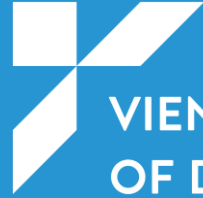




Wittgenstein Centre

FOR DEMOGRAPHY AND
GLOBAL HUMAN CAPITAL



VIENNA INSTITUTE
OF DEMOGRAPHY

Should nations with more deaths than births do more to encourage childbearing?

(Background)

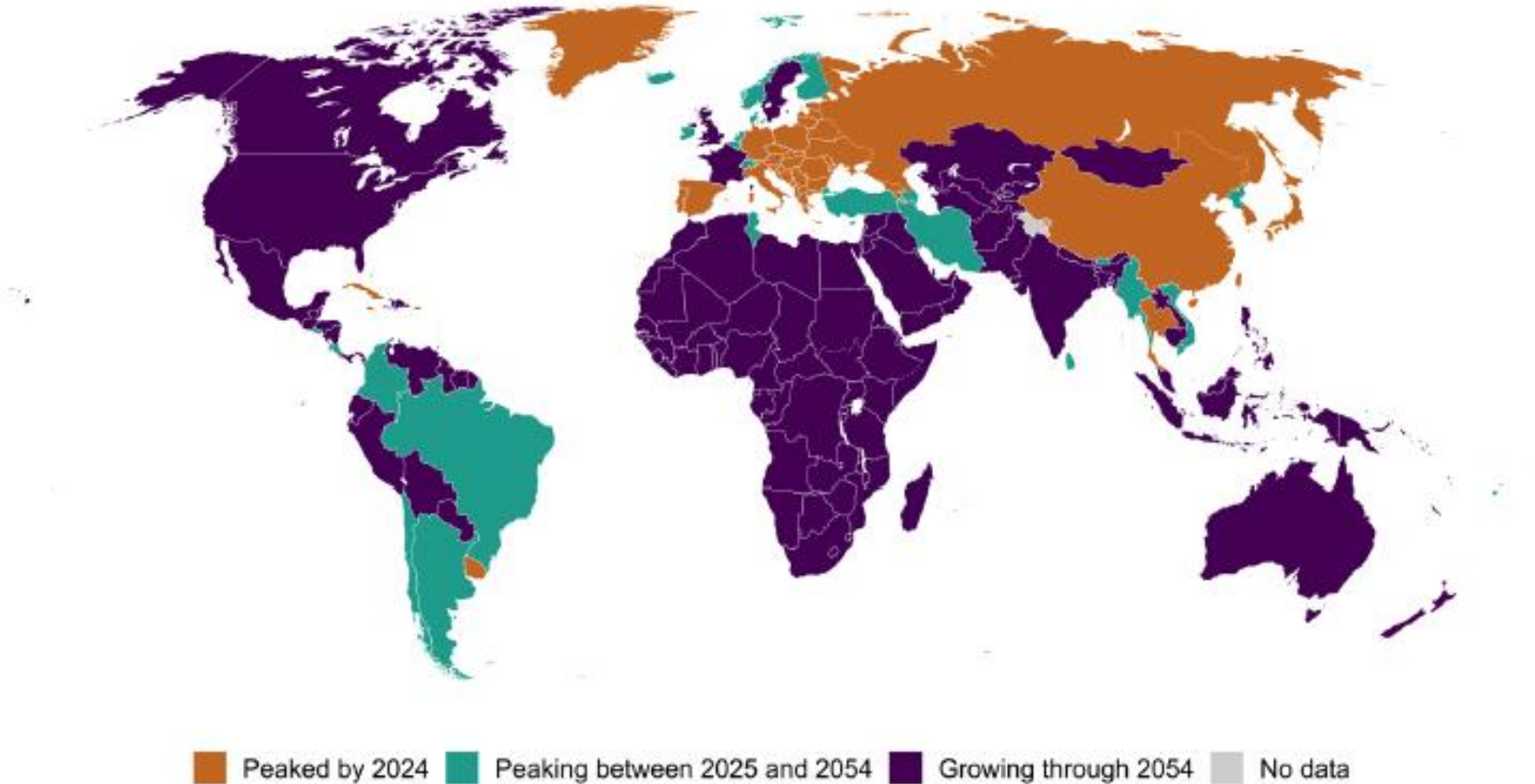
Tomáš Sobotka

Vienna Institute of Demography, Austrian Academy of Sciences (Wittgenstein Centre for Demography and Global Human Capital)

Population decline is increasingly common

Map 1.1

Countries and areas by timing of the observed or projected population peak

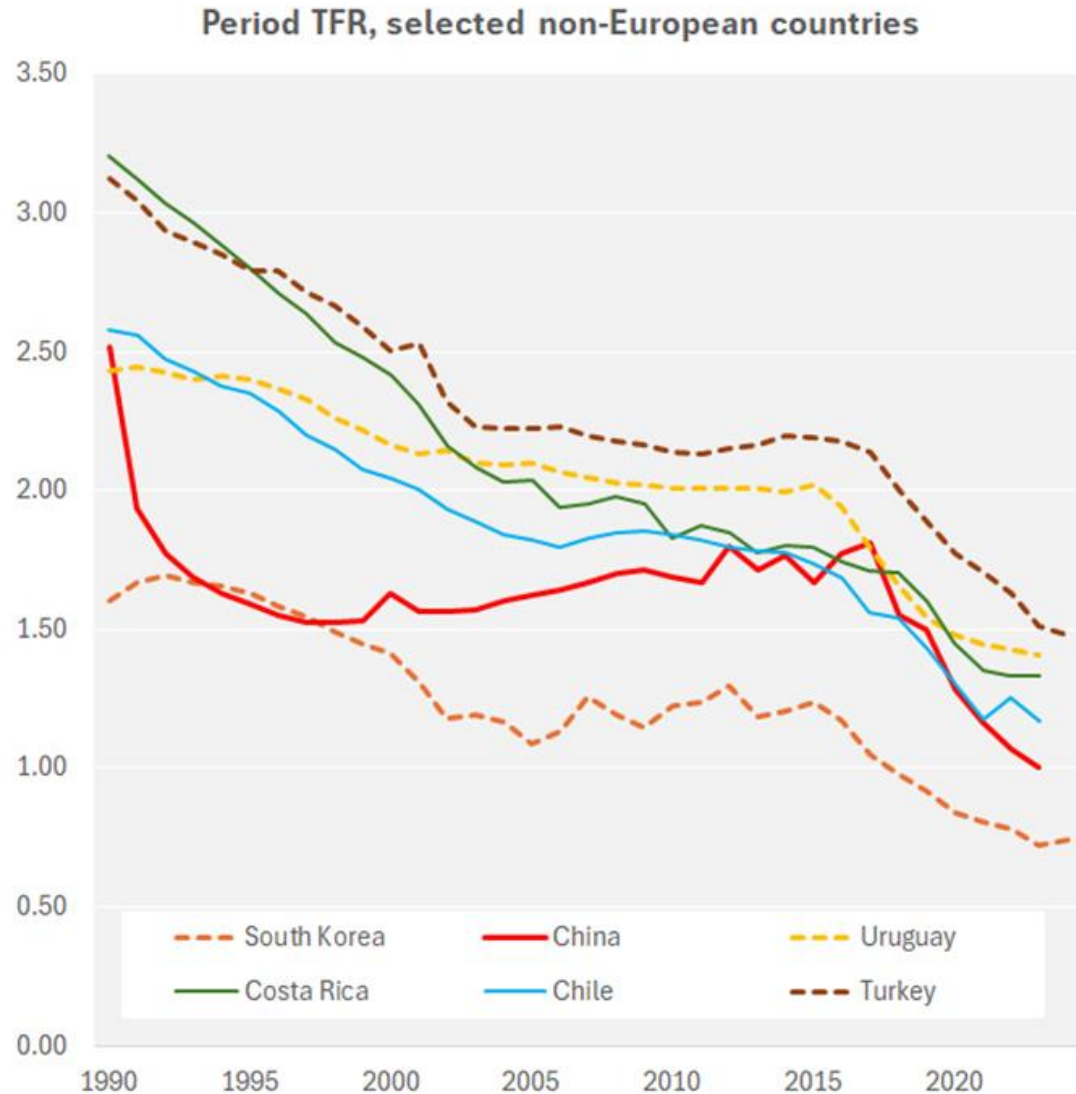


63 countries, 28% global population in 2024

- Some European countries experiencing more deaths than births in the 1970s (Austria, Germany) and 1980s (Hungary since 1981; Denmark)
- *Central & Eastern Europe: 1990s, East Asia: 2010s and 2020s* (Japan 2015, South Korea 2019, China 2021, Thailand 2022)
- Conflicts, crises, and pandemics (COVID-19) can accelerate the shift to population decline

Source: UN World Population Prospects 2024: *Summary of results*

Low, very low fertility, extreme low fertility: rapid shifts, large variation



Surprising sudden drops to low and very low TFR levels after 2010 (selected countries)

Source: UN World Population Prospect 2024, Human Fertility Database, national statistical offices

25% of global population in countries with a TFR of 1.3

- Long history of low and very low fertility
- Vienna had a TFR of 0,61 in 1934 (Gisser et al. 1975)
- Large variation in low fertility today
- Huge instability in period TFR: swings and drops, also fuelled by crises, shocks & pessimistic views of the future
- East Asia as an epicentre of the “ultra-low fertility”
- Drops partly fuelled by birth “postponement” (*tempo effect*)

Worries about unfolding population crash & baby bust

South Korea's Population Collapse Is Set To Deepen

Nov 30, 2023 at 3:03 AM EST

ADVERTISING



China's population Economy / China Economy

China's demographic alarms blare as births hit historic low and population shrinks again

With Beijing having accelerated family-support policies and childcare subsidies, analysts warn that structural reforms are vital to arrest the deepening slide

Reading Time: 3 minutes

Listen Make SCMP preferred on Google



POLITICS - RUSSIA

Russia's population is in a historic decline as emigration, war and a plunging birth rate form a 'perfect storm'

BY BLOOMBERG

October 18, 2022 at 11:50 AM GMT+2



South China Morning Post



For family and country: why China needs more babies

ERS® World Business Markets Sustainability Legal Breakingviews Technology Investiga

Asia Pacific More

It's 'now or never' to stop Japan's shrinking population, PM says

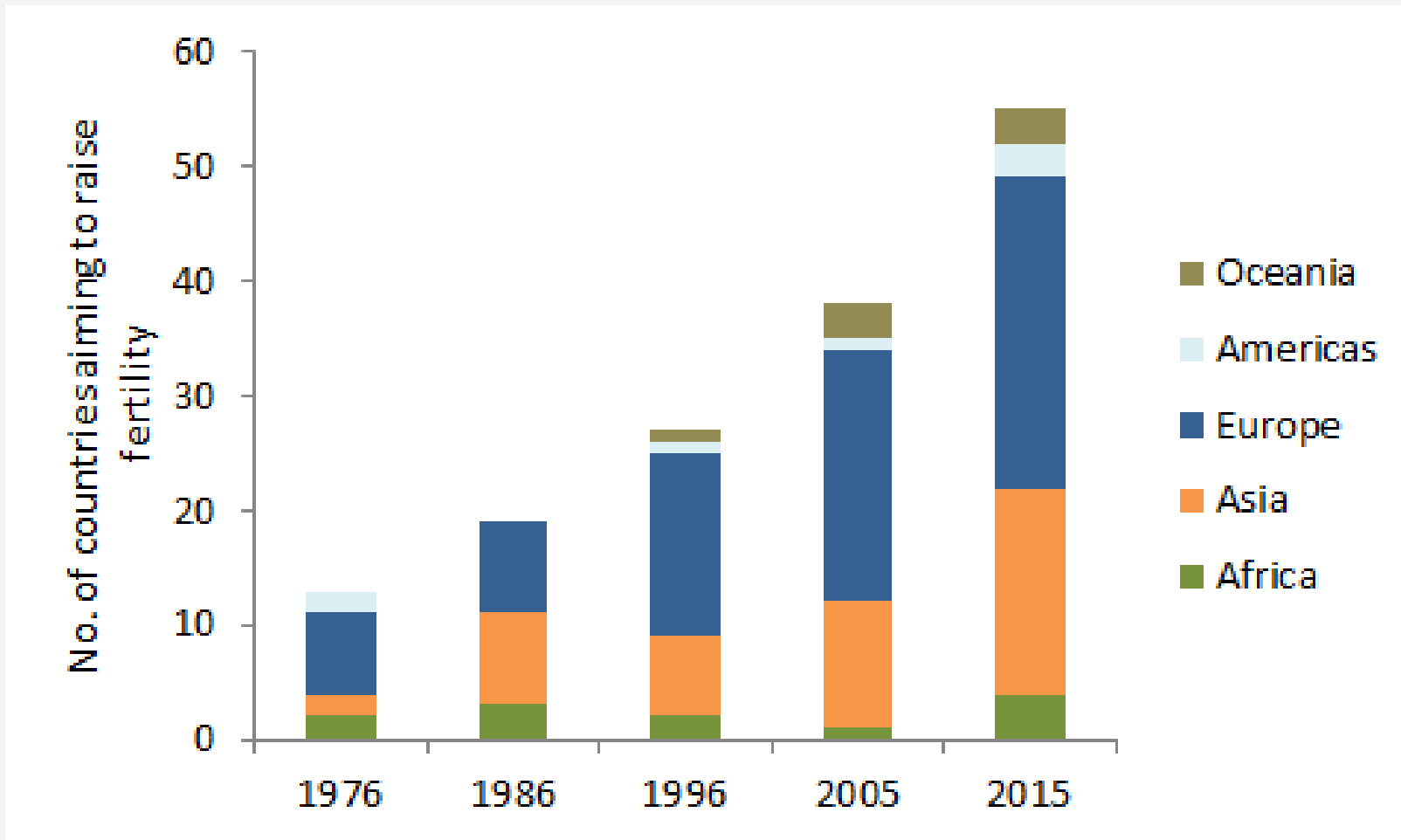
By Sakura Murakami

January 23, 2023 10:07 AM GMT+1 · Updated 10 months ago



SHARE

The rise of explicit pronatalist policies



Number of countries that aim to increase fertility rates

Source: Sobotka, T., A. Matysiak, Z. Brzozowska. 2019. "Policy responses to low fertility: How effective are they?"

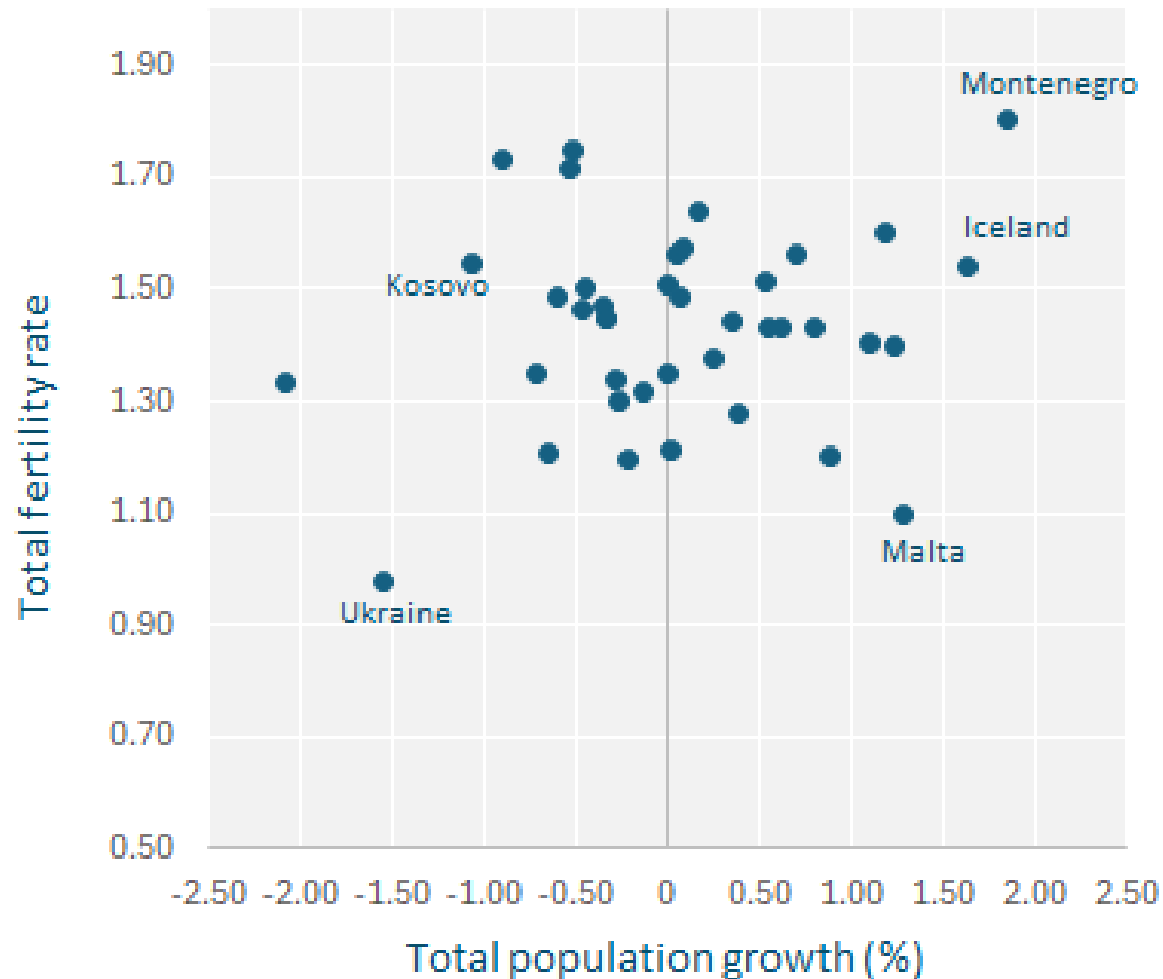
New York: UNFPA, Working Paper No. 1, May 2019 Technical Division Working Paper Series, Population & Development Branch

www.unfpa.org/publications/policy-responses-low-fertility-how-effective-are-they ;

based on UN World Population Policies Database, 1976-2015

Population growth is not necessarily linked with fertility

Total fertility rate and population growth (%)
in Europe (2023)

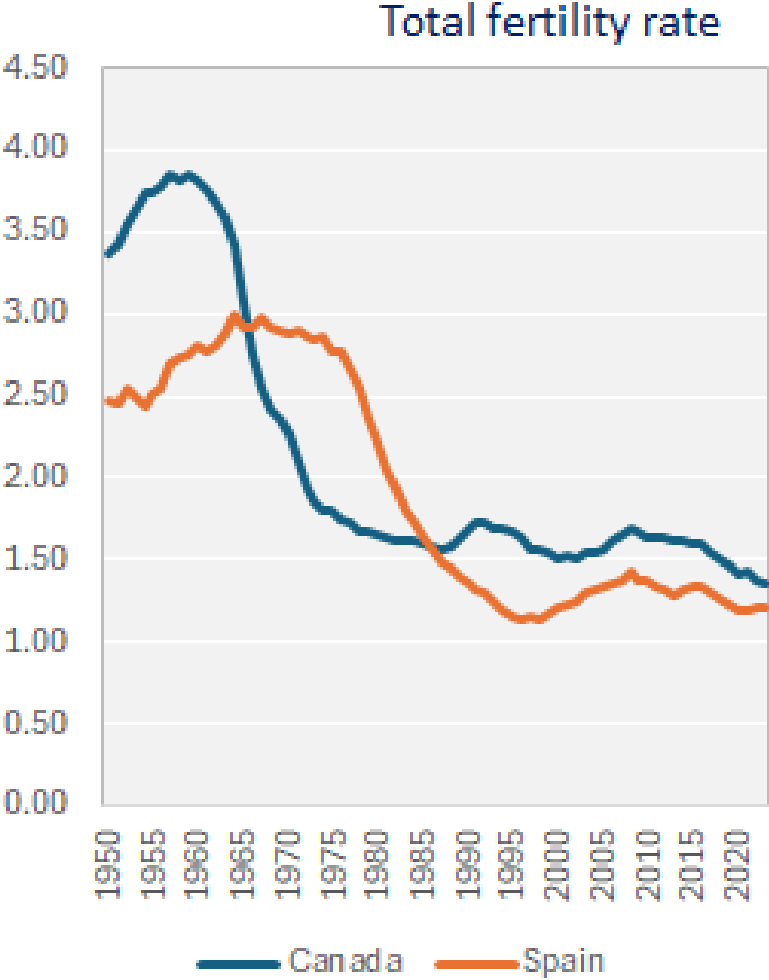


Natural population change: A combination of fertility, population age structure (*momentum*), and mortality

Population growth: *all of these factors* plus migration dynamics

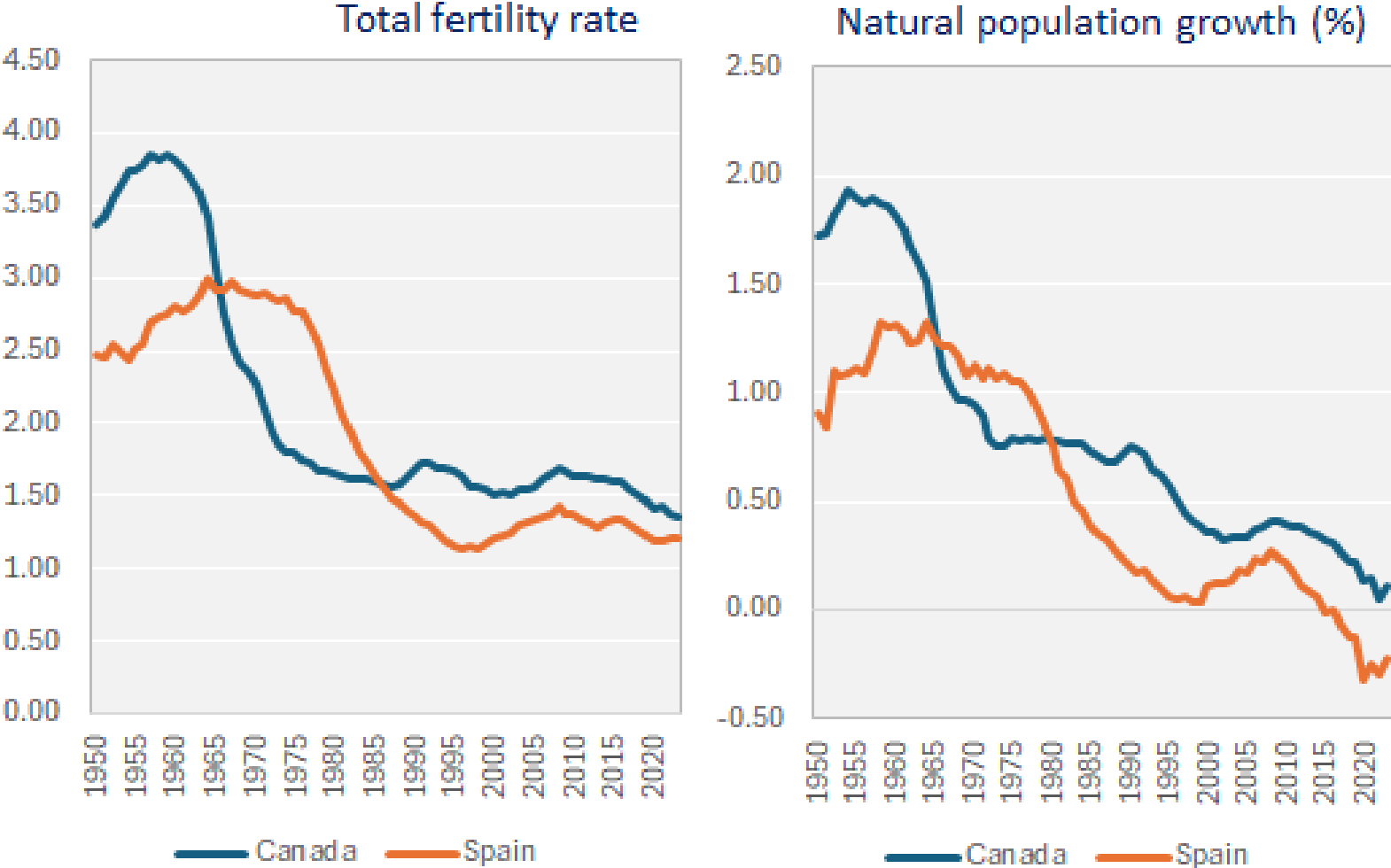
>> *Population decline and Natural population change could be poor markers of low birth rates*

Migration can drive population growth or decline more than natural population change: the story of Canada and Spain



Data source: UN World Population Prospects 2024

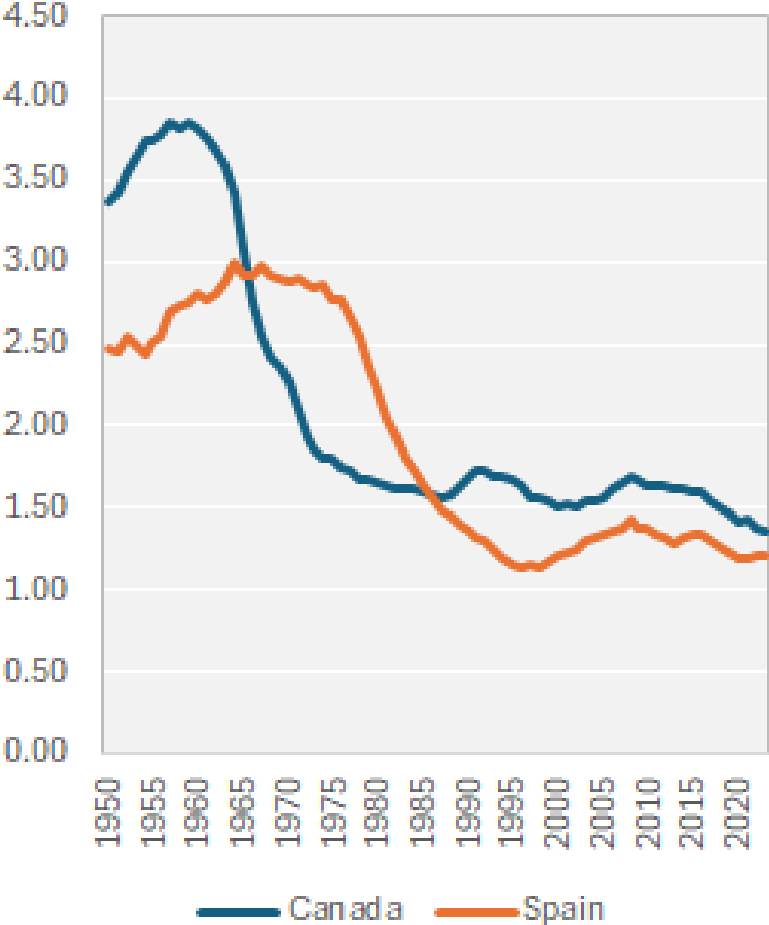
Migration can drive population growth or decline more than natural population change: the story of Canada and Spain



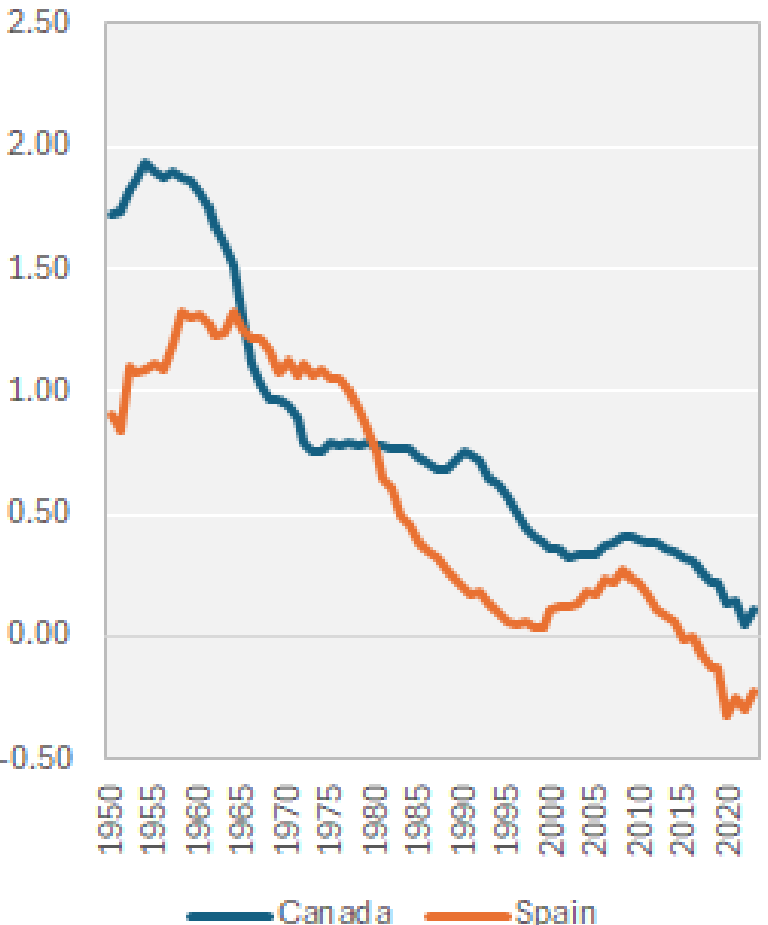
Data source: UN World Population Prospects 2024

Migration can drive population growth or decline more than natural population change: the story of Canada and Spain

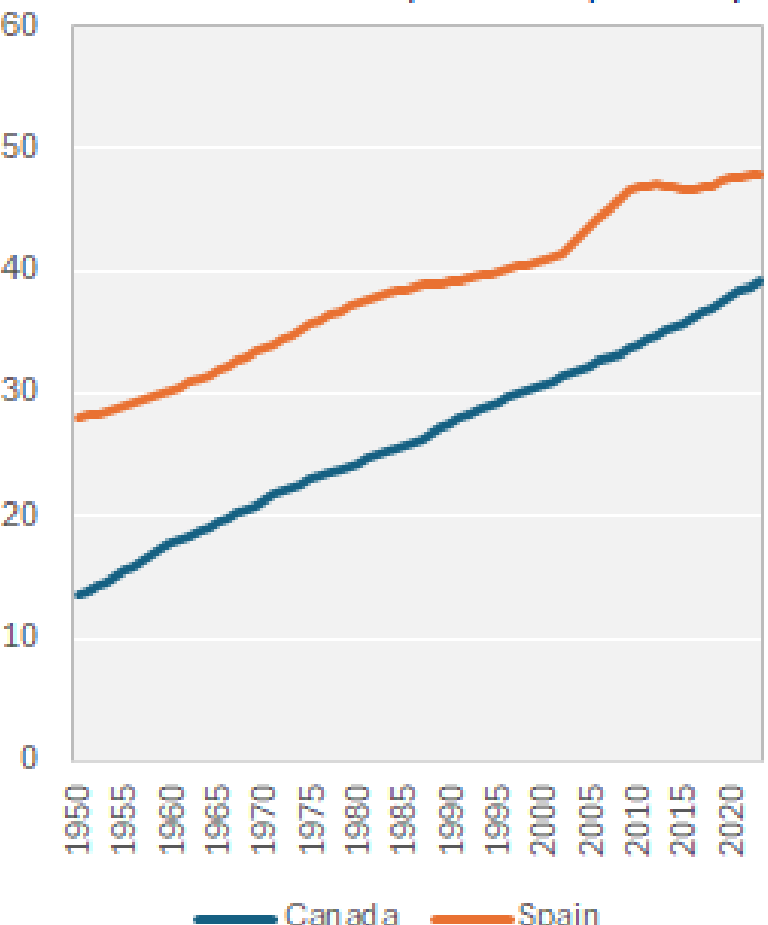
Total fertility rate



Natural population growth (%)



Population (million)

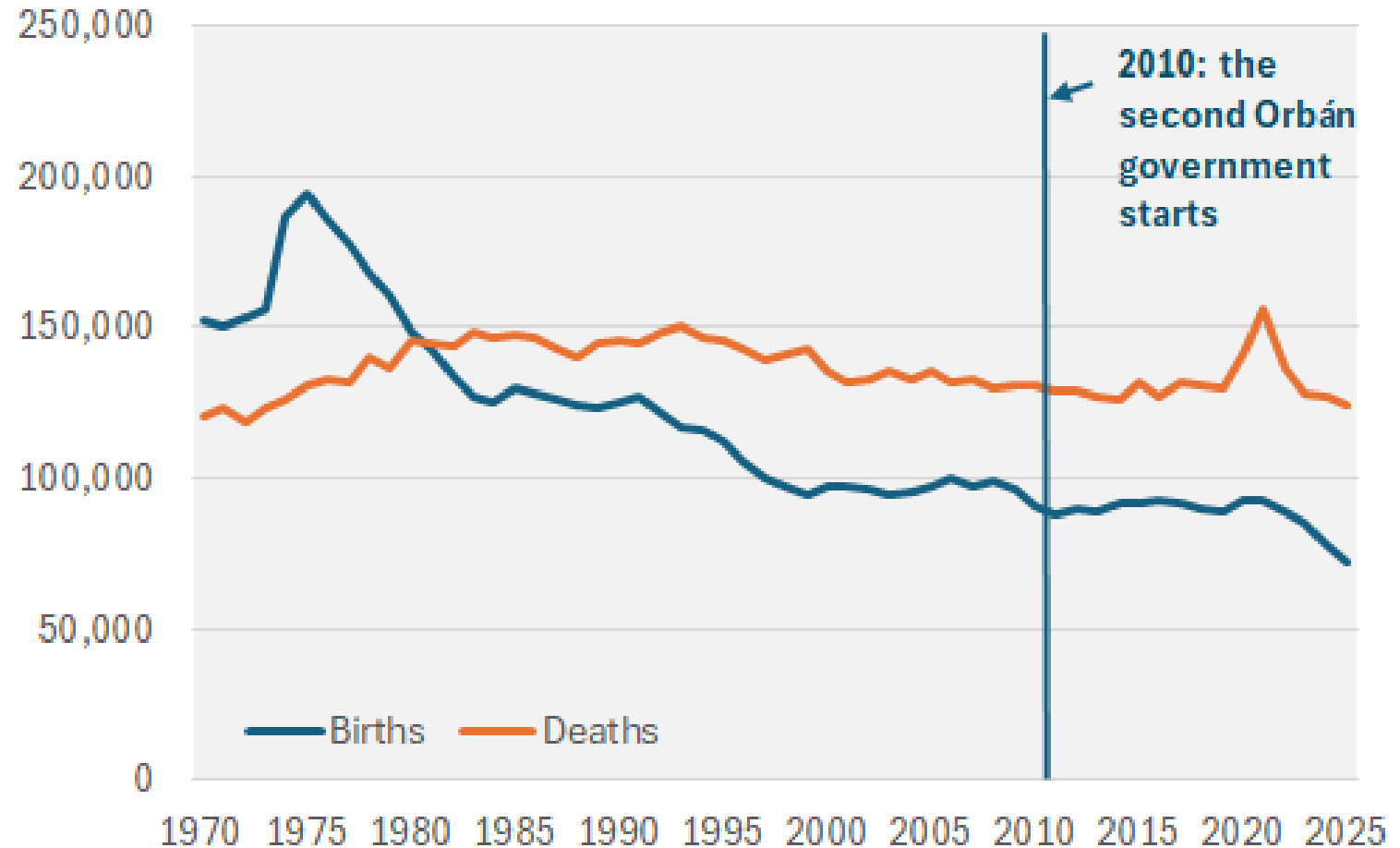


Data source: UN World Population Prospects 2024

Pronatalist government policies often fail to make a lasting impact: The example of Hungary

- Packages of new family policies and tax reforms since 2011
- The aim to reach a Total Fertility Rate of 2.1 in 2030
- 2023: “Family policy 2.0” package includes “incentivising childbirth” among main aims
- Family policy spending in Hungary boosted to one of the highest levels globally

Births and deaths, Hungary, 1970-2025



Data source: Hungarian Central Statistical Office, <https://www.ksh.hu>

Having balanced numbers of births and deaths is not necessarily a needed or an optimal outcome



VIENNA YEARBOOK
OF POPULATION
RESEARCH

The causes and consequences of depopulation

Guest Editors: Zuzanna Brzozowska, Ekaterina Zhelenkova, Stuart Gietel-Basten,
Michael Herrmann, Klaus Prettnner and Miguel Sánchez-Romero



Replacement Fertility is Neither Natural nor Optimal nor Likely

David N. Weil
Brown University and NBER

May 2023

Guillaume Marois and Wolfgang Lutz. 2026.

Nature Human Behaviour (2026): 1-2.
<https://www.nature.com/articles/s41562-026-02423-6>

Correspondence

<https://doi.org/10.1038/s41562-026-02423-6>

Low fertility may persist and could be good for the economy

Check for updates

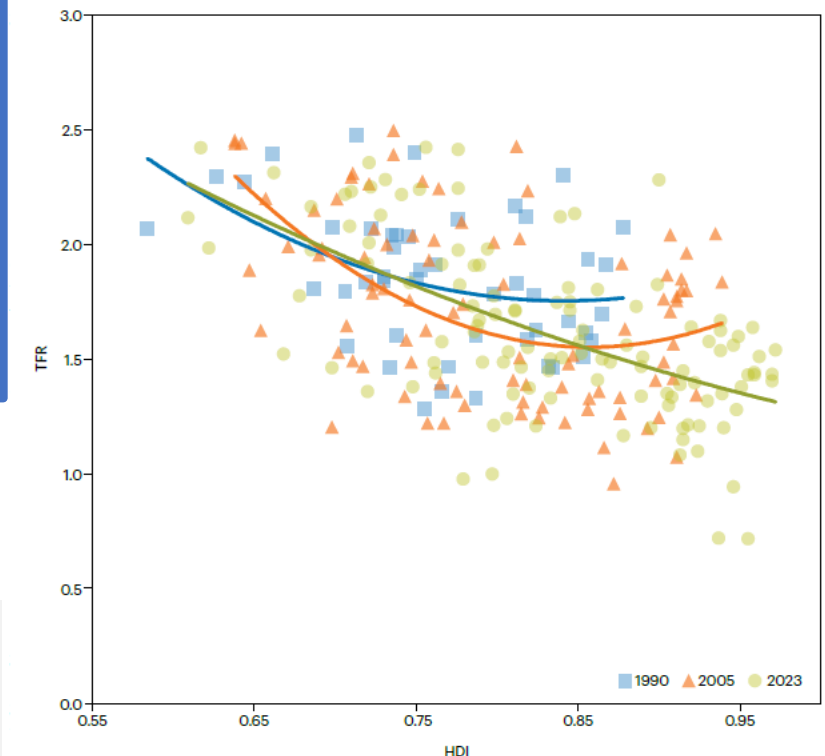
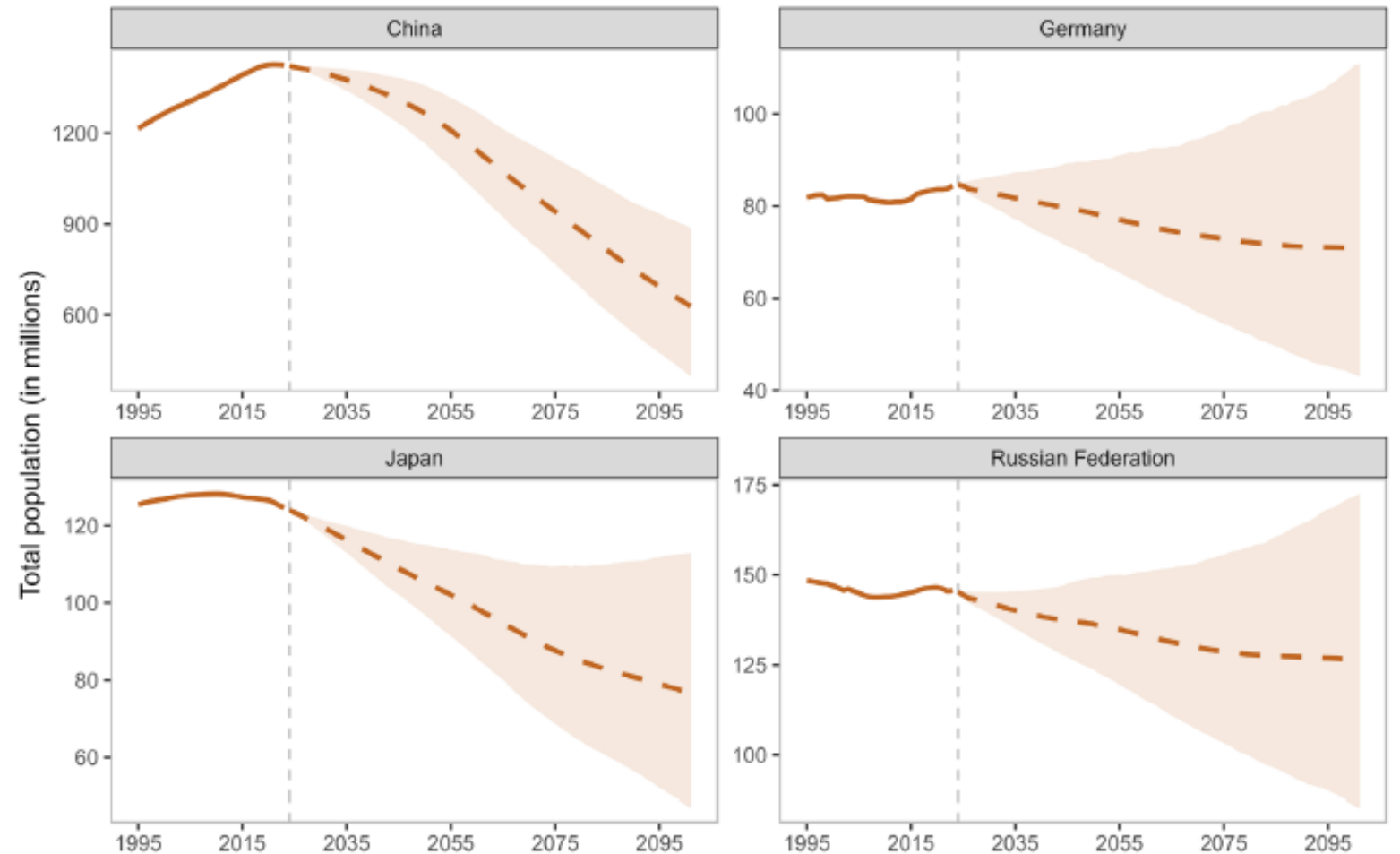


Fig. 1 | Cross-sectional relationship between TFR and HDI. Data are shown for 1990, 2005 and 2023. TFR data are from ref. 11, and HDI data are from ref. 12.

Long-term outlook: projected population decline in four countries

Source: UN World Population Prospects 2024: *Summary of results*

Figure 2.2
Total population for selected countries and areas with populations that have already peaked, estimates, 1995–2023, and projections (medium scenario) with prediction intervals, 2024–2100



Source: United Nations (2024a).

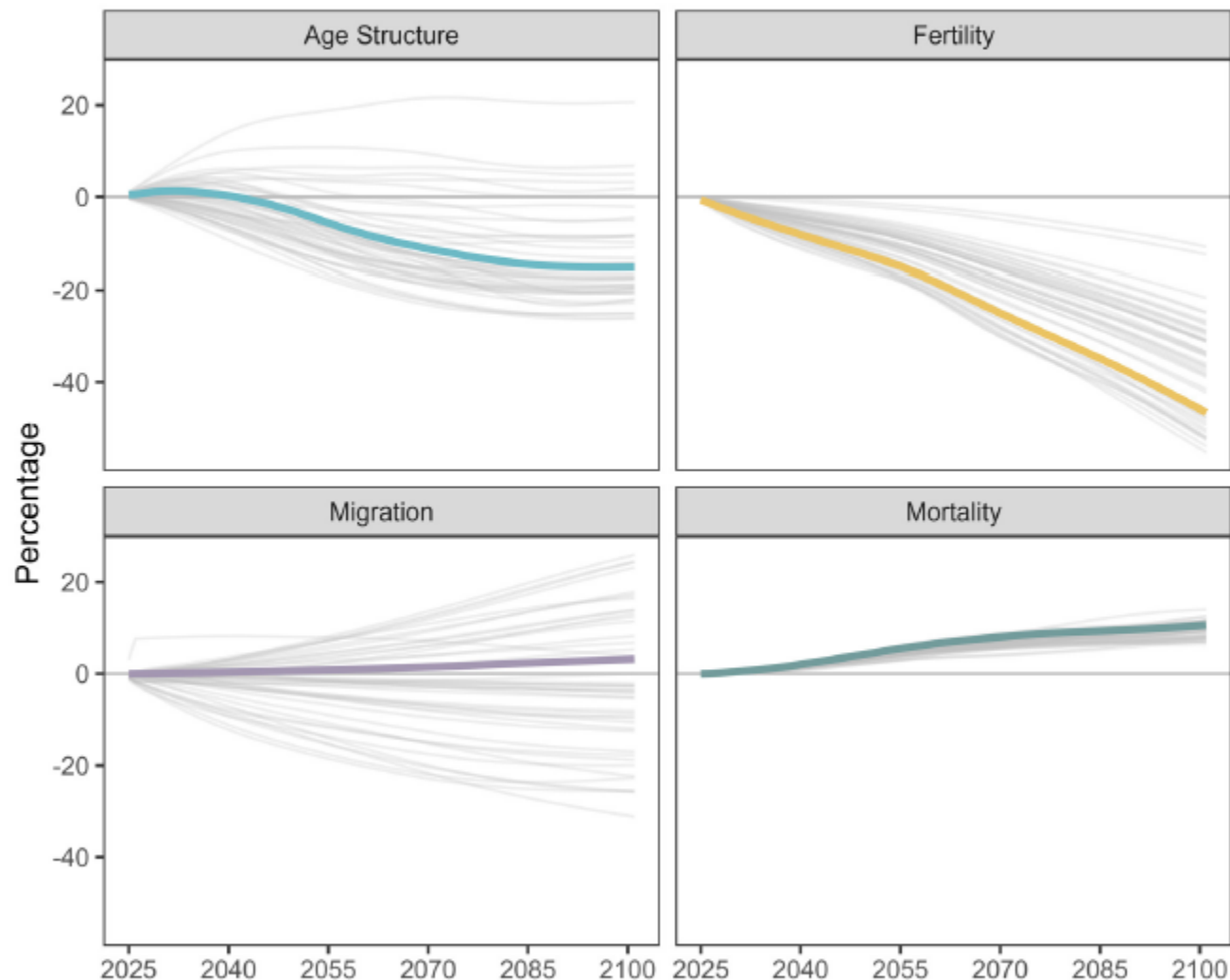
Notes: Prediction intervals are represented as shaded areas around a projected trend. For a given year, the future trend is expected to lie within the predicted range with an estimated probability of 95 per cent. The scale of the y axis differs between locations.

Long-term outlook: projected components of population decline across countries

Source: UN World Population Prospects 2024: *Summary of results*

Figure 2.3

Relative contributions of the components of population change, countries and areas with populations that have already peaked, group average and selected countries, by component, projections (medium scenario), 2024–2100 (percentage)



Source: Calculations using data from United Nations (2024a), based on a comparison of different projection scenarios.
Note: Grey lines represent countries or areas with at least 90,000 inhabitants in 2024.

Extreme long-term perspective (“long-termism”): current global population as a short-lived spike?

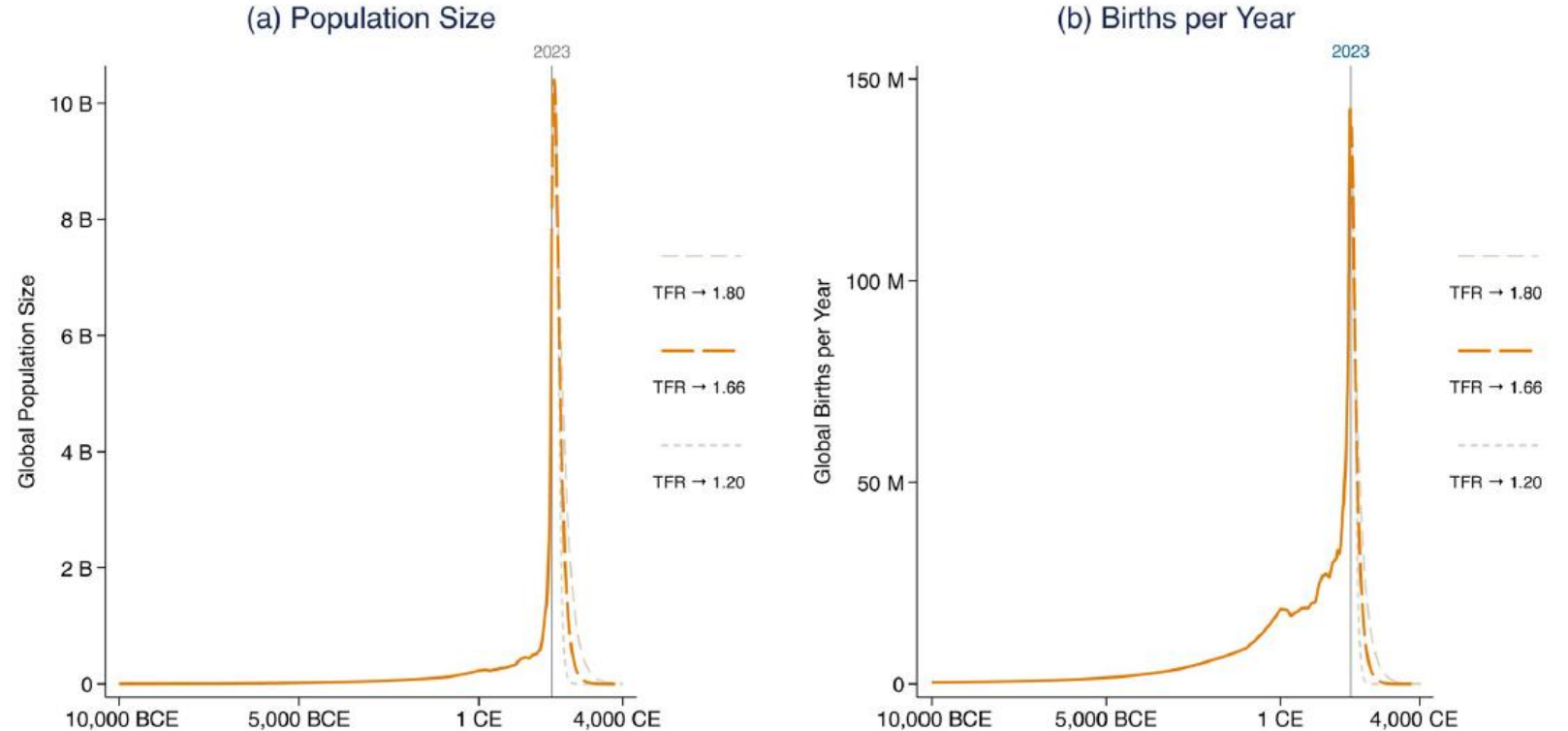


Fig 1. Global population as a spike in world history. Historical data are taken from Kaneda and Haub (2022) [12]. Projections from the present to 2100 are the Medium projection of the 2022 UN World Population Prospects. Projections from 2100 are produced by the authors as described in the Methods. “TFR → 1.66,” “TFR → 1.8,” and “TFR → 1.2” indicate three hypothetical scenarios for long-run global fertility rates towards which the world converges.

<https://doi.org/10.1371/journal.pone.0298190.g001>

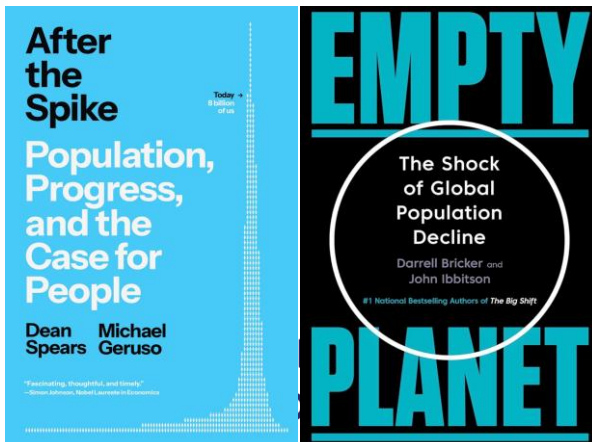
RESEARCH ARTICLE

Long-term population projections: Scenarios of low or rebounding fertility

Dean Spears^{1,2}, Sangita Vyas^{2,3*}, Gage Weston², Michael Geruso^{1,2}

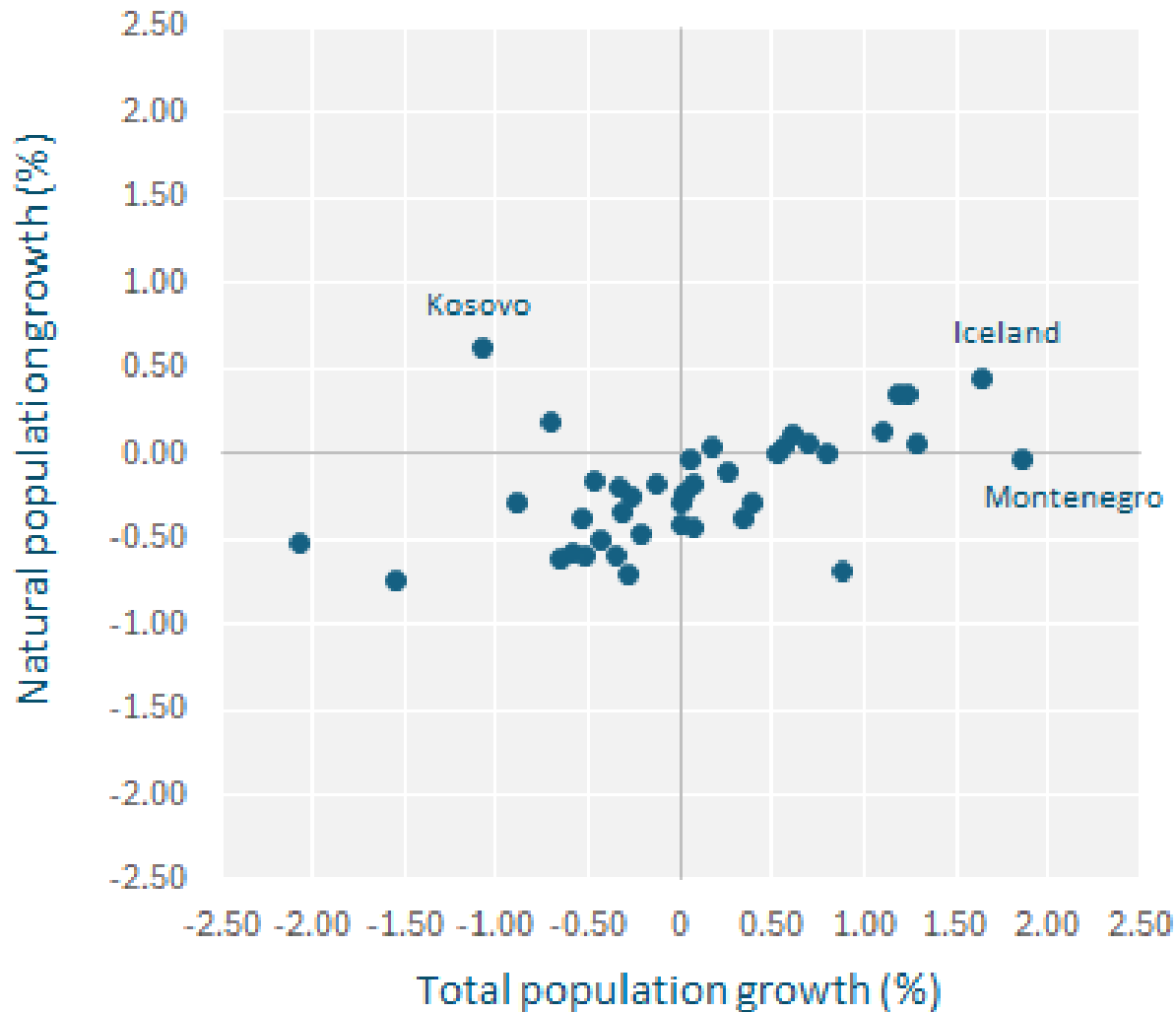
¹ Economics Department, University of Texas at Austin, Austin, TX, United States of America, ² Population Wellbeing Initiative, University of Texas at Austin, Austin, TX, United States of America, ³ Hunter College and CUNY Institute for Demographic Research, both at City University of New York, New York, NY, United States of America

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Natural population change x Population decline

Population growth and natural population change in Europe (2023)



Natural population change: A combination of fertility, population age structure (*momentum*), and mortality

Population growth: *all of these factors* plus migration dynamics