Population Census 2030 – new ground for the social and demographic analysis

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60 years - 2027

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I.Population censuses – user's point of view: important, rare, no room for error in the era of new technologies and new phenomena

The Census remains an irreplaceable and one of the most important sources information about the population in the data source system.

Censuses are conducted very rarely (3-4 times during the career of a long-serving scientist). There is no room for errors, which can be corrected by preliminary work to prepare the census.

Every census requires careful data analysis and the coordination of all participants in the process. The future development of the scientific field may depend on the census results.

II. New technological and methodological potential possibilities

Population censuses in the future:

1. Internet technologies (incl. AI, LMM, GAI) in collecting and processing information

2. New data (geodata, networks, other big data) when collecting and processing information

3. Administrative data (registers, cloud storage, etc.) in collecting and processing information.

Photo by:Joseph ChanonUnsplash

1/II Population censuses in the future will definitely take place with the increasing use of Internet technologies (incl. AI, LMM, GAI) in collecting and processing information

Possibilities

1) timeliness and speed of data collection and processing,

2) possibility of using a number of alternative data simultaneously (verification, new knowledge),

3) growth of independent participation of the population,

4) significant budget savings

Challenges

1) there are no established protocols for the use of Internet technologies in population and household censuses,

2) there is no decision on accepting incomplete questionnaires in online surveys and no decision on questions that do not require answers,

3) protection of personal data,

4) even less experience in using Internet technology in data processing

5) artificial intelligence hallucinations, mistakes, biases, semantic approaches (80% accuracy)

2/II Population censuses in the future will definitely take place with the increasing use of new data (geodata, networks, other big data) in collecting and processing information

Possibilities

1) additional knowledge about the population, previously unused variables,
2) verification and supplementation of traditional census data (current population, etc.),
3) expansion of the high-frequency pool of microdata suitable for the analysis of the general population or its part (including special population groups, small territories, etc.) while improving the quality of data in the process of data harmonization and work on the comparability of different sources of information, as well as in solving data structuring problems

Challenges

1) there is no 100% coverage of the population by digital traces,
2) the biases are unclear – the different coverage of digital traces by different population groups,
3) the problems of access to different data by different types of users have not been resolved,
4) protection of personal data during collection, storage and processing of data,
5) issues of classification and structuring of data of this type,
6) issues of storing this type of data

3/II Population censuses in the future will definitely take place with an increase in the use of administrative data (registers, cloud storage, etc.) in collecting and processing information

Possibilities

1) speed,

2) verification,

3) expansion of the high-frequency pool of microdata suitable for population analysis while improving data quality through data harmonization and work on the comparability of different sources of information

Challenges

1) there is no technology described and available to the public (scientists) for combining data from different sources and harmonizing data from a common pool,

2) There are no public methodological recommendations for ranking the reliability of data from different sources and describing their capabilities and limitations for each source,

3) there is no discussion of the limits of the use of administrative data in accordance with the quality of the data itself, the availability of variables needed for the census, and their coverage of the general population

III New socio-demographic phenomena that need to be reflected in the new round of censuses for analysis purposes

1) Changing Marriage and Reproductive Attitudes
2) Increased territorial mobility of the population
3) Transforming educational strategies across the lifespan
4) Changing forms of employment
5) Growing interest in family-work balance
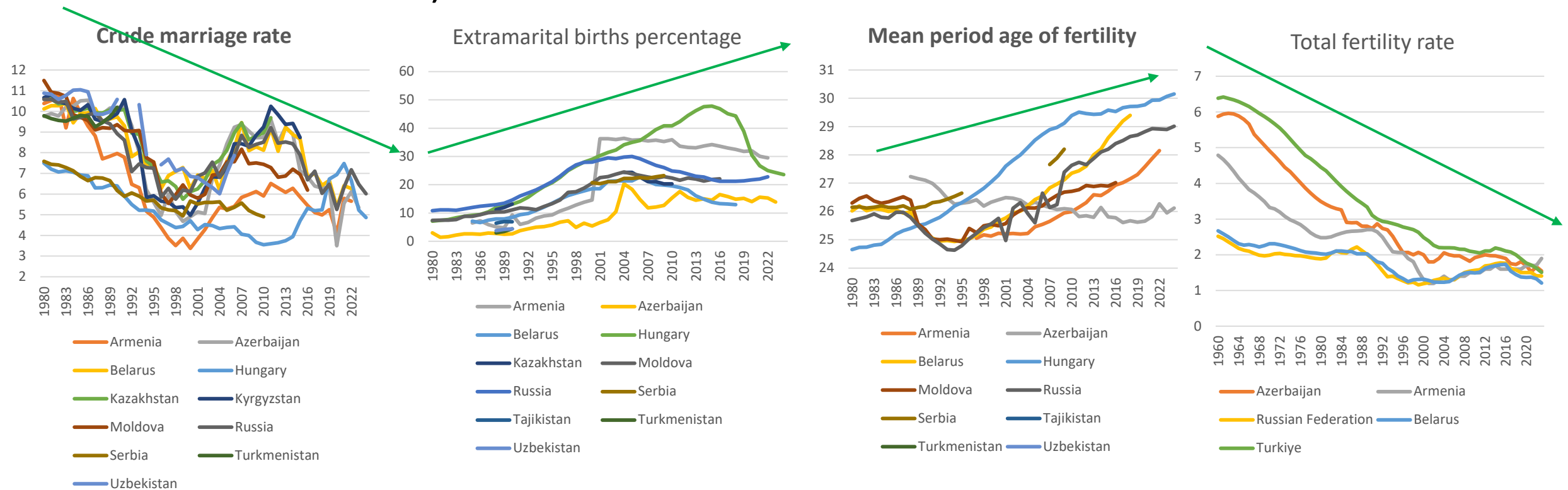6) Significant change in household structure

Photo by:Scott EvansonUnsplash

Issues for the 2030 censuses

1/III Changing Marriage and Reproductive Attitudes

An increasing number of countries (including in the CIS region) are or will be interested in the issue of declining birth rates. The diversity of marriage and partnership forms is growing (even taking into account the renaissance of traditional values).
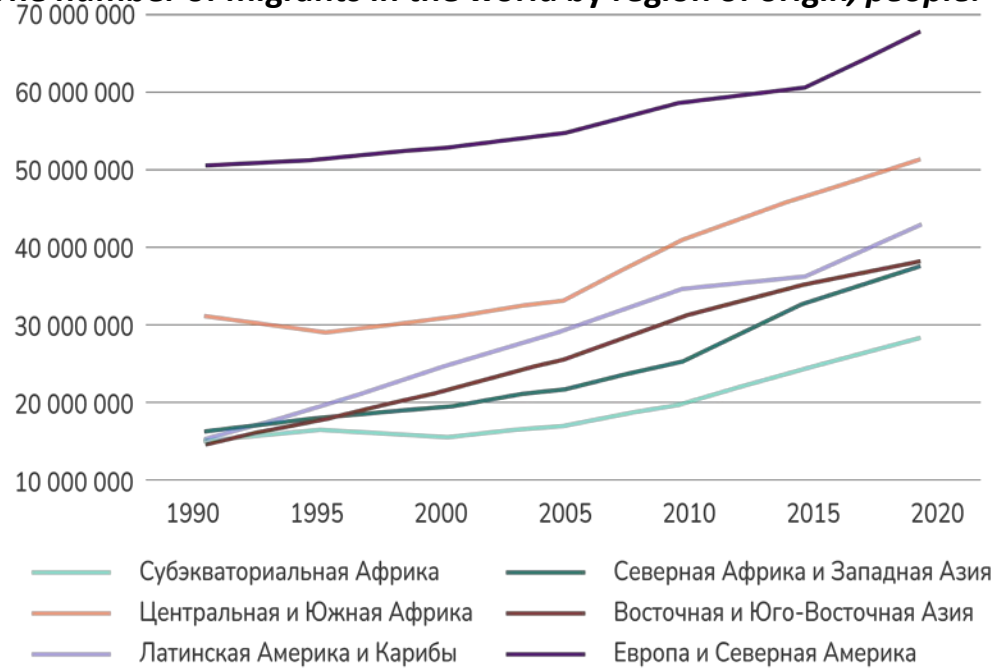

Crude marriage rate

Extramarital births percentage

Mean period age of fertility

Total fertility rate

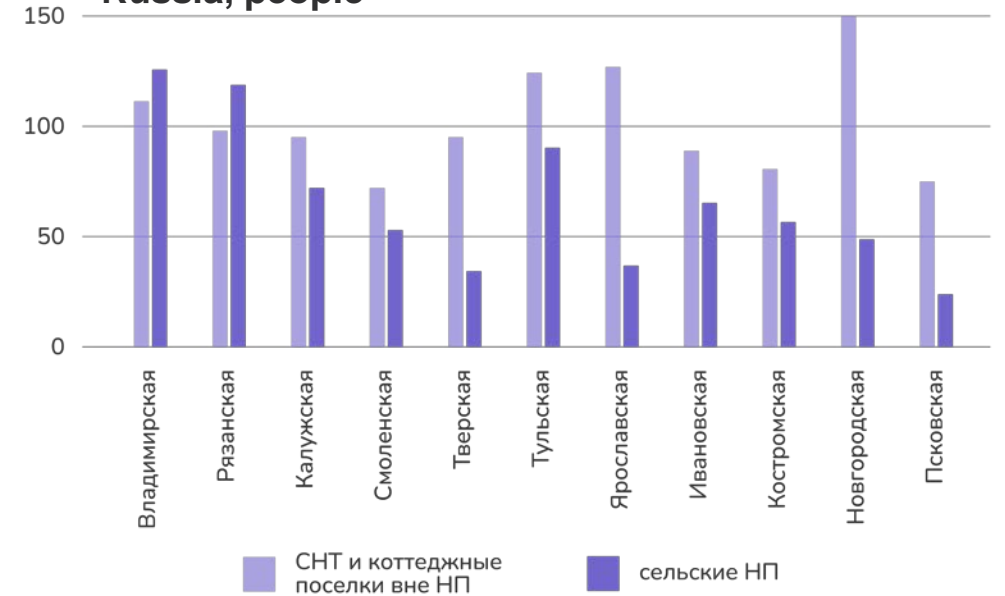Expanding questions about marital and reproductive history and <u>plans</u>, including for men

2/III Increased territorial mobility of the population

Growing territorial mobility of the population. State strategies for labour migration in the CIS. The issue of permanent residence

The number of migrants in the world by region of origin, *people.*

- Субэкваториальная Африка
- Центральная и Южная Африка
- Латинская Америка и Карибы
- Северная Африка и Западная Азия
- Восточная и Юго-Восточная Азия
- Европа и Северная Америка

Average summer population in dacha and gardening communities and cottage villages outside populated areas and in rural settlements, Non-Black Earth Region of Russia, people

- СНТ и коттеджные поселки вне НП
- сельские НП

Expanding on questions about internal and external population mobility (permanent population). What do we know about living «in two homes»?

3/III Transforming educational strategies throughout life

Transformation of educational strategies throughout life (lifelong education)

The Global e-learning **Market Size**

278 ($Bn) — 2023

462.6 ($Bn) — 2027

amber

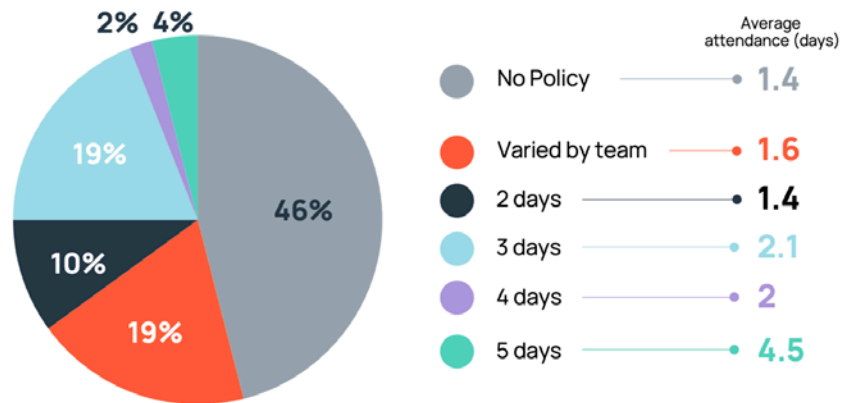Source : Business Research Company

Expanding the questions about the population's participation in improving education throughout life (second vocational, second higher education, etc.).

4/III Changes in forms of employment

The growth of remote and platform employment, experiments in self-employment (Russia), individual entrepreneurship, and family (farm) entrepreneurship.
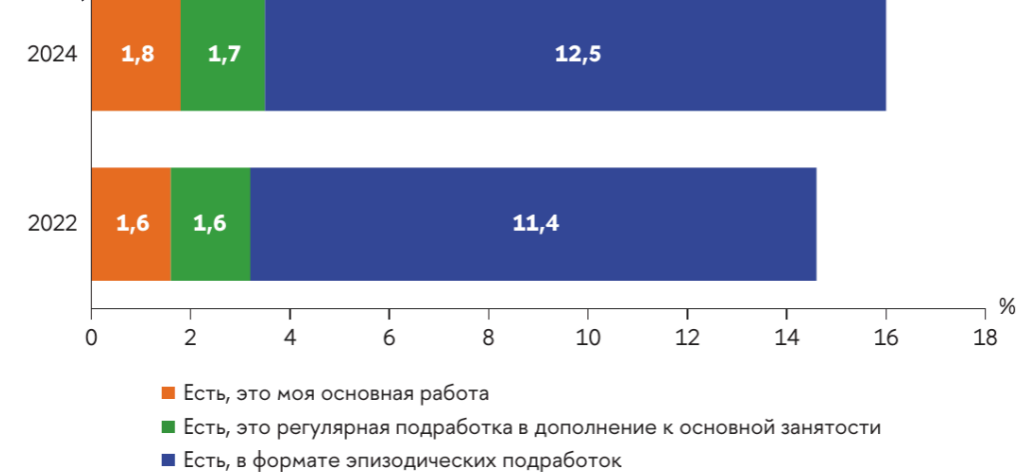
2023, 22 countries

Hybrid Working Policy by office

	Average attendance (days)
No Policy	1.4
Varied by team	1.6
2 days	1.4
3 days	2.1
4 days	2
5 days	4.5

2% 4%
19%
46%
10%
19%

https://www.advanced-workplace.com/wp-content/uploads/2023/08/AWA-Hybrid-Working-Index-3-Report.pdf

Russia
The proportion of respondents involved in platform employment in different formats, 2022 and 2024, %

2024: 1,8 | 1,7 | 12,5
2022: 1,6 | 1,6 | 11,4

%
0 2 4 6 8 10 12 14 16 18

■ Есть, это моя основная работа
■ Есть, это регулярная подработка в дополнение к основной занятости
■ Есть, в формате эпизодических подработок
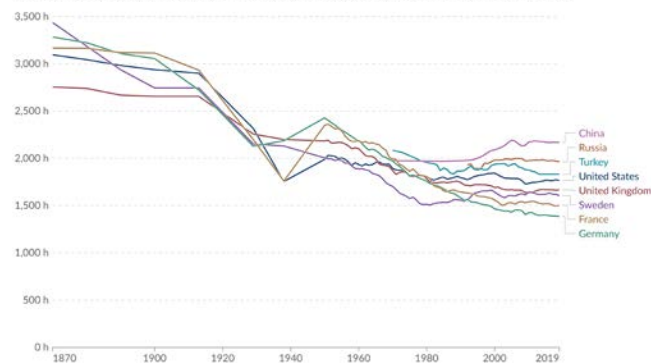
https://publications.hse.ru/books/936765274

Questions about the job place – exists in world practice

5/III New socio-demographic phenomena that need to be reflected in the new round of censuses for analysis purposes

Growing interest in family-work balance among younger generations and trends toward increasing diversity in employment patterns, decreasing workloads in hours and days, etc. Simultaneously, there is an aging population, declining birth rates, and an increasing "price" of caregiving time.

Annual working hours per worker

Before 1950, the data comes only from full-time production workers (non-agricultural activities). Starting in 1950, estimates cover total hours worked in the economy as measured primarily from national accounts data.

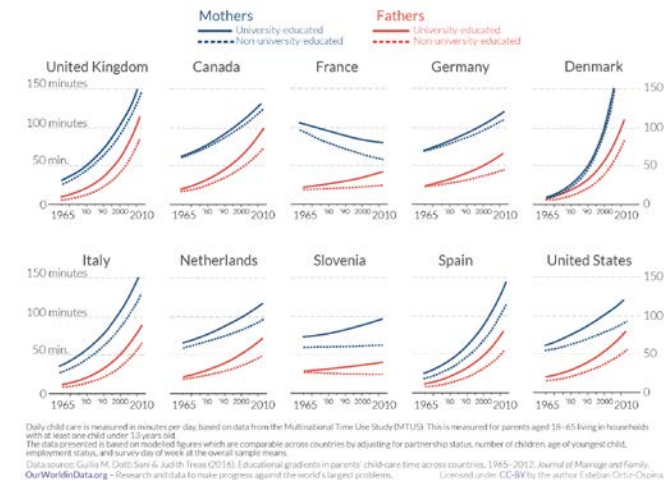Data source: Feenstra et al. – Penn World Table (2023); Huberman and Minns (2005) — OurWorldinData.org/working-hours | CC BY

Value of Unpaid Work as a Percentage of GDP by Women and Men, US$PPP 2011

COUNTRY	WOMEN	MEN
ALBANIA	7.2	1.2
ARMENIA	9.3	1.6
KAZAKHSTAN	1.8	0.7
KYRGYZSTAN	1.5	0.6
SERBIA	10.5	4.9
TURKEY	10.6	2.7

Source: ILO (2018: 50)

How much time do parents spend with their children per day? This includes washing, feeding and preparing food, putting to bed, supervising and playing with children.
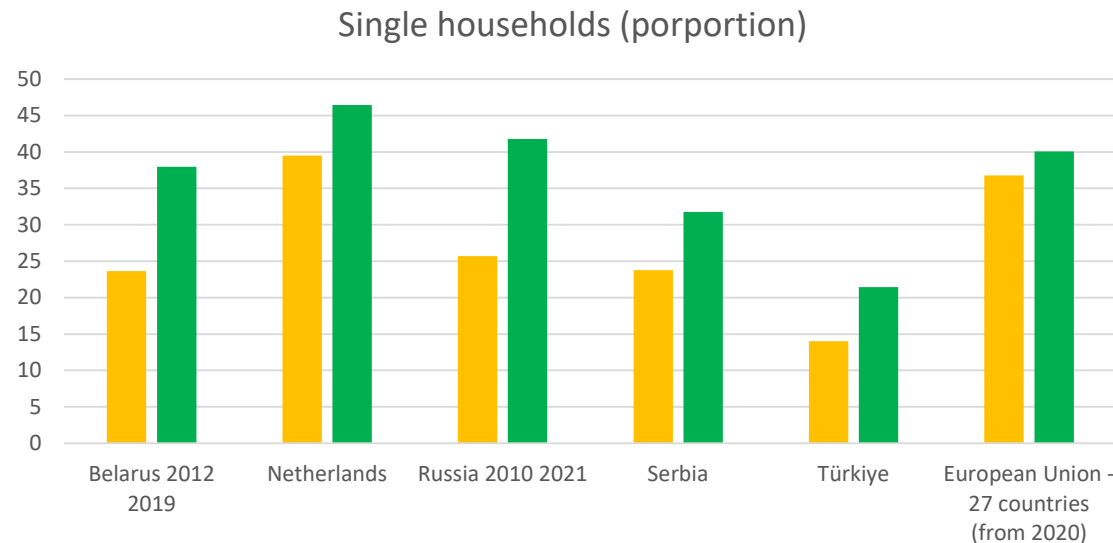
The emergence of questions about working hours– exists in world practice.

The emergence of questions about care hours – not yet in the world practice of conducting censuses

6/III Significant change in the structure of households

A significant change in household structure, with an increase in the number of people living alone. We don't see transfers of money and time between related households and relatives living separately but sharing budgets of money (and time).

Single households (porportion)

In 2024, 202 million households resided in the EU, of which over 75 million were single adults without children.
The number of single-person households without children in the EU increased between 2015 and 2024 by 16.9% compared to 5.8% for all households.

A complex issue. A revision of the household accounting principle?

Or additional questions about the presence of related households with whom transfers are exchanged beyond a certain threshold (extended families)

IV. To reduce possible errors when conducting the 2030 censuses in new conditions against and data processing: the role of exchange of experience and joint research

1) regular discussions about new opportunities and challenges, exchange of experiences on specific «small steps»

2) an open and detailed analysis of previous mistakes in 2020 and earlier and planned problems in 2030

3) test censuses, tests on individual new procedures, development of standards for the implementation of innovations,

4) conducting a survey of the population on the reasons for not completing individual questions and for not participating in the census in general,

5) extensive programs to increase public confidence and participation in the 2030 census,

6) detailed description of the collection and processing methodology, nature of the data for the public (what administrative data? how were they linked to the census? …)

World cloud – the dream of user