-7.1
Austria	0.5	0.1	-0.8	-2.5	-3.5
Poland	0.9	1.0	-0.2	-0.5	-1.1
Portugal	1.6	0.8	-1.8	0.1	-3.4
Romania	0.7	-12.0	n.a.	n.a.	n.a.
Slovenia	2.8	4.3	2.5	-3.2	2.6
Slovakia	2.4	2.5	-5.2	-2.3	-4.5
Finland	0.9	5.6	-2.6	-5.3	-11.7
Sweden	-3.3	0.1	-11.7	-3.1	-12.2
United kingdom	0.4	0.6	-0.5	6.8	0.9

(n.a.) Not available

Source : Eurostat (2011 EU Census and 2011 EU LFS)



# Reference

EC|European Commission. 2010. COMMUNICATION FROM THE COMMISSION EUROPE 2020 - A strategy for smart, sustainable and inclusive growth (COM(2010) 2020 final)

EC|European Commission 2015. The labour market situation of migrants and their immediate descendants- Evaluation of the 2014 labour force survey ad hoc module

EC|European Commission. 2016. EU Labour Force Survey Database - User Guide <https://ec.europa.eu/eurostat/documents/1978984/6037342/EULFS-Database-UserGuide.pdf>

EC|European Commission. 2011. EU Labour Force Survey – Explanatory notes <https://ec.europa.eu/eurostat/documents/1978984/6037342/EU-LFS-explanatory-notes-from-2011-onwards.pdf>

EPRS|European Parliamentary Research Service. Briefing of July 2015 on ‘Third-country migration and European labour markets. Integrating foreigners’

ESS | European Statistical System. ESS agreement on Labour Force Survey (LFS) ad hoc module 2014 on the labour market situation of migrants and their immediate descendants. <http://ec.europa.eu/eurostat/documents/1978984/6037334/ESS-agreement-LFS-2014-module-with-annex-EN.pdf>

EC|European Commission 2011 EU Legislation on 2011 Population and Housing Censuses – explanatory notes (Eurostat – Methodologies and Working Papers)

EC | European Commission. 2012.Labour force survey in the EU, candidate and EFTA countries. Main characteristics of national surveys, 2011 <http://ec.europa.eu/eurostat/documents/3888793/5853141/KS-RA-12-025-EN.PDF/15436bf4-0bdf-4064-ae40-c1c3692c18aa>

COMMISSION REGULATION (EC) No 1201/2009 of 30 November 2009 implementing Regulation (EC) No 763/2008 of the European Parliament and of the Council on population and housing censuses as regards the technical specifications of the topics and of their breakdown <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R1201&from=EN>

COMMISSION REGULATION (EU) No 519/2010 of 16 June 2010 adopting the programme of the statistical data and of the metadata for population and housing censuses provided for by Regulation (EC) No 763/2008 of the European Parliament and of the Council <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010R0519&from=EN>

UNECE | United Nations Economic Commission for Europe (in collaboration with European Commission – DG Eurostat). 2010, Conference of European Statisticians Recommendations for the 2010 Censuses of Population and Housing

# Annex

**Table 4:** Population distribution by migration status, 2011 (% of total population)

Country of residence	Native-born		Foreign-born						Percent difference - Census vs EU-LFS			
			Total		Born within the EU28		Born outside the EU28		Native-born	Foreign-born		
	Census	LFS	Census	LFS	Census	LFS	Census	LFS		Total	Born within the EU28	Born outside the EU28
Belgium	86.1	86.5	13.9	13.5	7.0	6.3	6.9	7.3	-0.4	0.4	0.8	-0.4
Bulgaria	98.9	99.7	1.1	0.3	0.3	0.05 <sup>b</sup>	0.7	0.2	-0.8	0.8	0.3	0.5
Czech Republic	93.9	97.5	6.1	2.5	3.5	1.7	2.6	0.8	-3.6	3.6	1.8	1.8
Denmark	91.1	92.5	8.9	7.5	2.8	3.0	6.1	4.6	-1.3	1.3	-0.2	1.5
Germany	85.8	85.7	14.2	14.3	6.7	n.a.	7.4	n.a.	0.1	-0.1	n.a.	n.a.
Estonia	84.8	86.0	15.2	14.0	0.9	0.8	14.3	13.2	-1.2	1.2	0.1	1.1
Ireland	83.1	84.1	16.9	15.9	12.3	11.5	4.6	4.4	-1.0	1.0	0.9	0.2
Greece	88.2	93.0	11.8	7.0	3.2	1.4	8.7	5.6	-4.9	4.9	1.8	3.1
Spain	87.9	87.1	12.1	12.9	4.1	3.7	8.1	9.2	0.8	-0.8	0.4	-1.1
France	88.8	89.0	11.2	11.0	3.2	3.2	7.9	7.8	-0.2	0.2	0.0	0.1
Croatia	86.4	90.7	13.6	9.3	1.7	1.1	11.9	8.2	-4.3	4.3	0.6	3.8
Italy	92.0	91.8	8.0	8.2	2.5	2.7	5.5	5.5	0.2	-0.2	-0.1	0.0
Cyprus	76.4	79.3	23.6	20.7	12.8	10.6	10.9	10.1	-3.0	3.0	2.2	0.7
Latvia	85.4	86.5	14.6	13.5	1.4	1.2	13.2	12.3	-1.1	1.1	0.3	0.9
Lithuania	94.1	96.3	5.9	3.7	0.6	0.3 <sup>b</sup>	5.3	3.5	-2.2	2.2	0.4	1.8
Luxembourg	60.1	60.9	39.9	39.1	31.9	32.5	8.0	6.6	-0.8	0.8	-0.5	1.4
Hungary	96.2	98.2	3.8	1.8	2.7	1.3	1.2	0.5	-2.1	2.1	1.4	0.7
Malta	92.0	96.5	8.0	3.5	4.2	1.7	3.8	1.7	-4.6	4.6	2.5	2.0
Netherlands	88.8	90.3	11.2	9.7	2.7	2.2	8.5	7.5	-1.5	1.5	0.5	1.0
Austria	84.6	85.1	15.4	14.9	6.4	5.9	9.0	9.0	-0.5	0.5	0.5	-0.1
Poland	98.3	99.2	1.7	0.8	0.6	0.2	1.1	0.5	-0.9	0.9	0.3	0.6
Portugal	91.7	93.4	8.3	6.6	2.0	1.4	6.3	5.2	-1.6	1.6	0.6	1.1
Romania	99.3	99.9	0.7	0.05 <sup>b</sup>	0.4	:u	0.4	0.03 <sup>b</sup>	-0.7	0.7	n.a.	0.3
Slovenia	88.8	91.6	11.2	8.4	1.0	0.7	10.2	7.7	-2.8	2.8	0.3	2.5
Slovakia	97.1	99.5	2.9	0.5	2.4	0.4	0.4	0.1	-2.4	2.4	2.1	0.3
Finland	96.6	97.5	3.4	2.5	1.6	1.4	1.8	1.1	-0.9	0.9	0.2	0.7
Sweden	86.2	82.9	13.8	17.1	5.0	5.4	8.8	11.7	3.3	-3.3	-0.4	-2.9
United kingdom	87.5	87.9	12.5	12.1	4.2	4.1	8.3	8.1	-0.4	0.4	0.1	0.2

(n.a.) Not available (b) Low reliability (u) Unreliable

Source: Eurostat (2011 EU Census and 2011 EU LFS)

**Table 5:** Distribution of foreign-born population by sex, 2011 (% of total foreign-born population)

Country of residence	Male		Female		Percent difference Census vs EU-LFS	
	Census	LFS	Census	LFS	Male	Female
Belgium	49.1	47.7	50.9	52.4	1.4	-1.4
Bulgaria	44.0	<b>36.9<sup>b</sup></b>	56.0	63.1	7.1	-7.1
Czech Republic	50.1	49.2	49.9	50.8	0.9	-0.9
Denmark	48.0	45.5	52.0	54.5	2.5	-2.5
Germany	47.4	47.6	52.6	52.4	-0.3	0.3
Estonia	39.4	38.8	60.6	61.2	0.6	-0.6
Ireland	49.6	49.3	50.4	50.7	0.2	-0.2
Greece	47.8	48.7	52.2	51.4	-0.8	0.8
Spain	50.7	47.7	49.3	52.3	3.0	-3.0
France	48.1	47.7	51.9	52.3	0.4	-0.4
Croatia	46.9	48.1	53.2	51.9	-1.3	1.3
Italy	44.4	45.1	55.6	54.9	-0.8	0.8
Cyprus	43.5	42.1	56.5	57.9	1.4	-1.4
Latvia	39.4	38.6	60.6	61.4	0.8	-0.8
Lithuania	42.2	42.2	57.8	57.8	0.0	0.0
Luxembourg	50.1	50.1	49.9	49.9	0.0	0.0
Hungary	45.2	44.7	54.8	55.3	0.5	-0.5
Malta	49.7	47.2	50.3	52.8	2.5	-2.5
Netherlands	47.9	47.5	52.1	52.5	0.4	-0.4
Austria	47.4	47.3	52.6	52.7	0.1	-0.1
Poland	41.1	40.0	58.9	60.0	1.0	-1.0
Portugal	46.7	46.0	53.3	54.0	0.8	-0.8
Romania	50.4	<b>62.5<sup>b</sup></b>	49.6	<b>37.5<sup>b</sup></b>	-12.0	12.0
Slovenia	57.5	53.2	42.5	46.8	4.3	-4.3
Slovakia	45.8	43.3	54.2	56.7	2.5	-2.5
Finland	53.1	47.4	46.9	52.6	5.6	-5.6
Sweden	47.9	47.8	52.1	52.2	0.1	-0.1
United kingdom	48.3	47.7	51.7	52.3	0.6	-0.6

(b) Low reliability ( :u) Unreliable

Source: Eurostat (2011 EU Census and 2011 EU LFS)

Table 6: Distribution of foreign-born population by age group, 2011 (% of total foreign-born population)

Country of residence	less than 15		from 15 to 64		65 and over		Percent difference - Census vs EU-		
	Census	LFS	Census	LFS	Census	LFS	less than 15	from 15 to 64	65 and over
Belgium	8.3	7.2	78.8	78.0	12.9	14.8	1.0	0.8	-1.9
Bulgaria	11.0	:u	67.8	:u	21.2	15.8	n.a.	-7.5	5.4
Czech Republic	3.0	2.6	76.0	74.2	21.0	23.2	0.4	1.9	-2.3
Denmark	8.0	7.2	84.1	83.1	7.9	9.7	0.7	1.0	-1.8
Germany	2.9	2.7	67.9	72.1	29.2	25.3	0.2	-4.2	4.0
Estonia	1.5	1.6	59.4	60.5	39.1	37.8	-0.1	-1.1	1.3
Ireland	12.3	13.5	83.1	81.7	4.6	4.8	-1.1	1.4	-0.2
Greece	5.4	4.4	86.9	91.5	7.6	4.0	1.0	-4.6	3.6
Spain	9.7	6.5	83.9	88.4	6.4	5.2	3.2	-4.4	1.2
France	5.6	4.9	75.1	74.9	19.3	20.3	0.7	0.2	-1.0
Croatia	3.3	1.5 <sup>b</sup>	75.4	73.6	21.3	24.9	1.8	1.8	-3.6
Italy	7.4	7.0	86.6	88.3	6.0	4.6	0.3	-1.7	1.4
Cyprus	7.4	7.0	86.3	86.5	6.3	6.4	0.3	-0.2	-0.1
Latvia	1.3	1.1	59.7	57.8	39.0	41.2	0.2	1.9	-2.1
Lithuania	3.7	:u	66.0	66.4	30.3	32.7	n.a.	-0.3	-2.4
Luxembourg	7.4	7.7	83.0	82.7	9.6	9.7	-0.3	0.3	-0.1
Hungary	5.2	4.0	69.4	74.4	25.4	21.6	1.2	-5.0	3.8
Malta	6.4	0.0 <sup>b</sup>	81.9	85.7	11.7	14.3	6.4	-3.9	-2.6
Netherlands	5.5	4.7	83.9	86.3	10.6	9.0	0.8	-2.4	1.6
Austria	5.5	5.4	80.6	81.4	13.8	13.2	0.2	-0.8	0.6
Poland	8.9	6.5	23.5	23.6	67.7	69.8	2.3	-0.2	-2.2
Portugal	7.5	6.2	86.0	87.8	6.5	6.0	1.4	-1.8	0.4
Romania	37.9	:u	35.1	:u	27.0	:u	n.a.	n.a.	n.a.
Slovenia	4.2	3.5	81.6	79.1	14.2	17.4	0.7	2.5	-3.2
Slovakia	9.5	:u	65.1	70.4	25.3	25.9	n.a.	-5.2	-0.6
Finland	12.5	6.9	84.5	87.0	3.1	6.1	5.6	-2.6	-3.1
Sweden	7.4	0.1	77.8	89.6	14.7	10.4	7.4	-11.7	4.4
United kingdom	7.4	7.3	81.0	81.5	11.5	11.2	0.1	-0.5	0.3

(n.a.) Not available (b) Low reliability (:u) Unreliable

Source: Eurostat (2011 EU Census and 2011 EU LFS)

**Table 7:** Activity and employment rates of foreign-born population, 2011 (%)

Country of residence	Activity rate		Employment rate		Percent difference Census vs EU-LFS	
	Census	LFS	Census	LFS	Activity rate	Employment rate
Belgium	43.5	48.7	37.5	41.4	-5.2	-3.9
Bulgaria	43.8	39.6	38.9	36.5 <sup>b</sup>	4.2	2.4
Czech Republic	41.4	55.4	36.8	51.0	-14.0	-14.2
Denmark	54.1	61.2	46.7	52.8	-7.1	-6.1
Germany	52.1	54.1	48.0	49.2	-2.0	-1.1
Estonia	44.7	49.8	38.8	41.6	-5.2	-2.9
Ireland	62.9	58.8	49.3	48.7	4.1	0.6
Greece	62.2	68.7	47.5	53.4	-6.5	-5.9
Spain	65.9	70.8	39.6	48.8	-4.9	-9.1
France	50.3	51.0	43.9	43.7	-0.7	0.2
Croatia	47.2	46.9	38.2	39.6	0.3	-1.4
Italy	61.0	61.7	52.7	54.6	-0.8	-2.0
Cyprus	66.5	68.6	58.5	61.6	-2.1	-3.2
Latvia	45.7	44.2	37.3	36.6	1.5	0.7
Lithuania	51.2	52.8	41.3	43.0	-1.6	-1.8
Luxembourg	54.2	62.8	49.5	58.8	-8.5	-9.3
Hungary	52.2	52.1	47.8	47.2	0.1	0.7
Malta	57.5	57.4	52.5	53.3	0.0	-0.8
Netherlands	59.3	60.8	47.8	54.9	-1.5	-7.1
Austria	56.5	59.3	50.5	54.1	-2.8	-3.5
Poland	16.0	17.4	14.4	15.5	-1.4	-1.1
Portugal	67.5	73.0	57.3	60.7	-5.5	-3.4
Romania	23.7	:u	21.9	:u	n.a.	n.a.
Slovenia	59.7	56.0	52.2	49.6	3.7	2.6
Slovakia	44.2	49.2	37.2	41.7	-5.0	-4.5
Finland	57.0	66.5	46.4	58.0	-9.5	-11.7
Sweden	52.8	67.6	44.6	56.8	-14.9	-12.2
United kingdom	61.2	60.7	55.9	55.1	0.5	0.9

(b) Low reliability (u) Unreliable

Source: Eurostat (2011 EU Census and 2011 EU LFS)



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# Looking for immigrants in the European Labour Force Survey and the EU census: a comparison based on the 2011 figures

This paper provides an overview of the differences and similarities in the characteristics of intra-EU foreign-born populations according to the EU Census and EU Labour Force Survey for the same reference year, 2011. The objective of the analysis is to establish whether it is possible to update the more structural information in the EU Census with the more timely data available in the EU Labour Force Survey. The conclusion is that the current situation is not favourable to combining the two data sources as although data comparability is rather good at a more aggregated level, this is much less the case when smaller breakdowns are analysed.

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