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Transformations in population statistics

The Future of the Population Census and Demographic Statistics in Russia

Note by the Russian Federation*

Summary

The Russian Federation is currently preparing for the next 2030 census round. Based on the first digital population census conducted in 2021 and the prototype of the Statistical Population Register created by Rosstat on its basis, the new census will undergo even greater transformations. Distinctive features will be the use of the population register, pre-filling census forms with administrative data, supplementing census questionnaires with the data from online self-reporting.

At the same time, the focus is on improving the interoperability and integration of the results of social statistical surveys with census data. Big data and artificial intelligence are also considered for census data processing as tools to improve census data quality.

The preparation of the 2030 census will result in a transition to a registry model and a six-fold increase in the share of population data retrieved from registers. This will decrease the respondent burden of the population, increase the satisfaction of data users, and create the potential for reducing costs and speeding up the census process in Russia in the future.

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I. Introduction

1. Statistics are at the peak of changes taking place in society. On the one hand, the completeness and accuracy of statistical data on the population that we collect using traditional statistical methods and tools are influenced by sentiments, traditions, and the institutional dimension of a changing society. On the other hand, it is statistics that are requested by the state to provide data reflecting the changes taking place in society in figures.
2. It becomes obvious that a serious transformation of the very approaches to statistics in general and to one of its conservative areas — population statistics — is overdue. This transformation is profound, and therefore, it cannot be quick. However, it should be started now.

II. Prerequisites for changes in population statistics

3. Population statistics in the present and in near future can no longer adhere to traditional methodological and technological tools that have been used for decades. This is evidenced by the following factors that influence both respondents and statistical services.
4. Digitalization of all spheres of society simplifies and accelerates interaction with the key object of study of demographic statistics: the population. There is a transition to a distant format of interaction between statisticians and respondents; the established methods of collecting primary statistical data through censuses and population surveys change; and this affects the correctness of the population record methodology sometimes.
5. There is an increase in the number and types of resources that store information about the population; they are used by government agencies to address social issues, and they are used by businesses to provide services to the population. These are all kinds of registers of residents and households: e.g., large families, indigenous minority peoples, beneficiaries of benefits and subsidies, users of kicksharing (renting personal mobility equipment), etc. They partially duplicate each other, but each register is maintained to address the tasks of a particular department or organization. It is also big data on the population generated in the process of the activities of companies interacting with residents of the country and its regions (providers of mobile communications, transport services, medicines, etc.). Most of these resources accumulate and store large amounts of information about statistical respondents, but data relevance and completeness depend on the purpose of these resources. It is impossible to build methodologically pure demographic statistics on their basis. The Universal Population Register is the only resource that is most adequate to statistical objectives, and it has been gathering momentum as a population data source in many countries.
6. Acceleration of interaction between all actors of public administration leads to a shorter time between goal setting by the authorities and comprehensive analytics of the processes and phenomena expecting managerial decision-making. Given that many socio-demographic phenomena are recorded only by censuses and population surveys, it is obvious that a decade cycle between censuses and the 1-2 year period to publish census results no longer satisfy the users of statistics.

III. Traditional advantages of the population census

7. Based on the fundamental advantages of census data, it is necessary to identify modalities for collecting, storing, updating and interpreting population data that will ensure the same quality and credibility as in the case of traditional censuses, but will be recognized as modern amid today's digital challenges.
8. The key advantage of the census is its 100% coverage of all residents in the country, including hard-to-reach populations. Practitioners know that it is impossible to get information from each respondent directly, but the entire organizational, technological and methodological infrastructure of the universal census is aimed at getting as close as possible to this.
9. The opportunity to receive information from the respondent during the census, which is not available in other resources and which is known only to the respondent, makes the census results a unique source of knowledge about the population. In addition, it is important for respondents to be able to declare themselves to the state during the census, at least once every decade.
10. The most important thing that the census provides is a multidimensional resource that includes information about a person, household and dwelling at the same time, as a result of which it is possible to build a variety of combinations of demographic and socio-economic characteristics for any territory at the macro- and micro-levels.
11. However, the census is traditionally criticized for the discrepancy between the number of the permanently residing population counted by the census and various records in municipalities (which include the categories of the population counted by the census as residents of another territory), the lack of understanding of why there is deviation in the number of the population between the current census data and the recorded population data, and why this deviation has been accumulating over the past decade, and dissatisfaction with the lack of the updated unique population data in the intercensal period. Naturally, all these shortcomings can be explained by the census methodology, and statisticians regularly refer to the methodology when responding to census data users. However, when building a new demographic accounting system, it is worth trying to level out these and other shortcomings known to statisticians.

IV. Ways to update demographic statistics

12. The transformation of demographic statistics should radically change approaches to the population census. In doing so, the census will evolve from a "Snapshot of Society," as we have called it for the past 50 years, to a "Dynamic Model of Society." This means that the digital profile of each person, based on the data of the population register and supplemented by all available population data resources, should be "living": available for daily updating by the person him/herself and verified by statisticians.
13. At the same time, demographic statistics as a sector will inevitably turn from an applied field of activity for collecting and processing population data into an integrator of the activities of all actors in the social sphere, merging, verifying, supplementing and summarizing their disparate data resources. At the same time, the results of the population census and current

demographic registration will be a kind of "side effect" of constantly maintaining a digital profile of each resident of the country and its visitor, and not the goal of statistics in themselves.

14. The dynamic model will not only make it possible to take a snapshot of data on the state of society based on its characteristics (and any combination of them) at any required point in time, but also to quickly expand the model with new characteristics whenever the state requires new socio-demographic data. At the same time, there is also an option to follow the tradition of population censuses and request data from the respondent.

15. To implement the proposed changes, statisticians will have to gradually carry out many infrastructural changes both in the state regulation of statistical activities and in the structure and ideology of the national statistical service. It is necessary to formulate new methodological concepts for population registration categories: the changes will impact such concepts as "permanent place of residence," "migrant," and "household." It will be necessary to change the profile of statisticians; they should be not only and not so much economists, but also IT professionals and data analysts: specialists who have been engaged as third-party contractors by statisticians for a long time.

16. It is important to understand that the designated pathway is long and resource-intensive. Each new step in creating a dynamic model of society should be tested repeatedly and in many ways until reliable results recognized by experts and users are obtained. This will take at least a decade, during which this new model should be built concurrently with using the existing model that currently provides reliable data both for ongoing statistical activities and for benchmarking with the results of new developments.

V. Conclusions

17. The presented vision of changes in demographic statistics will obviously face a lot of implementation obstacles. First, this is the lack of the necessary resources — financial, intellectual, and technological — in the statistical service today. However, without such changes, statistics will not be able to integrate into the new globally emerging digital reality.

18. Combining the efforts of the international statistical community through the exchange of the best transformation practices will help convince national authorities of the correctness and inevitability of such a development pathway. It is paramount not to succumb to the temptation of beautiful promises of rapid change, to realistically assess challenges and risks, and to start investing today in capacity building of the current and future statisticians for them to have a new vision of demographic statistics.