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**Migration statistics****Census as a source of migration statistics****Prepared by the Statistical Office of Slovakia***Summary*

This paper focuses on the added value of using census data in the analysis of migrants' movements and their demographic characteristics such as age, sex, education, marital status, economic activity and the reason for migration. Census is an essential data source on population, primarily on the static component, the population structures. However, it may also provide information about the dynamic component, demographic processes taking place in the population such as re-emigration. It provides retrospective data on inhabitants who have been abroad and have returned to the country of origin. Using census data in the compilation of migration statistics may offer a new approach to the complicated issue of international migration.

The paper is presented for discussion to the Conference of European Statisticians seminar on migration statistics.

## I. Introduction

1. Census is an essential source of data on population. It is primarily used for describing population structures – the static component. However, census may also provide information about the dynamic component, namely the demographic processes taking place in the population. Specific data from the census can also be used to monitor the migration process. These include retrospective data on the population, who have been abroad (for at least one year) and have then returned to Slovakia. This can be referred to as specific re-migration of population. These specific data may provide a new approach to the complicated issue of statistical measurement of foreign migration and international labor migration.

2. Labor migration within the European Union (EU) and in the world, which is in many cases realized for an indefinite time period (or can be qualified as a change of usual residence), cannot be precisely statistically quantified. According to the EU regulation on European demographic statistics (No.1260/2013), each EU country is obliged to provide well-documented estimation of the number of residents by usual residence. International migration is a major determinant of the difference between the number of population with registered residence and the number of population with usual residence. Having accurate data on migration and labor migration are prerequisites for producing high quality population estimates for the number of population by usual residence in different EU countries and the world.

3. The official statistics on migrants (statistical survey of migration) are the basic data source on international migration. In addition, the estimated number of migrants abroad, or the number of labor migrants can be estimated from the Labor Force Survey (LFS<sup>1</sup>) and other sample surveys and estimates.

4. The population census (Census 2011) does not provide complete information on migration (international as well as internal), but it is possible to use these data as an additional resource in the complicated field of measuring international migration, international labor migration and hence estimating the population by usual residence (within the meaning of EU regulation).

5. This paper aims to highlight the advantages and disadvantages that using census data in identifying foreign migration and foreign labor migration can offer.

## II. Migration statistics and usual residence

6. The above mentioned EU regulation requires each EU Member State to provide population data by usual residence. According to the definition, usual residence means the place where a person normally spends the daily period of rest, regardless of temporary absence for purposes of recreation, holidays, visits to friends and relatives, business, medical treatment or religious pilgrimage. The following persons alone shall be considered to be usual residents of a specific geographical area:

(a) Those who have lived in their place of usual residence for a continuous period of at least 12 months before the reference time; or

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<sup>1</sup> LFS - The LFS measures only labor migration with a duration of 1 year and less, therefore, these data do not fulfill the definition of change of usual residence under the EU Regulation No. 1260/2013 on European demographic statistics

(b) Those who arrived in their place of usual residence during the 12 months before the reference time with the intention of staying there for at least one year.

7. As it was already mentioned, migration and labor migration are the major determinants of differences between the number of population by permanent residence and the number of population by usual residence.

8. However, acquiring accurate records of emigrants and labor migrants is in many countries a problematic issue since a large number of emigrants and labor migrants do not report for various reasons a change of permanent residence or change of usual residence. Numbers of emigrants from Slovakia (and emigrants from other countries) are therefore highly underestimated (see, for example Divinský 2005)<sup>2</sup>. Numbers of immigrants are significantly more accurate and more stable. More precise number of emigrants could be calculated (estimated) by mirror statistics of migration based on the number of immigrants in each country of the world. Eurostat provides the methodology and the survey of mirror statistics, but only within EU.

9. Census data provides information about inhabitants (citizens), who were at least a year abroad and have returned to their country of origin. These data, therefore, meet the definition of usual residence. Thus, these data represent a specific type of migration: re-emigration of population. Information about the last arrival in Slovakia allows constructing a retrospective population by usual residence to be used when estimating the number of population by usual residence for individual years.

10. To ensure the most accurate population estimates for the usual residence the efforts should focus on the use of a number of relevant data sources.

11. One of the advantages of using census data is the possibility to analyze the structure of re-emigration according to various indicators that have been surveyed in the census such as employment, reason for immigration, economic activity, education, marital status, number of children (for women), nationality, mother tongue, religion and other variables.

12. The Census 2011 also provides a unique opportunity to study and analyze labor migration and return migration during the global economic crisis.

### **III. Comparison of Census 2011 data with statistical survey of migration**

13. Slovakia is among the countries with migration loss, although according to official migration statistics Slovakia has a positive migration balance. Data on the number of emigrants are likely to be highly underestimated in Slovakia (Divinský, 2005)<sup>2</sup>, as is the case in some other EU countries as well.

14. When comparing data from the statistical survey of migration and data of re-emigrants from the Census 2011 (Chart 1), there is an obvious difference in the numbers of migrants in 1990-2011. Total population who emigrated during 1990-2011 (statistical survey of migration) is significantly lower than the number of re-emigrants who returned to Slovakia during the same period (Census 2011). This means that many migrants did not report a change of permanent residence. It, thus, confirms the assumption of underestimated emigrant figures.

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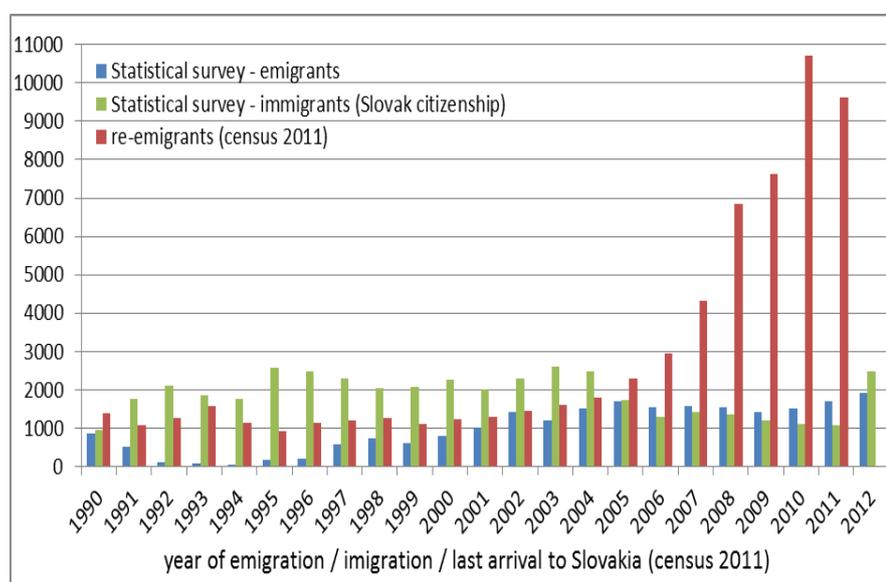
<sup>2</sup> Divinský, B. 2005. *Zahraničná migrácia v Slovenskej republike – stav, trendy, spoločenské súvislosti*. Friedrich Ebert Stiftung. ISBN: 80-89149-04-9.

15. The number of emigrants between 1990 and 2012, according to the statistical survey of migration, was 22,887. The number of immigrants with Slovak citizenship<sup>3</sup> in 1990-2012 was 43,296. Number of re-emigrants, who returned to Slovakia during 1990-2011 was 63,886 (Table No.1, Chart 1). The largest differences between the survey and census data on re-emigrants are recorded during 2005-2011. The number of re-emigrants who returned to Slovakia was 44,357 and the number of immigrants with Slovak citizenship was 9,208. This makes a difference of more than 35,000 inhabitants who did not officially report immigration and emigration.

16. Most cases would be due to either labor migration or migration for studies while these migrants for various reasons did not report the change of permanent residence. This implies a significant difference between the statistical survey of migration and migration data from the Census 2011 regarding the variables on the number of inhabitants with registered residence abroad and the the number of inhabitants with usual residence abroad respectively.

Figure 1.

**Number of immigrants, emigrants and re-emigrants according to last year of arrival in Slovakia**



Source: Statistical Office of Slovak Republic, Census 2011

17. By 2004, the number of re-emigrants (according to the Census 2011) was not higher than 2 000 inhabitants. Since 2007, there has been a significant increase in the number of re-emigrants up to 10,714 re-emigrants in 2010. In 2011, Slovakia recorded 9,614 re-emigrants which is 1,100 fewer than in 2010. It should be pointed out that in 2011 the number of re-emigrants only refers to the census date (21 may 2011). Assuming that the trend would be the same during the second half of 2011, at the end of the year the estimated number of re-emigrants would be about 20,000. We call this phenomenon return migration caused to some extent by the global economic crisis. This phenomenon is reflected as a significant increase in the number of re-emigrants since 2007-2008. Data from the 2011 Census allows analysing this phenomenon of return migration, in numbers and structures of re-emigration.

<sup>3</sup> This figure does not include foreign immigrants, only citizens of the Slovak Republic

Table 1.  
**Number of immigrants, emigrants and re-emigrants according to last year of arrival  
 in Slovakia**

	Year/The last year of arrival in Slovakia											
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
<b>Emigrants</b>	867	527	128	79	59	164	222	572	746	618	811	1 011
<b>Immigrants</b>	944	1752	2106	1874	1778	2 568	2 477*	2 303*	2 052*	2 072*	2 274*	2 023*
<b>Census 2011**</b>	1 398	1 093	1 266	1 585	1 136	921	1 141	1 203	1 279	1 107	1 234	1 300
	Year/The last year of arrival in Slovakia											
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Spolu
<b>Emigrants</b>	1 411	1 194	1 523	1 704	1 560	1 574	1 547	1 432	1 512	1 703	1 923	<b>22 887</b>
<b>Immigrants</b>	2 312*	2 603*	2 471*	1 745*	1 302*	1 417*	1 350*	1 205*	1 111*	1 078*	2 479*	<b>43 296</b>
<b>Census 2011**</b>	1 460	1 598	1 808	2 296	2 952	4 334	6 836	7 611	10 714	9 614***	x	<b>63 886</b>

Source: Statistical Office of Slovak Republic, Census 2011

\* only immigrants with Slovak citizenship

\*\* number of re-emigrants and year of the last arrival in Slovakia

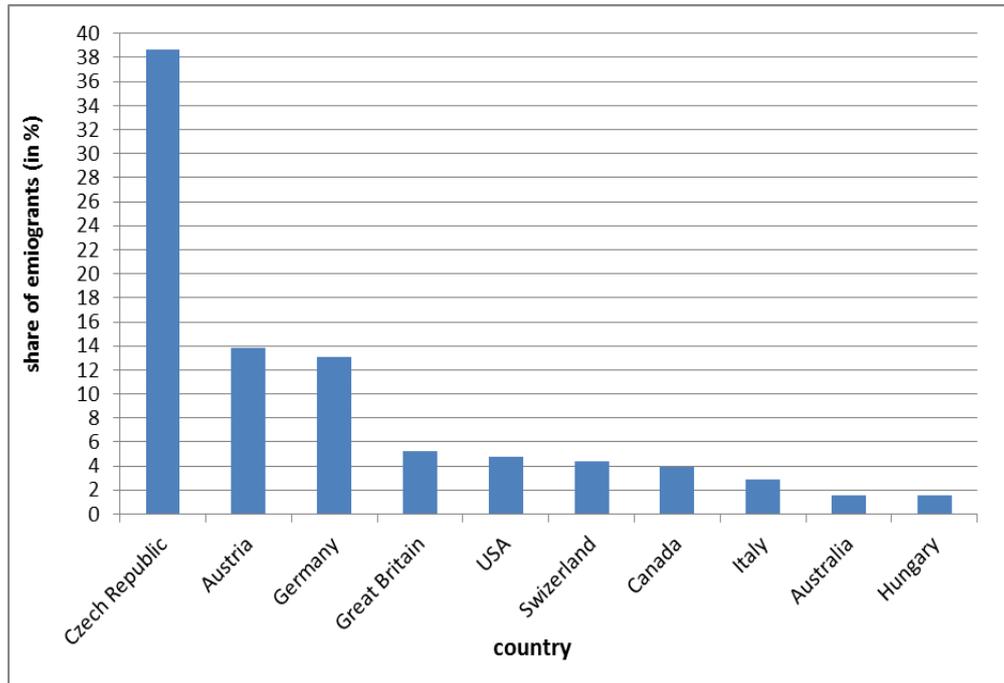
\*\*\* number of re-emigrants until 21 May 2011

18. The statistical survey of emigration shows that in 1995-2012 the largest number and proportion of emigrants moved to the Czech Republic (8,204 inhabitants, 38.7%). Austria and Germany have shares of over 13% of all emigrants (2,945 emigrants to Austria and 2,779 emigrants to Germany). Compared with data from the 2011 Census, the number of emigrants is 3 times lower than the number of re-emigrants. Number of re-emigrants, who returned to Slovakia during 1990-2011 was 63,886 (Table No.1, Chart 1). However, the order of states is different. The highest proportion of re-emigrants returned from the United Kingdom, which has been interesting for Slovak inhabitants in terms of labor migration. On the other hand, according to the survey of migration, most inhabitants emigrated to the Czech Republic (8,204 emigrants, 38.7%). The Czech Republic is interesting for Slovaks in terms of change of residence as well as for labor migration.

19. Austria, on the 2<sup>nd</sup> place (with 13.9%) in survey of emigration, has a 3.6 per cent share of re-emigrants and the 6<sup>th</sup> place in the Census data (Figure 3). The more significant role of emigration in the statistical survey of migration, is similar to that of the Czech Republic. Austria is also a country interesting in terms of changes of residence for the Slovak inhabitants (migration to the border, while the migrants still have a job in Slovakia).

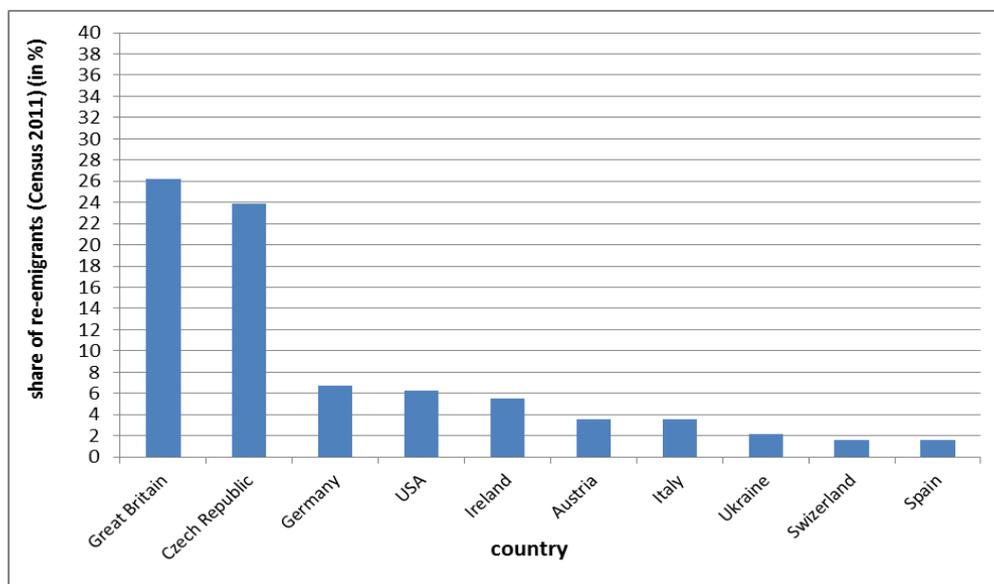
20. We assume that the change of registered residence is reported by migrants more often than a change of residence connected with labor migration. In case of labor migration, which is in many cases for an indefinite period, many migrants do not report migration. The Census data are dominated by population groups (re-emigrants) who have returned from the countries that are interesting from the viewpoint of labor migration (the United Kingdom, Germany, the United States, Ireland) (Figure 3).

Figure 2.  
**Emigration from Slovakia in 1995-2012 (according to statistical survey)**



Source: Statistical Office of Slovak Republic

Figure 3.  
**Proportion of re-emigrants, who have returned from abroad to Slovakia in 1990-2011 according to Census 2011**



Source: Statistical Office of Slovak Republic, Census 2011

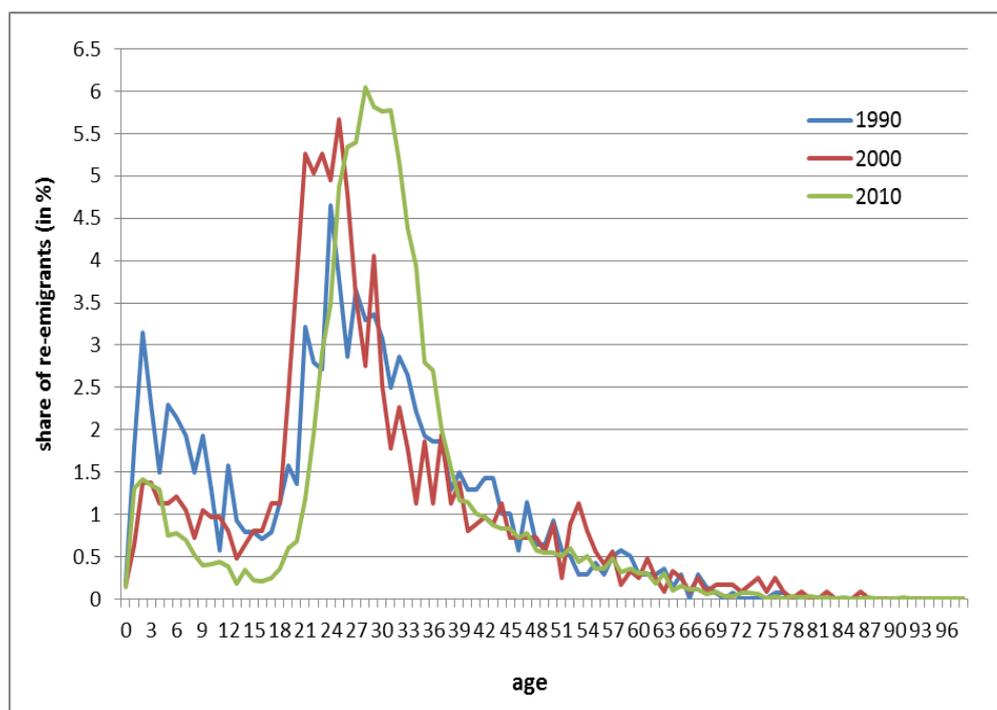
21. Census data provide additional information about migrants (re-emigrants) that were surveyed in the census. Such as reason for immigration, economic activity, work field, education, marital status, number of children (in women), nationality, mother tongue, religion, etc.

22. One of the basic demographic indicators is age and sex. Comparison of the age structure of the re-emigrants, who returned to Slovakia in the years 1990, 2000 and 2010 shows a marked difference. In 1990, the proportion of children under 15 years was almost double than in 2010 and the highest proportion of residents who returned in 1990 was at the age of 24 (4.7 %) (figure 4). It points out a possible return of families with children after the change of regime in the year 1989. On the other hand, in the year 2000 and 2010, the proportion of children under 15 years decreased significantly and the proportion of the population at ages 26 to 32 years (the share of above 5 %) increased and the maximum has shifted to the age of 28 years (6.1% share in 2010). This points to a labor migration of young productive population. Moreover, in 2010 significant increase is recorded in the proportions of re-emigrants at ages 28 to 37 years. Most likely it is due to the return migration of those inhabitants, who have been abroad for a longer period, but the incoming global economic crisis and worsening economic conditions in the economically most developed countries (interesting in terms of labor migration) compelled them to return.

23. In general, migration and labor migration predominates in men. However, in the case of Census 2011 data on re-emigrants, the proportion of women was higher during the entire period (with the exception of 1990, 2007, 2008 and 2009) (Figure 5). Women, therefore it seems, do not report emigration and immigration as often as men.

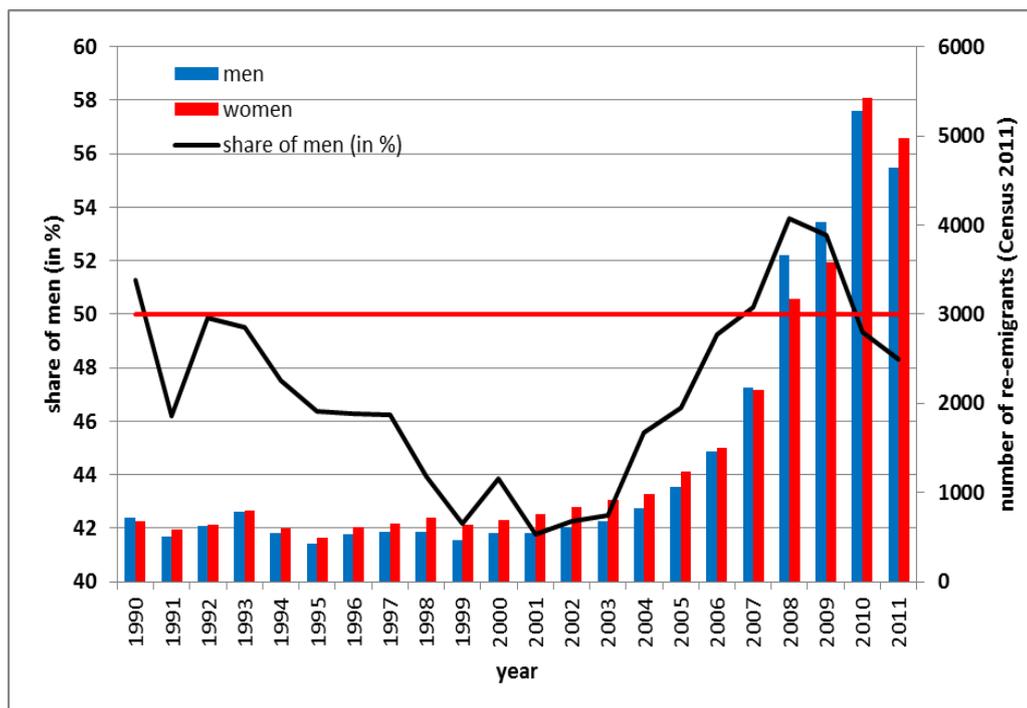
Figure 4.

**Age structure of re-emigrants in 1990, 2000 and 2010 (Census 2011)**



Source: Statistical Office of Slovak Republic, Census 2011

Figure 5  
Sex structure of re-emigrants according to Census 2011



Source: Statistical Office of Slovak republic, Census 2011

#### IV. Conclusion

24. International migration and labor migration are major determinants of differences between the number of inhabitants with registered residence and the number of inhabitants with usual residence in EU countries. Statistical measurement of international migration and international labor migration is hence a very complicated task. Quantifying the most accurate number of inhabitants abroad is in many cases very difficult and complex, as demonstrated by a comparison of data from statistical records with census data.

25. To ensure the most accurate population estimates for the usual residence the effort should focus on the relevant data sources. Census data (Census 2011) offer a new viewpoint to the issue of international migration and provide a valuable additional resource for estimating the number of migrants and labor migrants abroad and consequently the number of population with usual residence.

26. Census data provide additional information about migrants (re-emigrants) for analyzing the structure of migration according to various demographic characteristics that were surveyed in the census. These data provide also a unique opportunity to study labor migration and return migration during the global economic crisis.