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Improvements in use of administrative data for migration statistics

Opportunities and challenges of using Statistical Population register for production of International migration statistics

Statistics Lithuania

Abstract

For the first time the 2021 Lithuanian Population and Housing Census (hereinafter referred to as Census) was conducted based on administrative sources. All data were taken from the main State Lithuanian registers and information systems. 'Signs of life' approach was used for the assessment of coverage of the census resident population.

Statistics Lithuania establishes the State Data Governance Information System intended for the management and accumulation of data of state information systems, registers and other sources, also for the provision of these data when carrying out the monitoring and analysis of the economic and social development of the State and ensuring efficient exchange of information.

To harmonise production of the Census and demographic and migrations statistics, improved data quality and comparability of population movements, the Statistical population register is developed based on the Census database and used State Data Governance Information System.

Theoretical and practical opportunities and challenges using of State Data Governance Information System and Statistical population register for production of International migration statistics will be presented.

*Prepared by Statistics Lithuania

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I.   Register-based Lithuanian Population and Housing Census

1. Statistics Lithuania has been producing statistical information using administrative sources for almost two decades. Long-term experience of using and combining data from different administrative sources as well as appropriate legal system provided the possibility for expanding the use of administrative data for Population and Housing Census (hereinafter referred to Census) purposes.

2. The move towards register-based Census was gradual and took more than a decade. Census 2001 was conducted using traditional approach and no administrative data sources were used. Census 2011 was conducted using combined approach when field work was supported by administrative data sources which were extensively used for editing purposes. The 2021 Census was conducted based on administrative sources for the first time. This was the first digitized census to be completed by the team of several employees. In order to use public funds efficiently, Statistics Lithuania rejected the traditional census method, which required high labor, financial and time costs. Lithuania has modernized the census process and used IT solutions. The developed and implemented tools allow to receive and combine administrative data from different data sources, to promptly prepare statistical indicators and publish them electronically. The Census 2021 captured a comprehensive picture of the country's population and households at the height of the COVID-19 pandemic, during quarantine.

3. In order to prepare for register-based Census 2021 two Pilot Censuses were also conducted. Pilot Census 2019 was devoted for testing IT system and Pilot Census 2020 was devoted for testing the algorithms.

4. The completeness and quality of the 34 different administrative data were analyzed, reliable and fit for Census purposes administrative data sources were identified. All data were taken from the main State registers and information systems (Population, Real Estate, Address registers, State Social Insurance Fund's (Sodra) database, etc.). Total 19 administrative sources were used for register-based Census 2021. Also possibility to incorporate new data sources are available, algorithms for the estimation of census variables will be constantly monitored and revised whenever needed.

5. 'Signs of life' approach was used for the assessment of the census resident population. The signs of life were checked in different registers at the census date and different registers had a different weigh. Some registers are more important than others and that means that participating in one register could show higher probability of residing in Lithuania while participating in other register could show smaller probability of residing in Lithuania.

6. In determining the usual resident, it was examined whether they had resided in the country for more than 12 months or arrived and intends to live for 12 months. If a person has been insured, visited a doctor, paid taxes or is found in other sources, he or she is considered to be a usual resident. If no any "signs of life" was found in administrative sources, despite the fact that his or her declared place of residence is in Lithuania, he or she is not classified as a usual resident.

7. Difficulties in preparing agreements with administrative data holders were encountered. The harmonization of data structures, the preparation of data in a harmonized format, and the harmonization of the contracts themselves took a long time. Also the fact that people do not live according to their declared place of residence has made it more difficult to determine their household and identify a family status. Further collaboration with administrative data holders are continued to receiving more data into the 'signs of life' approach.

II.   Establishment of State Data Governance Information System

8.   Establishment and creation of State Data Governance Information System was provoked by Covid-19 pandemic in 2019. The pandemic revealed the inefficiency and limitations of the use of data generated by the state, together with the general lack of competence in working with data. Decisions required day-to-day data, but available data were fragmented, inconsistent, scattered among institutions, limited possibilities for use for multiple purposes.

9.   Statistics Lithuania has taken the lead in this State Data Management area as an institution with the most experience and competence in processing and analyzing data, ensuring their quality and security. Statistics Lithuania became a central actor, demonstrating its ambition to take on a fundamentally new role as a data steward.

10.   The Government support had encouraged us make changes in the Law on Official Statistics. Under the new provisions, Statistics Lithuania became the owner and manager of the State Data Governance System. Statistics Lithuania became like an actor of two roles: we use the new system for production of official statistics, and at the same time we get the right to collect data and to produce information for other purposes.

III.   Creation of Statistical Population Register

11.   Statistical Population Register (hereinafter referred to SPR) was started to create in 2021. The establishment of SPR was influenced by number of different factors: starting from having register-based Census database, State Data Governance Information System and ending capability to involve of high-quality specialists in establishment process of SPR.

12.   Census was conducted based on administrative sources. Census database could be as the main starting point for SPR and further daily updates.

13.   Different methodology in register-based Census and in Demographic statistics caused some discrepancies in population counts. According to the results of the 2021 Census, the resident population of Lithuania amounted to 2 810,8 thousand. As compared to the information published prior according to the annual data on the population on 1 January 2021, the population number was 15 thousand or 1% higher. While the difference in total population is not so big, in some small areas those differences are quite significant. The Census and population statistics is necessary to harmonize.

14.   In order to carry out the future Census annually, it is necessary to have a constantly renewed database.

15.   To satisfied national and European user needs for produce more frequent, more detailed and relevant statistics, we need to achieve better quality of statistics. We need to understand the persons' movements, changes on personal level.

16.   The idea to use SPR for additional purposes: for relevant permanent population frame for sampling, for experimental statistics, for usage in different statistical surveys and other purposes.

17.   SPR is updated daily using vital events, persons declaration of changes of residents, marriage, divorces updated from Population Register, data from other administrative sources. The goal to create the main person's demographic and socio-economic characteristics. SPR is under development.

IV.   Opportunities for Production of International migration statistics

18. State Data Government Information System could help to satisfied Government and user needs to produce the operational daily data about illegal migrants, War refugees from Ukraine. The internal and external daily dashboards, maps were created.

19. From year 2021 Production of International migration statistics is based on SPR. 'Signs of life' approach was used for the assessment number of emigrants and immigrants, internal migrants.

20. Demographic and socio-economic characteristics of persons which are/will be constructed in SPR, are going to use for production of different breakdown of migrants.

V.   Conclusions

21. With using State Data Government Information System and Statistical Population Register we can satisfy national and European user needs to produce operational, monthly, annual, more details International migration statistics.

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