

**The methodology of the international migration survey
within the 2011 national population and housing census (NSP 2011)**

I. Introduction

1. International migration is one of the processes which have influenced the socio-economic situation of Poland for decades. Simultaneously, the scale, dynamics and structure of the mobility of the Polish residents, and the scale of temporary migration can be regarded as a derivative of changes in other areas. The population and housing censuses provide a good opportunity to collect a number of information on international migration, in particular on migration stocks.
2. A current census of residents of Poland was carried out in 2011, i.e. nine years after the previous one. It made it possible, apart from determining the number and structure of the population, to gain information on the scale of post-accession migration, its directions and determinants. A number of issues related to migration was included in the 2011 census in Poland in response to the needs and expectations of both national and international data users. As a consequence, a broad range of information makes possibility of outlining a detailed demographic and socio-economic characterisation of migrants, at the same time serving as a rich source of information needed in the preparation of national social programmes and strategies at the national, regional and local level.

II. The methodology of the population and housing census – selected aspects

3. A new organisational and methodological approach, which was applied for the first time in the 2011 population and housing census, determined the scope of topics of the census and the method of data processing.
4. Poland was among the countries who decided to abandon the traditional method and to apply a mixed method – which entailed, on the one hand, using to the highest possible extent as the sources of census data public administration registers and information systems available in Poland and, on the other hand, providing the possibility of obtaining data on some subjects through a large sample survey.
5. The census was the first all-national survey carried out solely with the use of electronic forms. Apart from the interviews carried out by census enumerators with the use of hand-held devices (the CAPI method), two additional data collection channels were applied in the census, i.e. telephone interviews (the CATI method) and Internet self-enumeration (CAII).
6. The solutions applied were aimed primarily at reducing the costs of the census and respondent burden, simultaneously ensuring high quality of census results.

7. The census was carried out as a full-scope survey, which covered the entire population of Poland and involved the verification of data obtained from registers and informational systems done by respondents through Internet self-enumeration. It should be emphasised that the scope of topics of that survey was very narrow (covering basic demographic characteristics and the place of residence), which was the consequence of the availability of data in administrative systems.
8. The objective of NSP 2011 was to collect a broad range of data characterising the Polish society. For this reason, a sample survey was also carried out on a large sample accounting for approx. 20% of dwellings in the country. Within the sample survey, a broad range of information on the investigated matter was obtained on the basis of the so-called long form with more than 100 questions divided into 10 thematic areas.
9. The mentioned sample survey was carried out only in households. In addition, supplementary surveys were carried out (with a narrow information range), covering persons staying in collective accommodation establishments, and homeless persons.
10. Information obtained from the full-scope survey (on the basis of the administrative data sources) and from the sample survey have been integrated and included in one database. The results of the sample survey have been generalised to the entire population. The structure of the population by sex and age, which had been identified in the full-scope survey was employed to establish the reference population.

III. The methodology of the international migration survey within NSP 2011

11. In order to specify the scope of the topics for international migration theme, major emphasis was put on meeting the obligations arising from the EU legal regulations¹, international recommendations² and national law acts specifying the scope of information and the census form. National requirements were also taken into consideration, including in particular the ones stipulated in the national strategies and regional development programmes.
12. It was also crucial to obtain in 2011 census information on the issues covered by the census in 2002, as continuity is essential for comparative analyses.
13. Having in mind the considerable increase in the number of departures abroad for temporary stay after 2004, i.e. after Poland's accession to the European Union, there was a considerable demand for studying this aspect of migration. For this and other reasons, international migration was analysed to a much greater extent than in 2002. The module on this area, included in the sample survey, covered a number of supplementary issues apart from the so-called core topics. It was particularly such topic as: immigration and emigration for temporary stay (quite rarely surveyed within population censuses) and the causes of migration which play the key role in understanding the phenomenon of

¹ Regulation (CE) No. 763/2008 of the European Parliament and of the Council of 9 July 2008 on population and housing censuses (EU Official Journal L. of 13.08.2008 No. 218).

² Recommendations for the 2010 Censuses of Population and Housing, United Nations, Geneva, 2006.

migration. In the current Polish census, the causes of migration were analysed separately for each form of mobility, i.e. emigration, immigration and returns from abroad. Tackling this issue in NSP 2011 was a way of complying with the requirements specified in the strategic document concerning Poland's migration policy.

14. Within the core topics of the Polish census were questions regarding the country of birth, the country of citizenship, and the fact of ever staying abroad. The sample survey also contained questions about the year of arriving to the municipality of the actual residence and the previous place of residence, which made it possible to specify the place of residence of a person one year before the census.
15. In the census, the country of birth was defined as a country (in terms of the current country borders) in the area of which the birth of the person take place. As far as the country of citizenship is concerned, concerning the fact that only one citizenship is usually entered in registers, the topic was extended in the sample survey, where there was a possibility of reporting three citizenships.
16. As part of the non-obligatory issues included in the recommendations as non-core topics, it was examined whether a given person is a Polish citizen starting from his/her birth, and also information on the country of birth of his/her parents was collected.
17. The included in survey question on the fact of ever staying abroad made it possible, among others, to identify persons who returned to Poland after at least a year's stay abroad, because of high demand for information on returns. Such persons had to answer several additional questions. The questions consisted of such elements as the country of stay, the number of years of staying abroad, the year of return, the profession practised before the departure from Poland (if any), whether the person worked abroad, and if yes, whether the work corresponded to the person's qualifications. The survey made it possible to determine the scale of returns and the analysis of the situation of emigrants in the foreign labour market, and also on the Polish labour market after returning from abroad.
18. As already mentioned, due to the high demand for information on emigration and immigration for temporary stay, the census also attempted to investigate this type of migration, including both short-term migrations (for the period from 3 to 12 months) and long-term migrations (for 12 months or more).
19. *The term "immigration for temporary stay" in the Polish statistics applies to cases when a person arrived from abroad but did not obtain the right to permanent residence in Poland, i.e. the permission to register for permanent stay; in such cases it is assumed that the stay is temporary. It should be emphasised that according to the definition used in Poland so far, Poland's population covers only persons registered in Poland for permanent stay. Due to the above, until an immigrant registers for permanent stay in Poland, he/she is not included in the country's population. Nevertheless, these persons stay in Poland's territory and there is a need to acquire knowledge on the number, and demographic and social characteristics of this group of the population. In parallel, "emigration for temporary stay" is used when a person stays abroad but is*

simultaneously registered for permanent stay in Poland; therefore, it can be inferred that the stay is of a temporary nature (from the moment of deregistering from permanent stay in Poland due to a departure abroad with an intention of staying there permanently the person is no longer included in Poland's population. The knowledge of migration stocks resulting from temporary migrations is necessary to determine the number of residing population, and this definition is based on the criterion of staying or intending to stay in the country for at least 12 months.

20. Surveying emigration was the most difficult aspect in the National Census of Population and Housing 2011. The complexity of this survey consisted mainly in ensuring data completeness. It should be highlighted that information on **emigrants staying abroad temporarily** was collected from household members, who had remained in the country or from other persons able to provide such information. In some cases, this information was provided by persons renting an emigrant's dwelling or by his or her neighbours – especially when there was nobody in that dwelling (all its inhabitants were abroad). As a consequence, different scopes of information were collected for different emigrant groups.
21. Most information was collected on emigrants, whom selected dwelling inhabitants had considered members of their households, providing answers to all the questions in the census form concerning those persons.
22. On the other hand, regarding those who had been reported not to be residing in a given dwelling – residing abroad – only information on their sex, age, place of residence before leaving, country of residence and the duration of their absence (up to one year, a year or longer than one year) was collected. In addition, information on their marital and legal statuses, country of birth and citizenship was obtained from registers.³
23. The least information was collected on emigrants registered for temporary stay or permanent residence in the dwellings locked at the time of the census, and regarding which an enumerator acquired information that all their residents were abroad. Concerning those persons, information on neither the country of stay nor on the period of absence was collected. They were, however, considered emigrants.
24. Due to the importance of information on the country of stay, for almost 1/3 of emigrants lacking this information, imputation was employed. Data on the structure of the countries of stay of those persons for which such information was collected, was used for this purpose. When imputing data on countries, the regional diversification of the structures obtained was taken into consideration.
25. It should also be highlighted that registered temporary emigrations (a temporary departure registered in the gmina) comprised only a small percentage of all emigrations, information on which was collected during the census. A similar ratio was observed in 2002. The value of this ratio indicates that administrative registers cannot be treated as a

³ Methodological guidelines for the census enumerators made it possible to select such an abridged census method for persons not residing at the given address and not intending to return to this domicile, or in the case of dwelling residents not being able to answer census-form questions about the person in question.

direct source of emigration data. However, at the same time, analysing data from such registers makes it possible to track the trends and directions of emigrations. Also the yield from the survey implemented as a self-enumeration census was rather low. Therefore, data on the number and structure of emigrants was compiled mainly on the basis of the generalised results of a representative survey.

26. The sample survey form also included numerous questions about immigrants temporarily staying in Poland. These questions concerned the period of stay, the year of arrival to Poland (for long-term immigrants), the country of previous residence, the reasons for coming to Poland, the command of the Polish language, the number of citizenships held, the plans for leaving Poland and – if such persons had previously worked in Poland – the correspondence of work performed to their education. Moreover, immigrants answered questions addressed to all survey participants, i.e. concerning their marital status, education level, main activity status, source of income, etc.
27. Data on immigrants temporarily staying in Poland was collected through joining data on immigrants staying in collective accommodation places from the supplementary (full-scale) survey of persons staying in such places and generalised data from a sample survey conducted in households. Only basic data was collected on immigrants staying in collective accommodation places – these persons did not answer questions included in the long-form census, thus no information on their marital status (if no such information was present in administrative sources), education, reasons for coming to Poland, command of the Polish language, main activity status, etc. was collected. This resulted in substantial data shortages on the general characteristics of immigrants.
28. Concerning the fact that information on the country of previous residence is a very important element of the migrants characteristics, the lack of data on that (especially regarding persons staying in collective accommodation places) — was reduced through imputation, using the known structures among immigrants with known countries of origin, and taking into account the diversification of these structures, which was observed in particular voivodships.
29. The annex presents selected migration data compiled on the basis of the results of a sample survey, following a generalisation using the reference population from the full-scale survey. Precision indicators are an important part of these statistics. They make it possible for the users of result tables to appropriately evaluate the data. It was assumed that the precision indices presented will be defined as relative standard errors expressed in percentage terms.⁴ The results of the sample survey, disseminated with a 0.95

⁴ The CV indicator can be used to determine the confidence interval with a certain probability (i.e. confidence level, for example of 95%) the actual value of the parameter estimated is covered. For example, for a 95% confidence level, the limits of such a range can be expressed as: $\bar{Y} \pm 1,96 * \bar{Y} * CV / 100$. If the estimated number equalled 30492, and the precision indicator for this characteristic amounted to CV=2.11%, then by defining the confidence interval limits we can state with a 0.95 confidence that the value interval between 29231 and 31753 encompassed the real number of such persons.

confidence level – with the precision indicator exceeding 10% (CV) – should be interpreted with caution, and those above 20% should be disseminated only in an aggregated form.

IV. The advantages and disadvantages of a mixed-mode approach to the National Census of Population and Housing 2011, in the context of the migration survey

30. The magnitude of data sources used in the Polish 2011 Census provided many data collection opportunities, but, at the same time, caused troubles that had to be solved in order to combine data from different sources in an appropriate way.
31. The sample survey allowed for gathering a wide range of information connected with migration, along with an extensive characteristics of migrants. Simultaneously, it led to reduced costs, when compared to a traditional census.
32. Administrative sources made it possible to supplement some of the missing data, which had not been collected by means of interviewing, and the accuracy of which did not raise any doubts – e.g. age, sex, the country of birth, and the country of citizenship. Thanks to the personal identification number (PESEL), acting as the basic identifier in the census sampling frame, and also in particular registers, it was possible to obtain the missing information, e.g. on the country of birth, concerning persons that had not been present at the time of collecting census information. It should further be stressed that in case some information was missing in one register, it was searched for in other registers, usually until eventually found.
33. In 2011, as a result of the aforementioned activities, the scale of missing information on the country of origin or citizenship was insignificant (accounting for 0.04% and 0.02%, respectively), which was a much better result than in the previous (2002) census conducted using a traditional method. Data shortages in respect of the country of birth and citizenship, which could not be supplemented, concerned, to a great extent, homeless persons.
34. Presenting data on the overall socio-demographic characteristics of all emigrants turned out a significant obstacle when compiling the results, due to different scopes of information on particular emigrant groups. The group of emigrants for whom we had successfully collected full information from all sources, comprised approx. 18% of all emigrants staying abroad for more than 3 months. Similar problems were encountered in the case of immigrants, because – as previously mentioned – only basic information was collected concerning persons staying in collective accommodation places.
35. The immigration data analysis indicates a substantial downward bias. With immigration being the subject of the 2002 census and other surveys, we again failed to include in the survey all foreigners temporarily staying in Poland. We actually managed to only collect data on the immigrants registered for temporary stay. The persons staying in Poland, whose stay permit has expired or who stay in rented dwellings without registering their

stay, avoid statistical surveys, which makes it difficult to estimate their number. Only few immigrants participated in the full online survey. This might have stemmed from too weak popularisation of the census among immigrants, and too weak highlighting that all persons staying in Poland were subject to the census, not only Polish citizens. We should underline that the number of foreigners with the right to a permanent stay in Poland (included in the Poland's population number) was estimated correctly. Linguistic barriers are an important issue, which can prevent enumerators from effectively reaching immigrants, and especially foreigners. It is also worth noting that the sample survey form included approx. 100 questions, some of which required extensive clarifications and comments. The understanding of questions and giving a correct answer required at least a good command of the Polish language. An English form would be the only alternative. In the next census round it will be necessary to consider translating the forms into other languages.

36. Conducting the survey two-way – on the basis of registers and the sample survey – especially with respect to emigration – made it possible to assess the extent to which registers reflect the actual scale of migration. The 2011 census was an opportunity to acquaint ourselves with the content and quality of the administrative sources available in Poland. The preparation and conduction of the census, and the compilation of census results provided invaluable experience in respect of combining data from different sources, as well as dealing with certain limitations on data use. This experience will surely be used to improve the future migration surveys, both within and outside censuses.
37. The results of the census, in respect of international migration, made it possible to update our information on the condition and structure of the migrations stocks, which comprise the basis for compiling the estimates of the Polish residents staying temporarily abroad by destination countries for migrants in post-census years. It should also be noted that the aforementioned estimates, which have been compiled since 2006, are one of the key elements of the Polish international migration surveys system.