EUROPEAN DEMOGRAPHIC DATASHEET 2022 **www.populationeurope.org**

DEFINITIONS, SOURCES, NOTES and CREDITS

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For a detailed list of data sources, references and notes, see the file:
        EDS2022_MAIN_TABLE_SOURCES_NOTES.xlsx

DEFINITIONS AND SOURCES

Population – Total population of a given country or region as of 1st January 2021, resp. 1st January 2000, in millions. For most countries this count represents the legal resident population in the country, including foreign citizens with a residence permit. Source: EUROSTAT[1] (in several cases, the figure was taken from the official publications of NSO[2], and also from Census 2021 results[3]).

Total population change – The total population growth or decline between 2000 and 2021, related to the population size in 2000, in %.

Natural population change – The difference between the number of live births and deaths, in 2000 to 2021, related to population size in 2000.

Net migration – The difference between the number of immigrants and emigrants, in 2000 to 2021, related to population size in 2000. The indicator is estimated as the difference between total population increase and natural increase.

Proportion of foreign-born population – Share of population born abroad and resident in the country in 2021 or 2020 among all population, in %. Source: EUROSTAT; United Nations International migrant stock data[4].

Old-age dependency ratio – The old-age dependency ratio relates the number of elderly people (defined as those aged 65 and above) to the number of people of working age (aged 20–64). Source: EUROSTAT, NSO.

Projected population SSP2 – Projected population in 2060 based on Wittgenstein Centre (2018) projection[5] using assumptions of a medium scenario that can also be seen as the most likely path for each country from today's perspective. It combines for all countries medium fertility with medium mortality, medium migration, and the Global Education Trend (GET) scenarios. Source: Wittgenstein Centre Data Explorer[6].

Projected population SSP2 – Zero migration – Projected population in 2060 based on Wittgenstein Centre projection using assumptions of a medium scenario (medium

[1] EUROSTAT Database, European Commission 2022. https://ec.europa.eu/eurostat/data/database

[2] NSO: National statistical organisation.

[3] Bulgaria, Croatia, Czechia, North Macedonia, and Poland.

[4] United Nations Population Division. International Migrant Stock 2020. https://www.un.org/development/desa/pd/content/international-migrant-stock

[5] Lutz W., Goujon A., KC S., Stonawski M., Stilianakis N. 2018. Demographic and Human Capital Scenarios for the 21st Century: 2018 assessment for 201 countries. Publications Office of the European Union. https://ec.europa.eu/jrc/en/publication/demographic-and-human-capital-scenarios-21st-century-2018-assessment-201-countries

[6] Wittgenstein Centre for Demography and Global Human Capital. 2022. Wittgenstein Centre Data Explorer Version 2.0. http://dataexplorer.wittgensteincentre.org/wcde-v2/

fertility, medium mortality, Global Education Trend (GET) education scenario) combined with zero migration flows. Source: Wittgenstein Centre Data Explorer.

Projected change in working age population (%) – Based on projected population in 2060 based on Wittgenstein Centre projection, SSP2. Proportion of working age population (ages 20–64). Source: Wittgenstein Centre Data Explorer.

Projected change in working age population – Zero migration (%) – Based on projected population in 2060 based on Wittgenstein Centre projection, zero migration. Proportion of working age population (ages 20–64). Source: Wittgenstein Centre Data Explorer.

Total fertility rate (TFR) – The average number of children that would be born alive to a woman during her lifetime, if age-specific fertility rates of a given year remained constant during her childbearing years. It is computed as the sum of fertility rates by age across all childbearing ages in 2020. Source: EUROSTAT, HFD[7], NSO, RFMD[8], and UN WPP[9].

Change in TFR – Change in total fertility rate between 2010 and 2020. Source: identical as for the TFR.

Tempo and parity adjusted TFR – Alternative indicators to the period TFR have been developed to provide a more accurate measure of the mean number of children per woman in a calendar year, which is not affected by changes in the timing of births. This datasheet features Tempo and Parity-adjusted Total Fertility (TFRp*; Bongaarts and Sobotka 2012)[10], which is based on age- and parity-specific fertility rates as well as changes in mean ages at birth. When available, TFRp* is shown for 2018. For countries lacking the required data, the datasheet displays Tempo-adjusted TFR (TFR-BF) proposed by Bongaarts and Feeney in (1998)[11], averaged over the 3-year period of 2017–2019. For more details and references see the box on Tempo effect. For details on computation method and sources for individual countries see the file
EDS2022_MAIN_TABLE_SOURCES_NOTES.xlsx

Mean age at first birth – The mean age of women at the birth of their first child (in years), computed from age-specific fertility rates of first birth order in 2020. Source: EUROSTAT, HFD, NSO, HFC[12].

Completed cohort fertility – The average number of children born alive to women born in the same year (i.e., a birth cohort) during their reproductive lives. Unlike the TFR, which is a hypothetical period indicator, completed fertility represents a measure of actual family size and is known only for women who have completed their childbearing. In this datasheet we show completed fertility of women born in 1980, who reached age 40 in 2020 (i.e., the most recent year for which fertility data were available for most countries at the time the datasheet was prepared).

[7] HFD: Human Fertility Database. Max Planck Institute for Demographic Research and Vienna Institute of Demography. http://www.humanfertility.org/

[8] RFMD: Russian Fertility and Mortality Database. Center for Demographic Research, Moscow. http://demogr.nes.ru/index.php/ru/demogr_indicat/data

[9] UN WPP: United Nations, Department of Economic and Social Affairs, Population Division. 2019. World Population Prospects 2019, Online Edition. Rev. 1. https://population.un.org/wpp/

[10] Bongaarts, J. and Sobotka, T. 2012. A demographic explanation for the recent rise in European fertility. *Population and Development Review* 38(1): 83–120.

[11] Bongaarts, J. and Feeney, G. 1998. On the quantum and tempo of fertility. *Population and Development Review* 24(2): 271–291.

[12] HFC: Human Fertility Collection. Max Planck Institute for Demographic Research and Vienna Institute of Demography. http://www.fertilitydata.org/

As only a small proportion of births take place among women past age 40 (3.0% in the EU in 2020), it is possible to estimate the completed fertility rate for these women with a great accuracy, using the most recent available data for 2020 as an estimate of their childbearing at ages 41 and older. Source: HFD, HFC.

Cohort childlessness – Proportion of women remaining permanently childless, in %. The values show the estimated share of childless women among women born in 1980. Source: HFD, HFC, NSO, German Microcensus[13], and for France Koeppen et al. (2017)[14].

Life expectancy at birth – Life expectancy at birth is the average number of years a newborn, born in 2020, would live if current age- and sex-specific mortality rates were to continue. Source: EUROSTAT, NSO, Heuveline et al. (2022)[15], Aburto et al. (2022)[16].

Change in life expectancy – Change in life expectancy in years between 2019 and 2020. Source: EUROSTAT, NSO, Heuveline et al. (2022), Aburto et al. (2022).

Change in number of births – relative change in the number of births between 2020 and 2021 (related to the number in 2020, in %). Source: various sources, mainly NSO, and STFF[17].

Change in number of deaths – relative change in the number of deaths between 2019 and 2020, and 2019 and 2021 (related to the number in 2019, in %). Source: various sources, mainly NSO, and STMF[18].

Natural population change – difference between number of births, and number of deaths, in 2021, related to population (per thousand). Source: identical as for change in number of births, and deaths.

Human capital compensation relative to global average – The indicator shows how well the European countries fare in offsetting the effect of declining fertility through health and education investments compared to global average. All European countries except for Portugal are above the global level. This means they are better able to compensate falling fertility by education and health investments than countries in other regions of the world. See box on Human capital for further details. Source: Siskova et al. (2022)[19].

[13] Microcensus. Research Data Centre of the Federal Statistical Office. https://www.forschungsdatenzentrum.de/en/household/microcensus

[14] Köppen, K., Mazuy, M., Toulemon, L. 2017. Childlessness in France. In: Kreyenfeld, M., Konietzka, D. (eds) Childlessness in Europe: Contexts, Causes, and Consequences. Demographic Research Monographs. Springer, Cham. https://doi.org/10.1007/978-3-319-44667-7_4

[15] Heuveline, P. 2022. Global and National Declines in Life Expectancy: An End-of-2021 Assessment. Population and Development Review 48(1): 31–50. https://onlinelibrary.wiley.com/doi/full/10.1111/padr.12477

[16] Aburto, J. M., Schöley, J., Kashnitsky, I., Zhang, L., Rahal, C., Missov, T. I., ... & Kashyap, R. 2022. Quantifying impacts of the COVID-19 pandemic through life-expectancy losses: a population-level study of 29 countries. International journal of epidemiology 51(1): 63–74.

[17] STFF: Short Term Fertility Fluctuations. 2022. Human Fertility Database. Max Planck Institute for Demographic Research (Germany) and Vienna Institute of Demography (Austria). https://www.humanfertility.org/cgi-bin/stff.php

[18] STMF: Short Term Mortality Fluctuations. 2022. Human Mortality Database. University of California, Berkeley (USA), and Max Planck Institute for Demographic Research (Germany). https://www.mortality.org/

[19] Siskova, M., Kuhn, M., Prettner, K. and Prskawetz, A. 2022. Does human capital compensate for depopulation? Vienna Institute of Demography Working Papers 02/2022.

NOTES

The Datasheet does not cover European countries with population below 100 thousand (Andorra, Liechtenstein, Monaco, San Marino, and Vatican).

Data for Azerbaijan, Cyprus, Georgia, Moldova, and Ukraine exclude territories that are not under government control.

Definition of regions takes into account geographical, historical and geopolitical divisions, as well as similarity in demographic trends. Countries are grouped into regions as follows:

- Nordic countries (Denmark, Finland, Iceland, Norway, Sweden)
- Western Europe (Belgium, France, Ireland, Luxembourg, Netherlands, United Kingdom)
- Germany, Austria, Switzerland
- Southern Europe (Cyprus, Greece, Italy, Malta, Portugal, Spain)
- Central-Eastern Europe (Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia)
- South-Eastern Europe (Albania, Bosnia and Herzegovina, Bulgaria, Kosovo, North Macedonia, Montenegro, Romania, Serbia)
- Eastern Europe (Belarus, Moldova, Russia, Ukraine)
- Caucasus (Armenia, Azerbaijan, Georgia)

Turkey is not included in any region.

Indicators for regions are computed as population weighted averages.

European Union refers to the current territory of 27 member states.

CREDITS

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