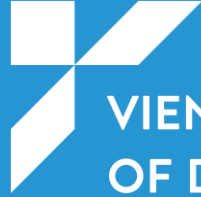




Wittgenstein Centre

FOR DEMOGRAPHY AND
GLOBAL HUMAN CAPITAL



VIENNA INSTITUTE
OF DEMOGRAPHY

Demographic Trends, Challenges and Divides in Europe

Tomáš Sobotka

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

19th Conference "Social Monitoring and Reporting in Europe": Demographic Challenges and Opportunities
Villa Vigoni, Menagio, Italy, 7 October 2025

Demographic imaginaries in Europe:

Worries about population ageing & its consequences, unfolding population crash & baby bust, and about migration

S

WorldBusinessMarketsSustainabilityLegalCommentaryTechnologyInvestigationsMore

Italy's working age population set to shrink by one fifth, statistics agency says

By Reuters

July 28, 2025 3:49 PM GMT+2 · Updated July 28, 2025



Norwegian PM URGES citizens to have MORE children: 'I don't need to explain how it's done'

NORWAY'S prime minister Erna Solberg has warned she is deeply concerned about the plunging birth rates in her country.

By **AMALIE HENDEN**

17:16, Fri, Jan 18, 2019 | UPDATED: 17:24, Fri, Jan 18, 2019

le magazine

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Actualité Santé > Santé publique

Précarité, infertilité, choix individuels... Pourquoi y a-t-il 25% de naissances de moins qu'il y a cinquante ans?

Par Le Figaro avec AFP

Le 3 avril 2025 à 14h25

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Précarité, infertilité, choix individuels... Pourq... 38 co

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POLITICS | GERMANY

Was the German pension system built to bust?

Sabine Kinkartz

09/06/2025

Germany is growing older and the pressure on the German pension system is increasing. The younger generation won't be able to make up the difference, and economists think the elderly should foot the bill.

fX



TS HUB / PUBLIC CONCERN ABOUT IMMIGRATION REACHES HIGHEST LEVEL IN A DECADE

ISSUES INDEXPOLITICSIMMIGRATION

Public concern about immigration reaches highest level in a decade

Fifty-one per cent name immigration as an important issue for Britain, the highest score since October 2015.

02.10.25

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

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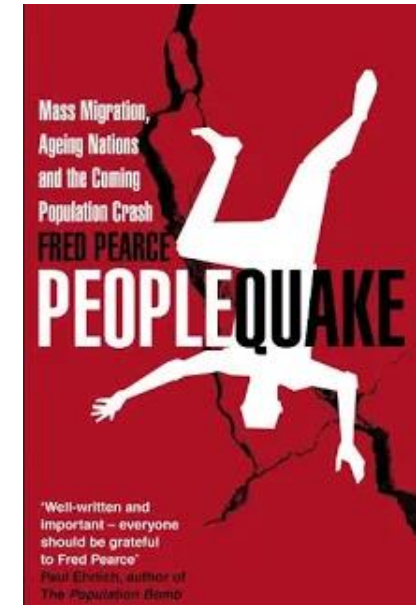
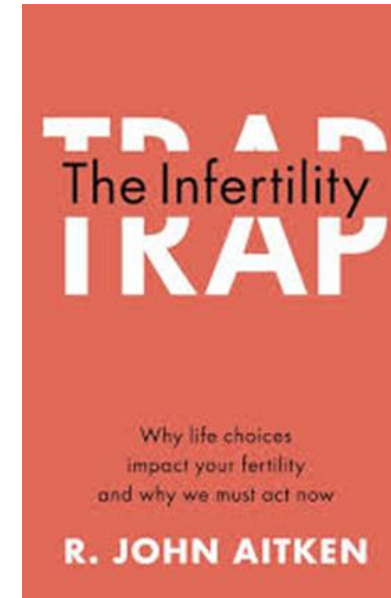
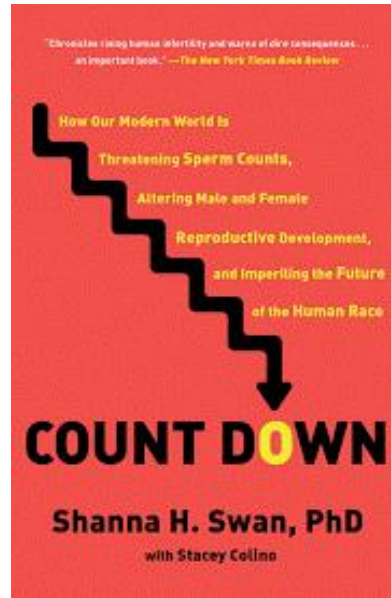
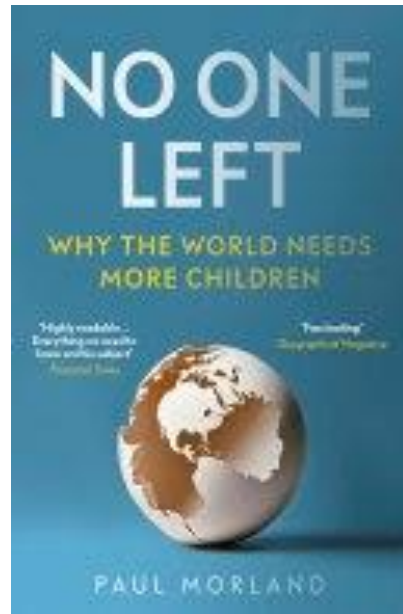
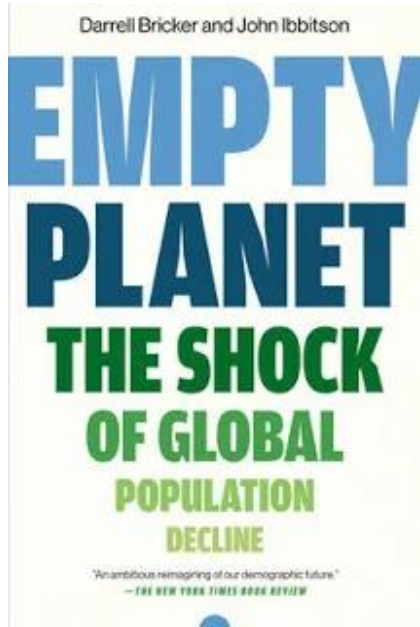


Most popular Politics article:

POLITICS

JPMorgan boss Jamie Dimon says America has failed its bottom 30%—and should stop sneering at Trump's MAGA supporters...

November 30, 2023



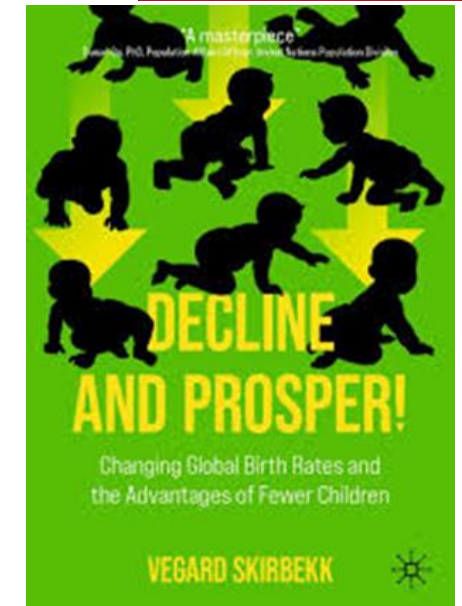
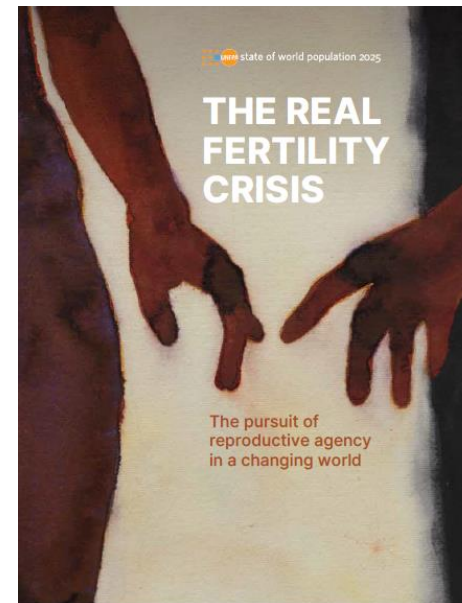
Elon Musk expecting global population crash

8 May 2022

....unless something changes to cause the birth rate to exceed the death rate, Japan will eventually cease to exist. This would be a great loss for the world.

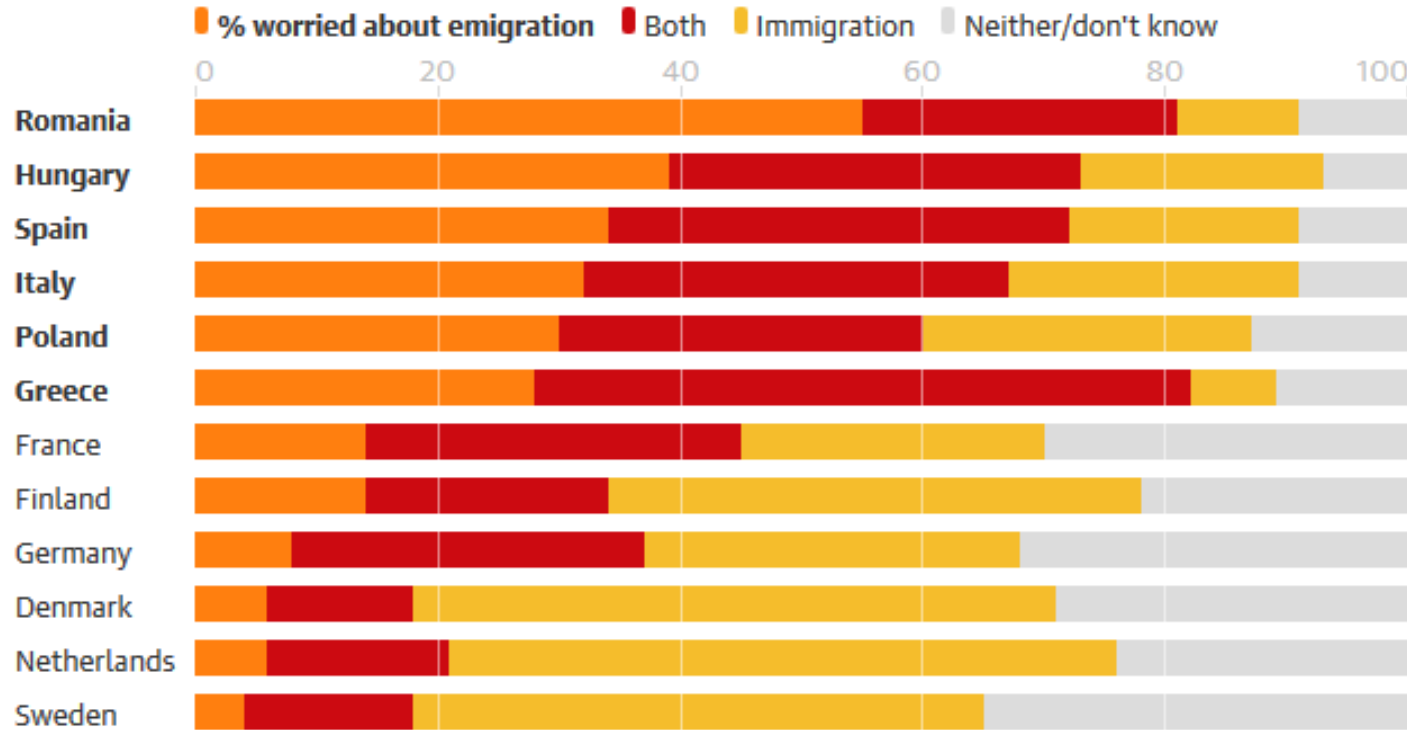
August 2022

Population collapse due to low birth rates is a much bigger risk to civilization than global warming



Population: Worries about both outmigration and immigration

The citizens of six EU states are worried about a popular exodus



Guardian graphic. Source: [ECFR survey of 14 EU nations](#)

In some countries, the fear of emigration was so great that large numbers of people believed compatriots should not be allowed to leave their country for long periods of time.

Source:

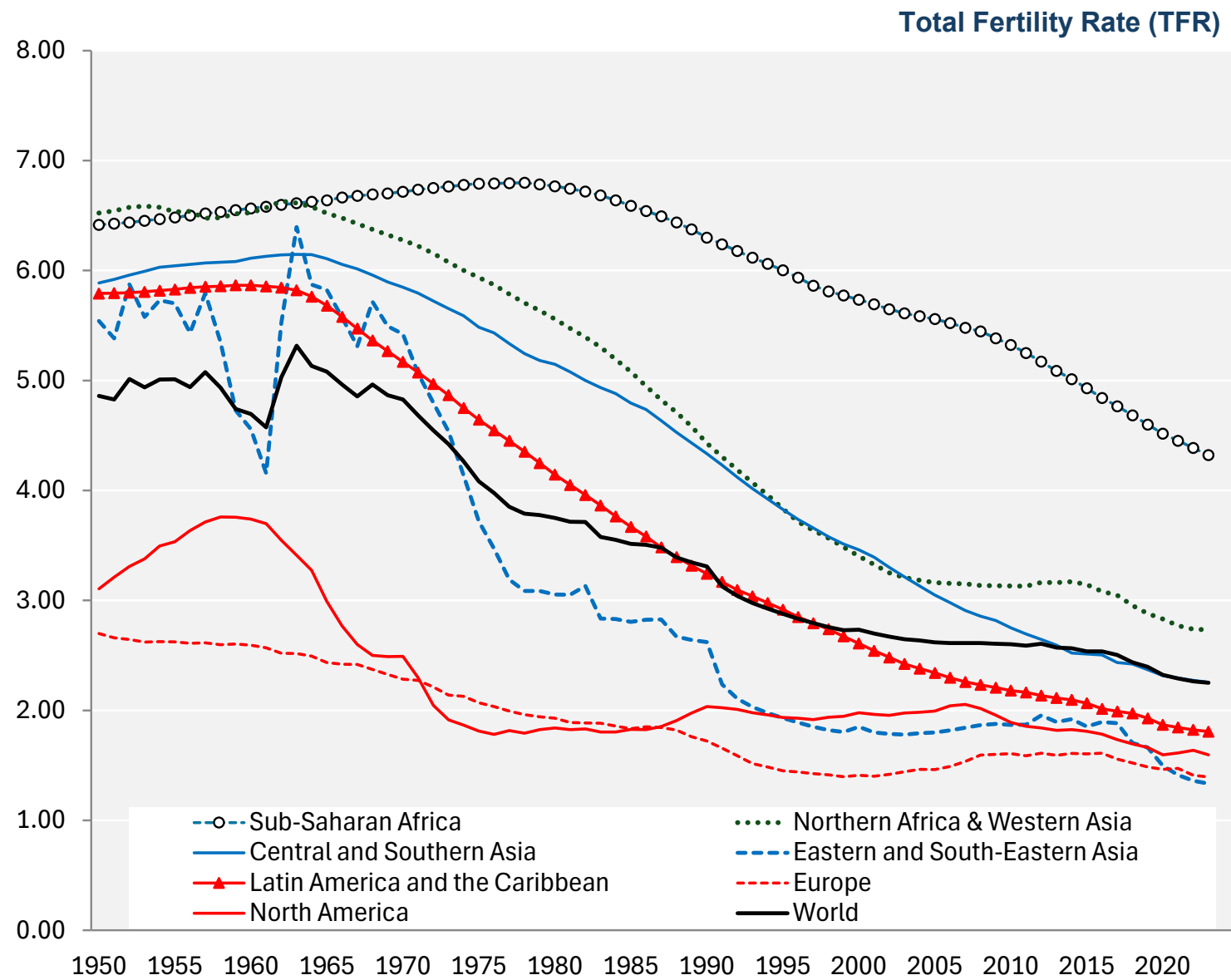
The Guardian,
1 April 2019;
<https://www.theguardian.com/world/2019/apr/01/europe-south-and-east-worry-more-about-emigration-than-immigration-poll>

Agenda

- A new low-fertility landscape: trends
- Slicing up the fertility shifts: main layers & explanations
- Changing view of parenthood among younger generations (Millennials, Gen Z)
- Migration and migration challenges
- The East-West population divides in Europe
- Future outlook, challenges & policy adjustments

A new low-fertility landscape: trends

Global fertility decline, 1950-2023

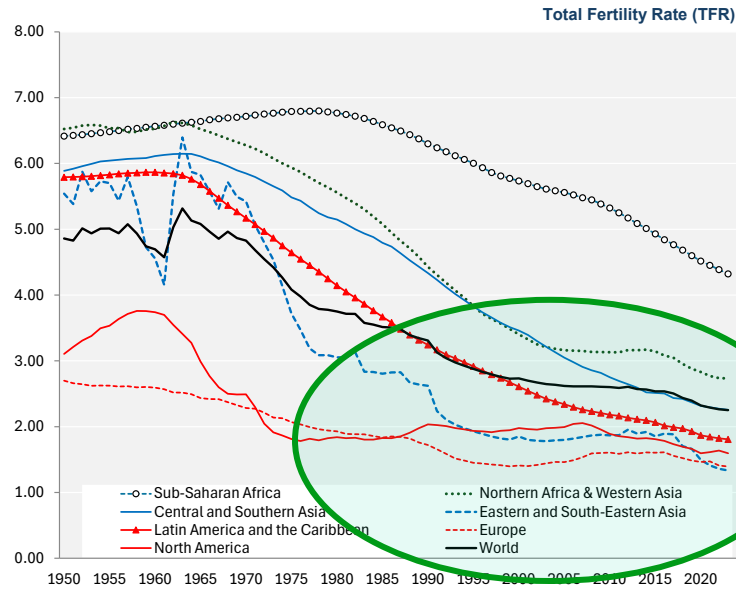


Period Total Fertility Rate in selected countries and world regions, 2023

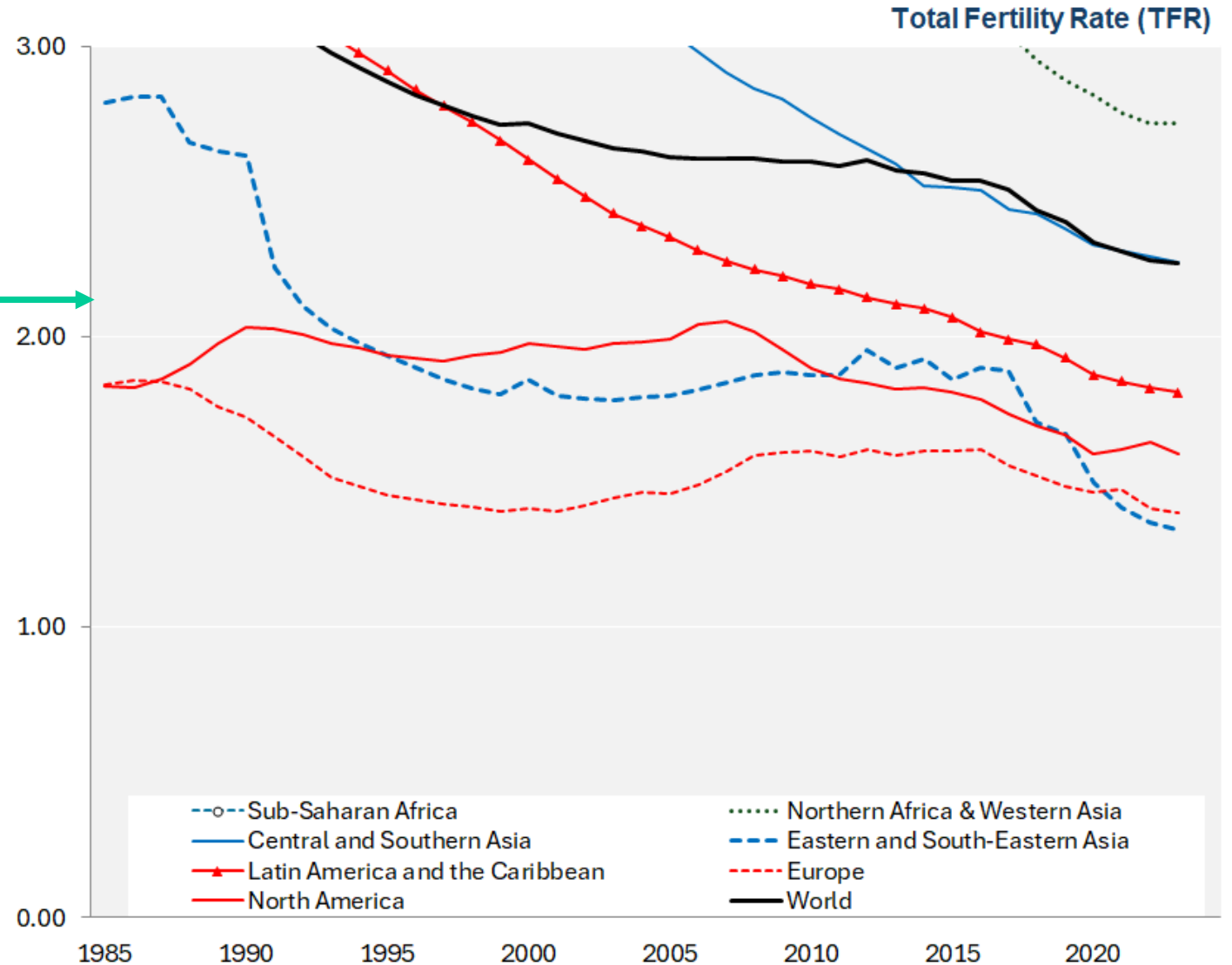


Sources: UN World Population Prospects 2024, national statistical offices

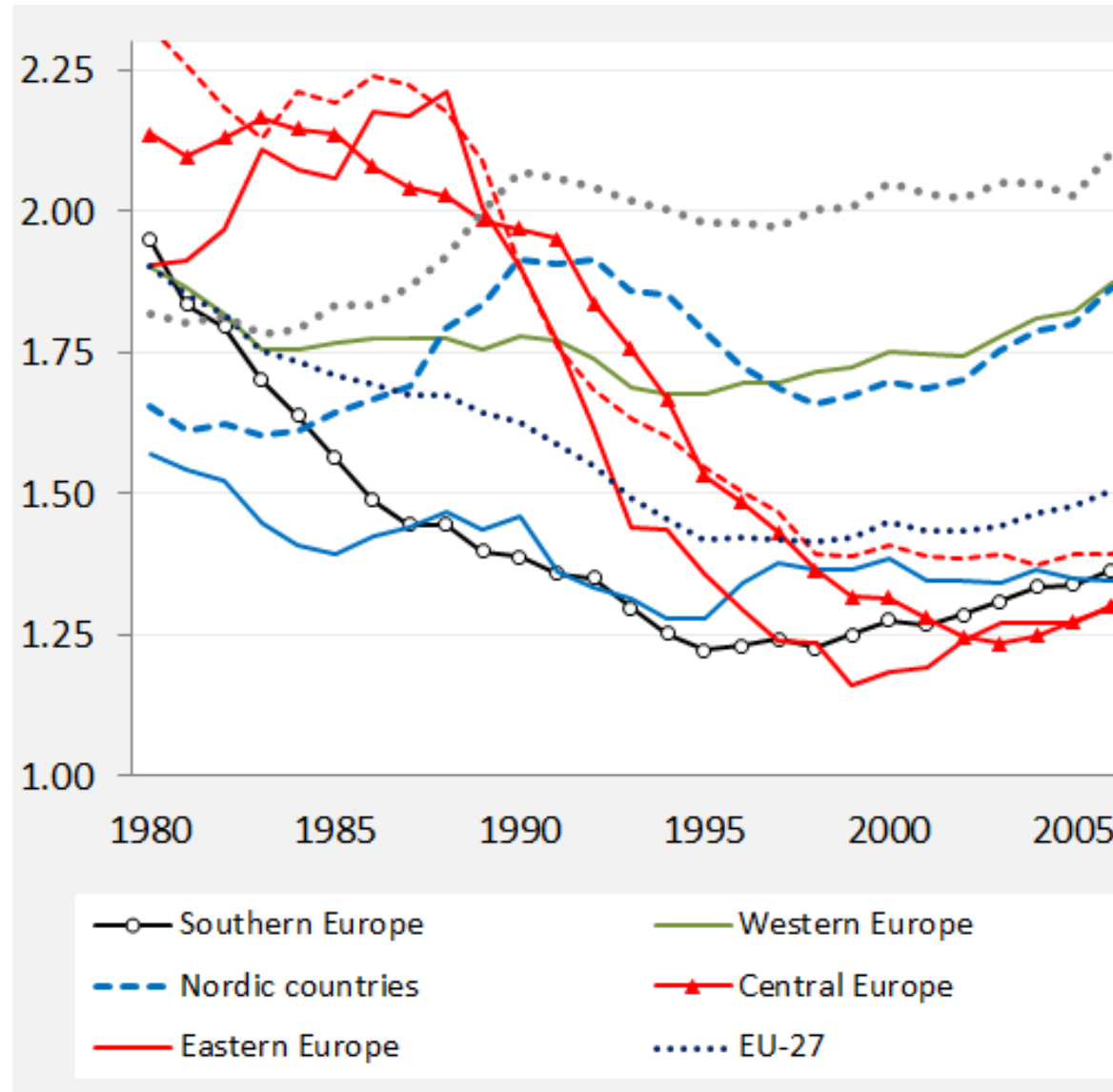
Global fertility decline, 1950-2023



Ca 23% of world population currently living in countries with a TFR <1.3



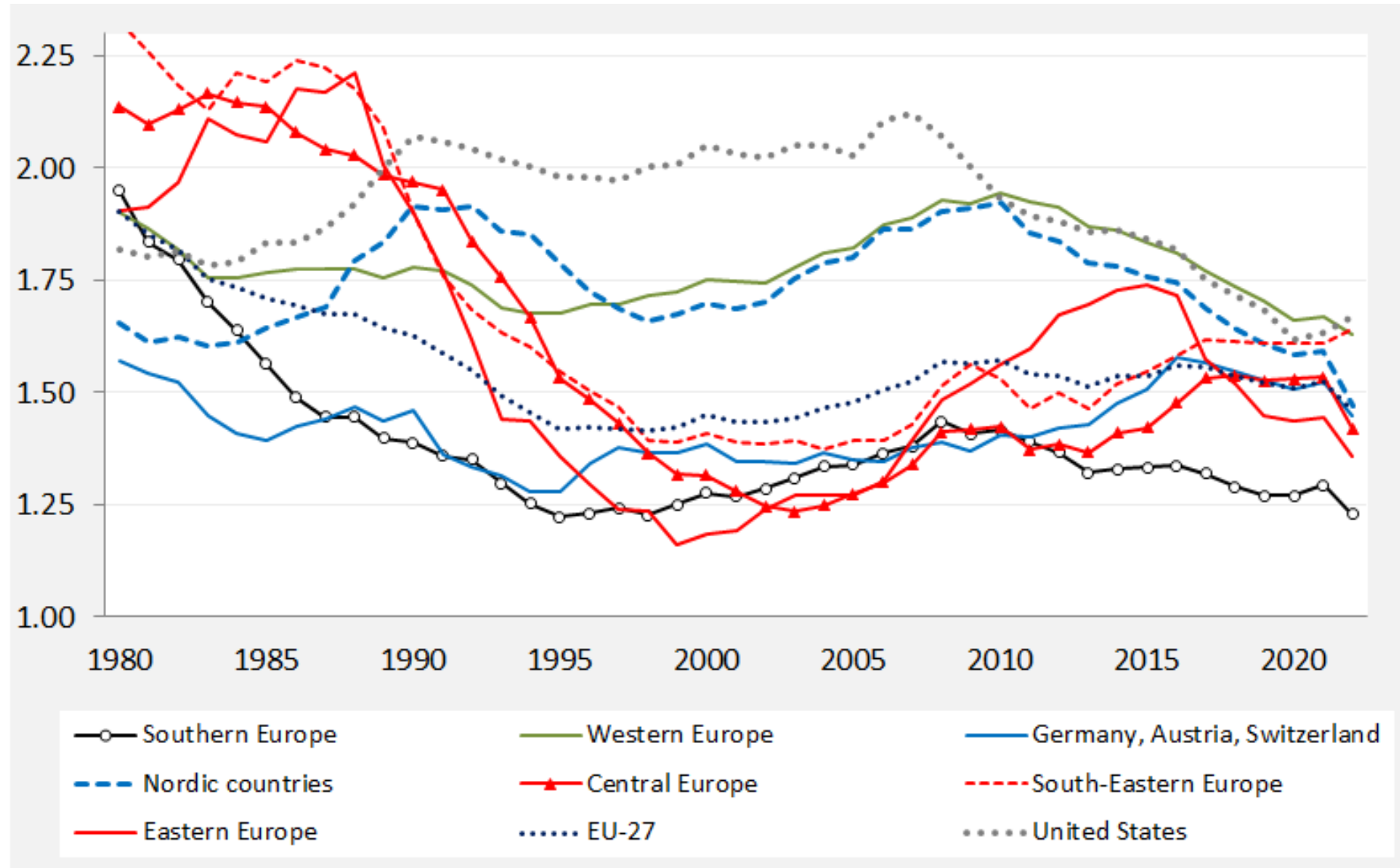
Period fertility trends and contrasts in Europe & the US



Period Total Fertility in broad European regions: contrasting trends and convergence after 2010

Sources: *European Demographic Datasheet 2018 and 2024*; *UN World Population Prospects 2022 and 2024*

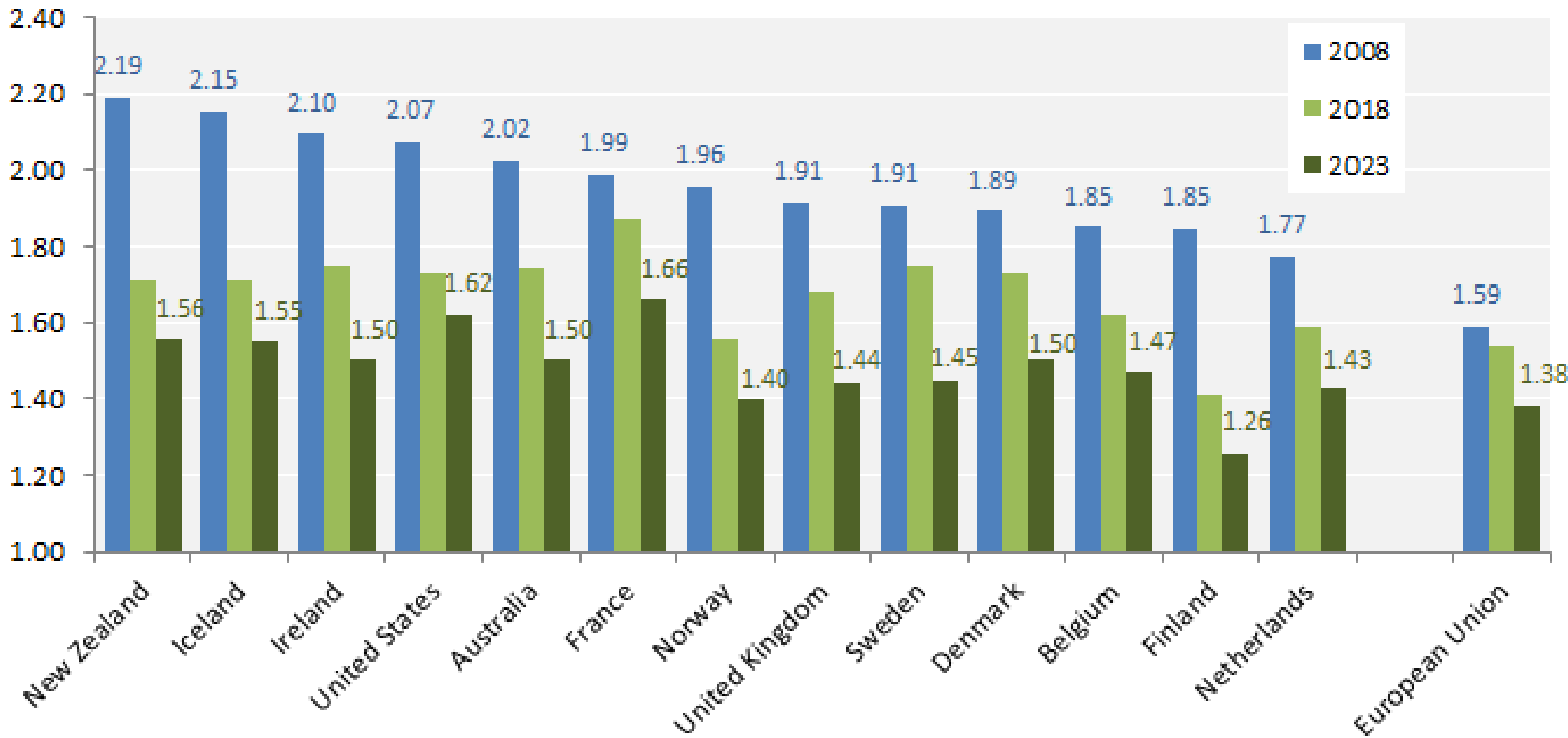
Period fertility trends and contrasts in Europe & the US



Period Total Fertility in broad European regions: contrasting trends and convergence after 2010

Sources: *European Demographic Datasheet 2018 and 2024*; *UN World Population Prospects 2022 and 2024*

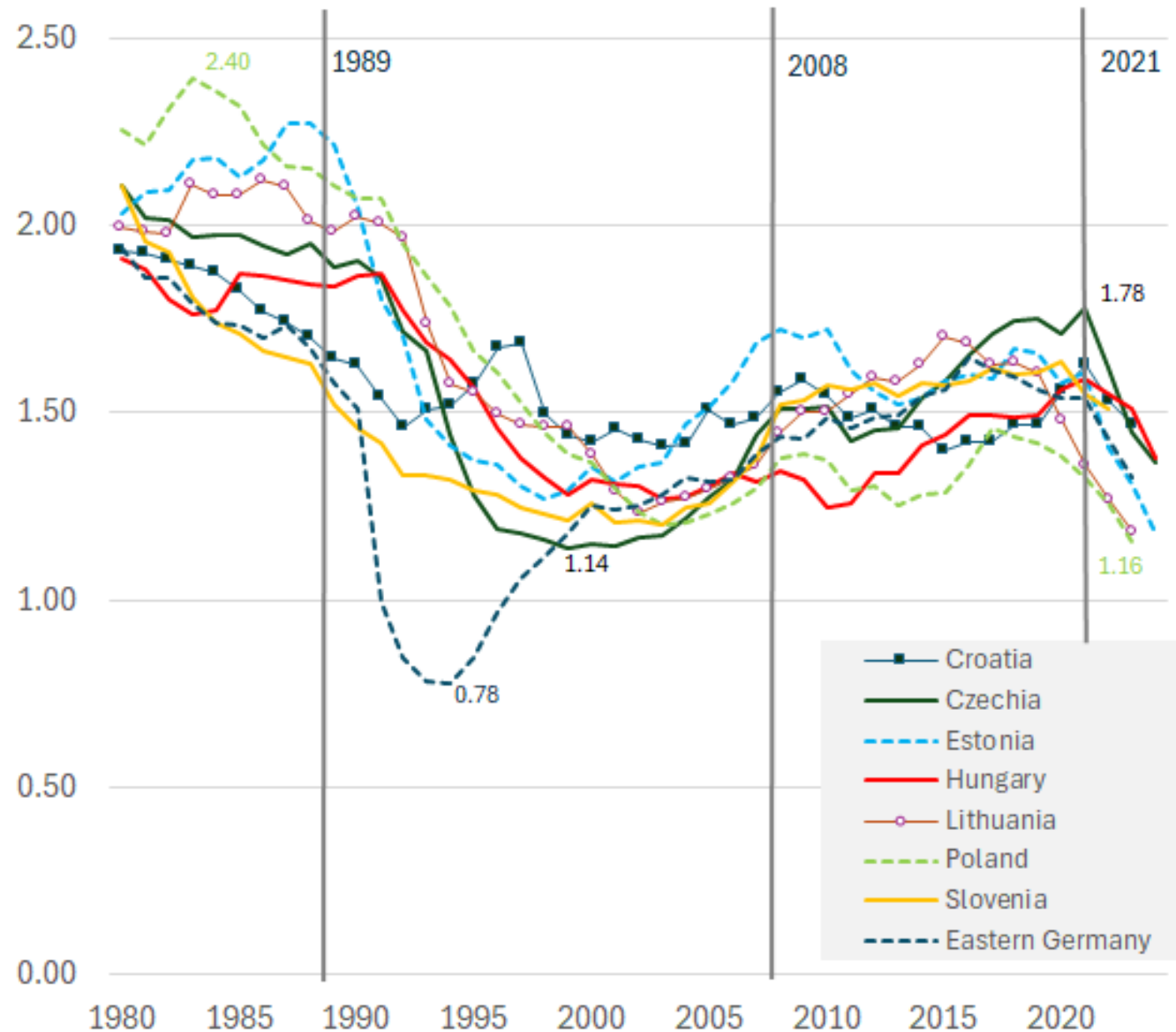
Falling fertility in “higher-low” fertility countries since the *Great Recession*



Sources:
Human Fertility Database (2024), national statistical offices, country-specific studies and estimates

Period Total Fertility Rate in 2008, 2018 and 2023.
10 low fertility countries with highest fertility rate in 2008

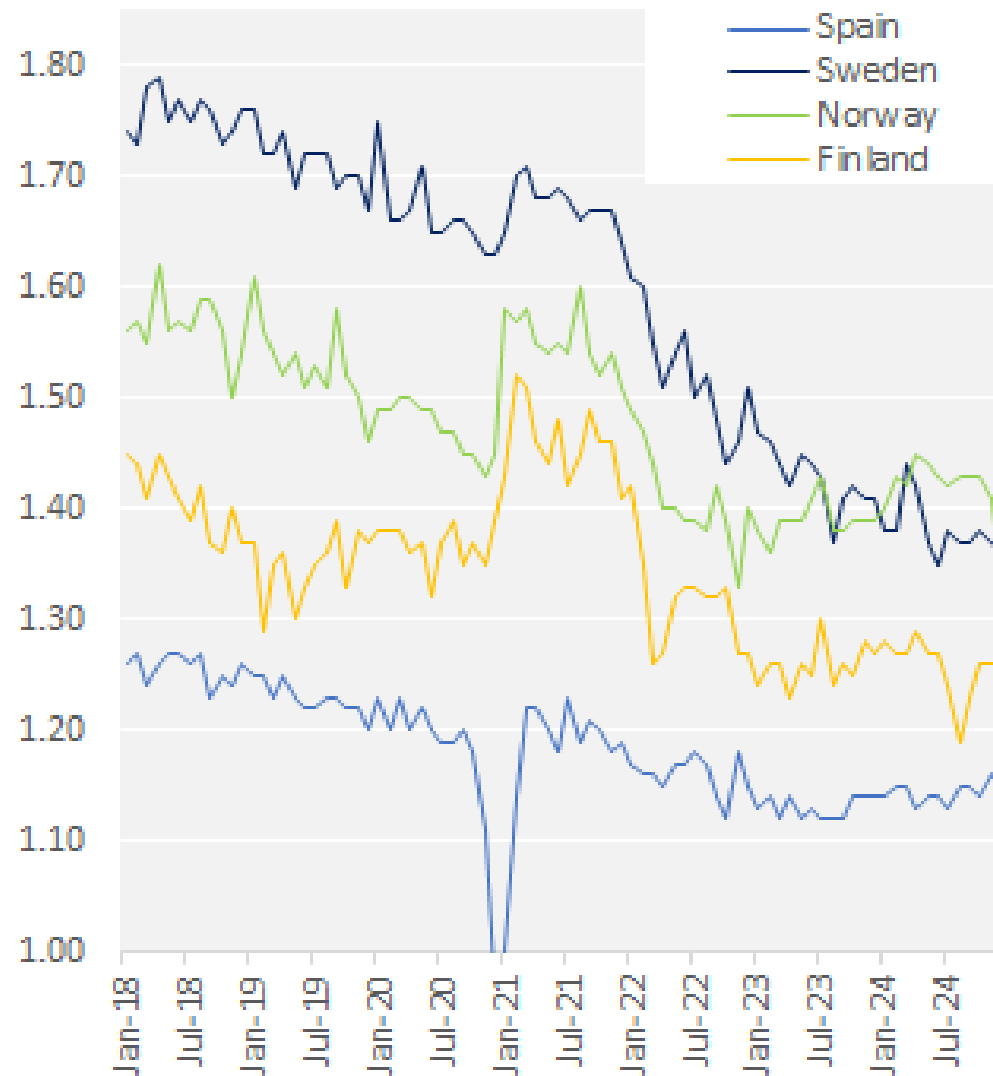
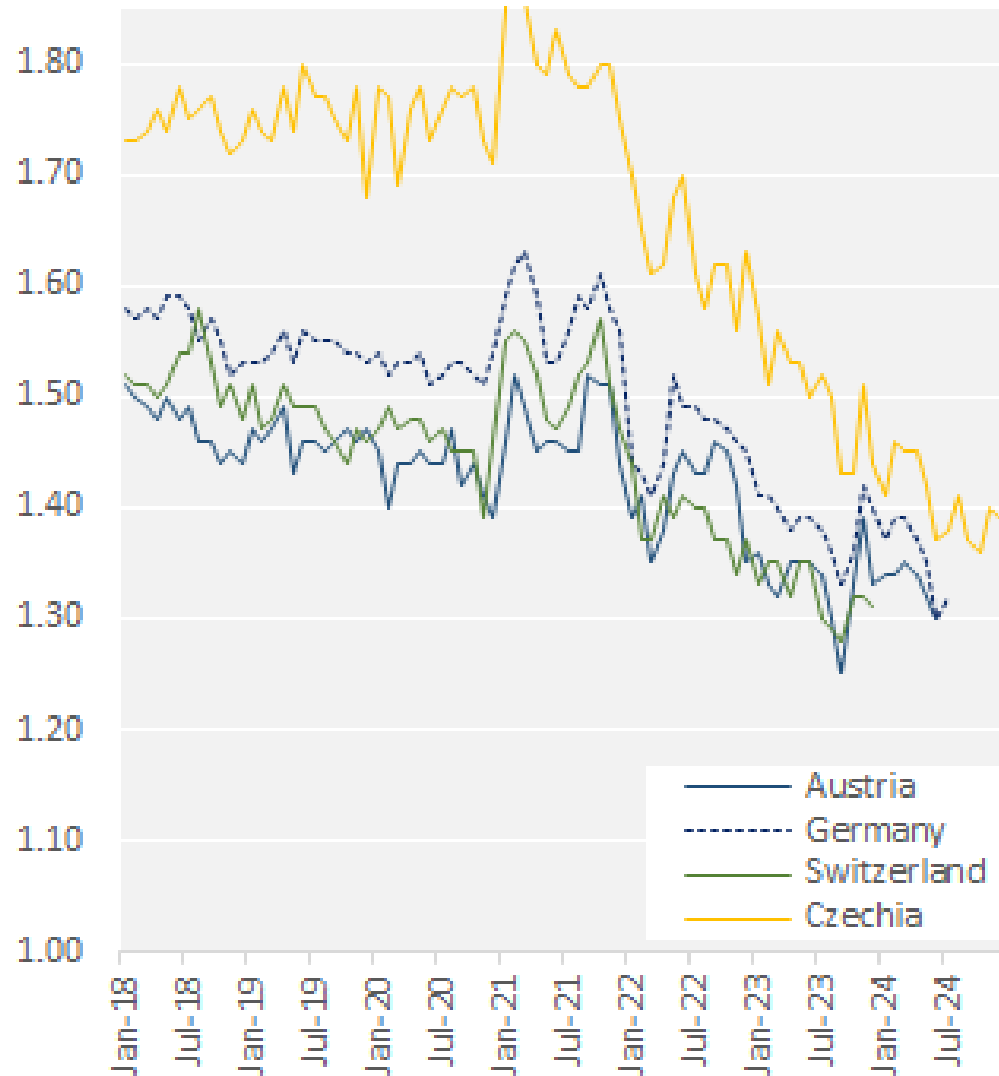
Fertility “collapse”, recovery and a new drop in Central and Eastern Europe



**Ups and downs in period
TFR in Central Europe and
Eastern Germany.
1980-2024**

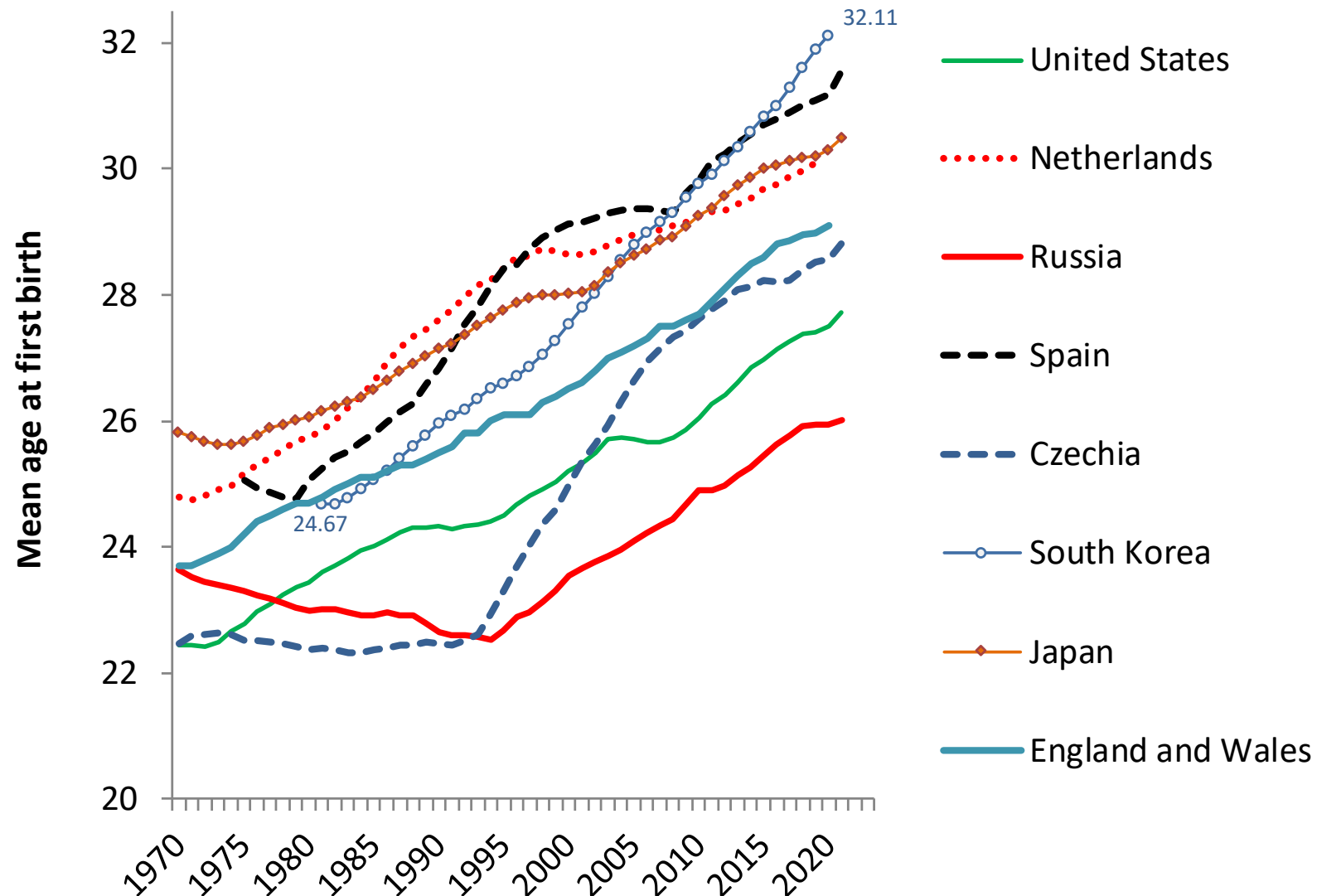
Sources: Human Fertility Database 2025, Eurostat 2025, national statistical offices, UN WPP 2024

Fertility shifts during and after the COVID pandemic: broader regional patterns in the TFR



Slicing up the fertility shifts: main layers & explanations

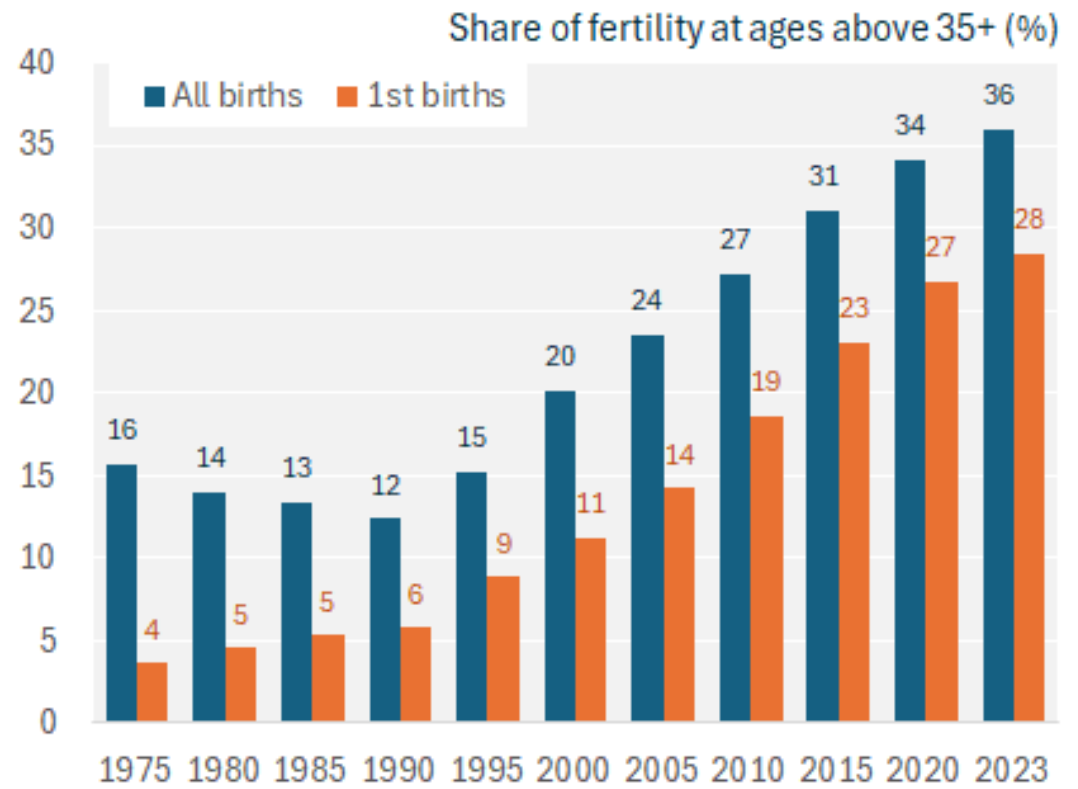
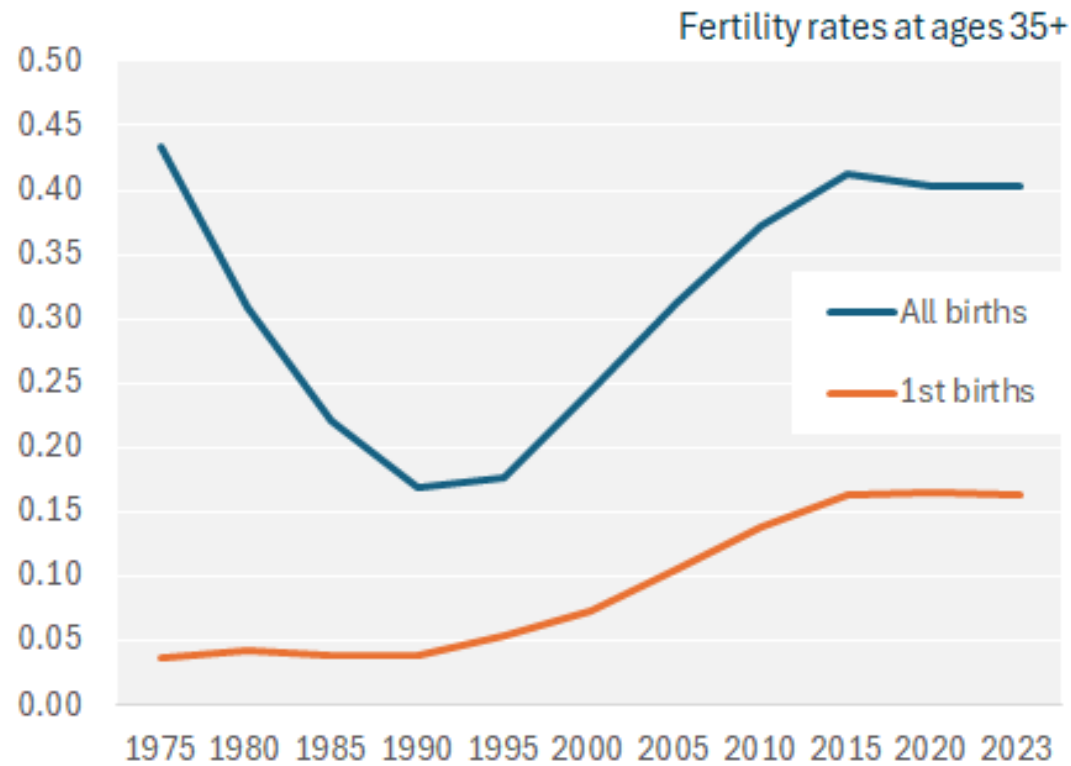
The ongoing „postponement transition“: Ever later age at first birth



Mean age at first birth, selected European countries, South Korea and the US, 1970-2022

Source: Human Fertility Database, European Demographic Data Sheet 2020, Zakharov 2023 (for Russia), national statistical offices

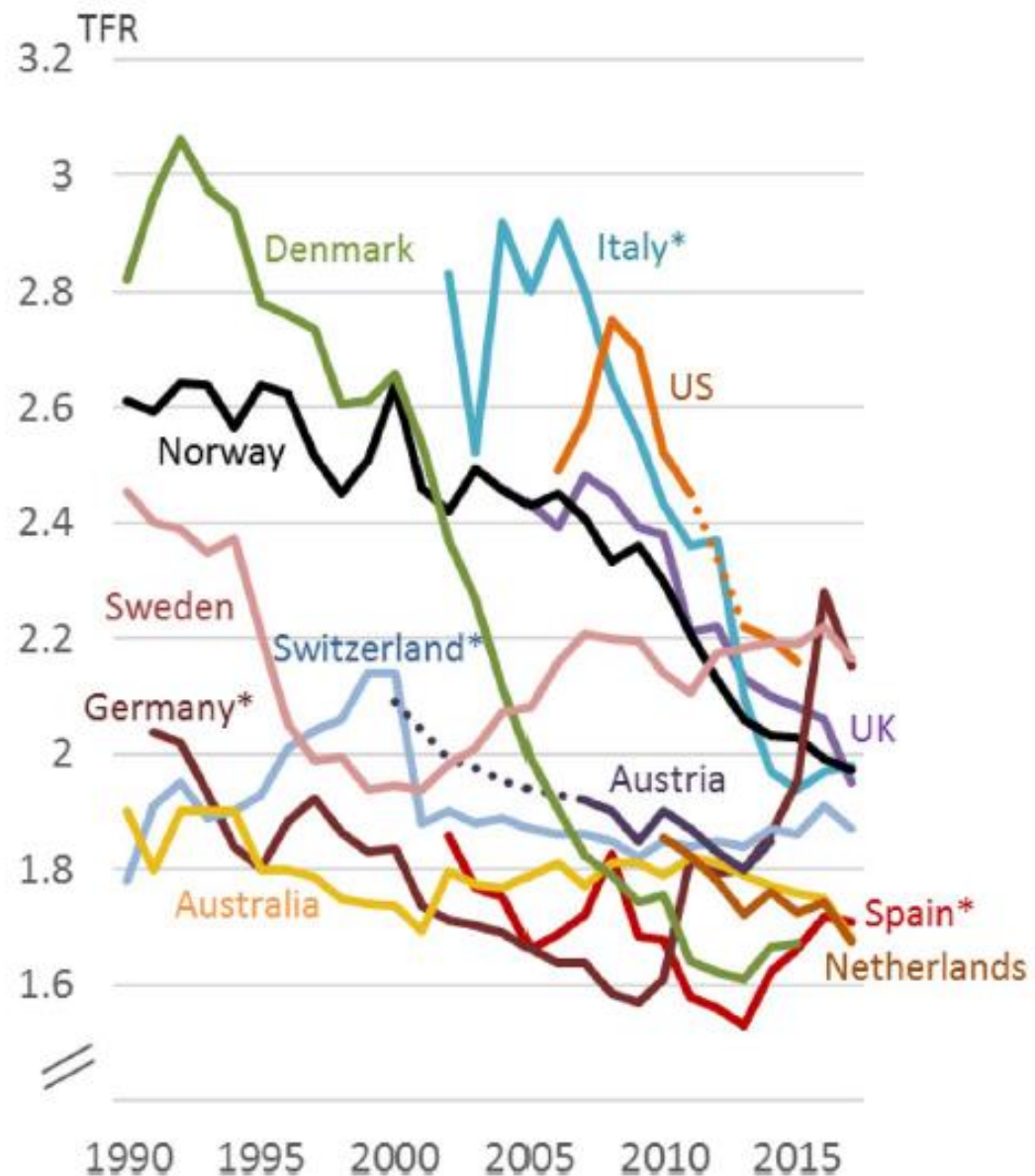
Shifting family formation to higher reproductive ages



Fertility rates at ages 35+, 1st births and total births in Spain

Sources: own computations based on Human Fertility Database, (www.humanfertility.org); accessed 9 June 2025

Falling fertility rates among migrant women



**Total Fertility Rate among
migrant women,
selected countries
1990-2017**

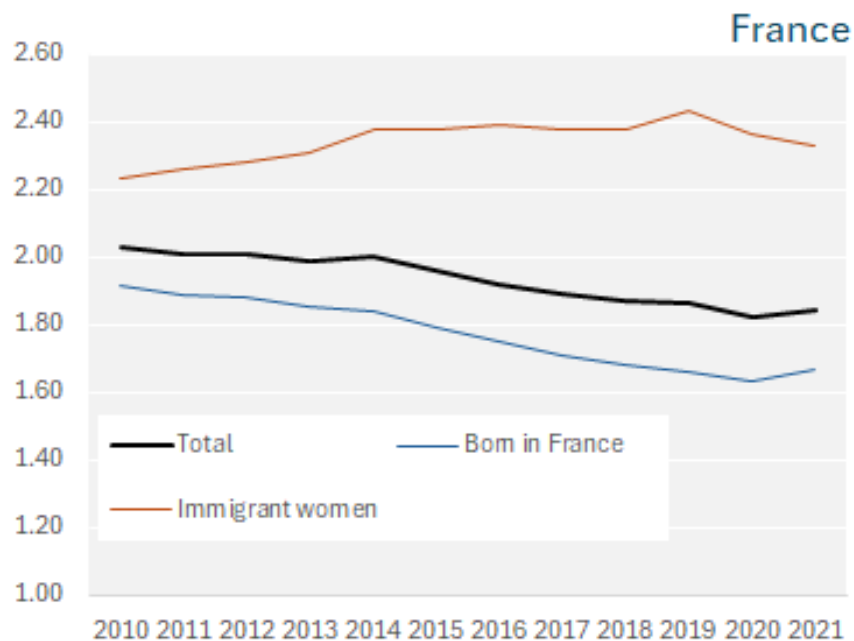
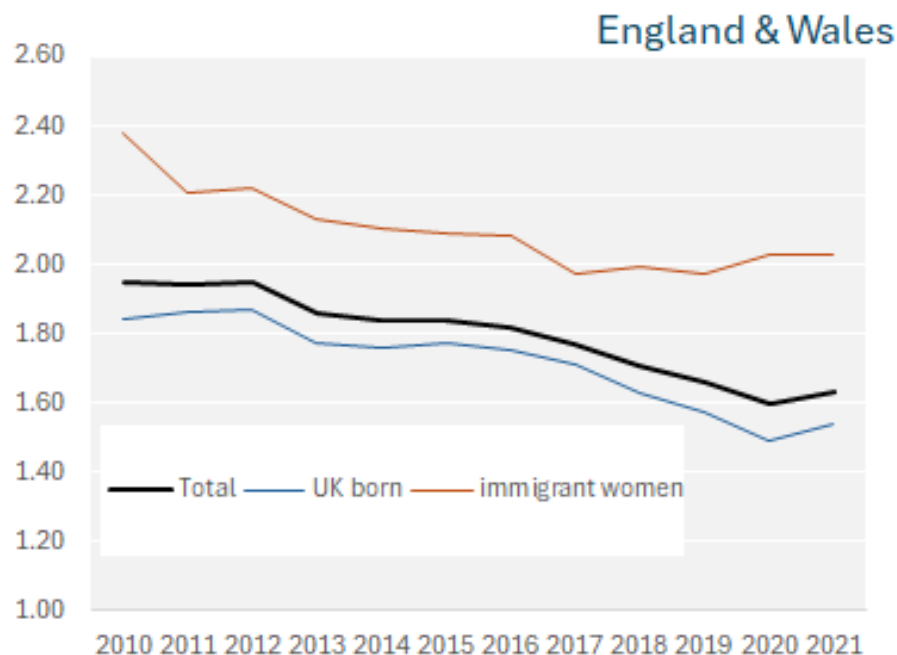
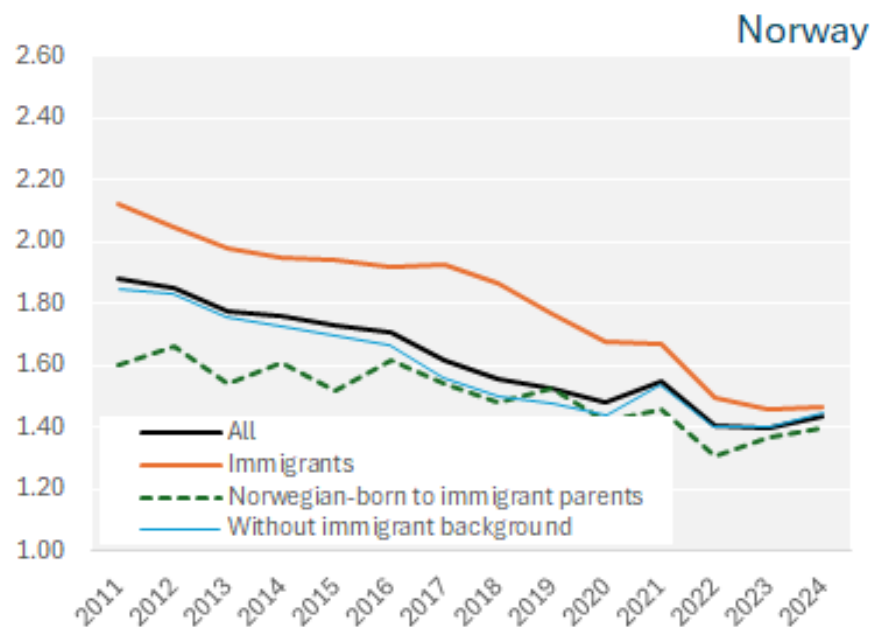
Source:

Tønnessen, M., 2019.
Declined total fertility rate among immigrants and the
role of newly arrived women in Norway.

European Journal of Population
(Figure 1)

<https://link.springer.com/article/10.1007/s10680-019-09541-0>

Cross-country differences in trends and impact of migrant women's fertility

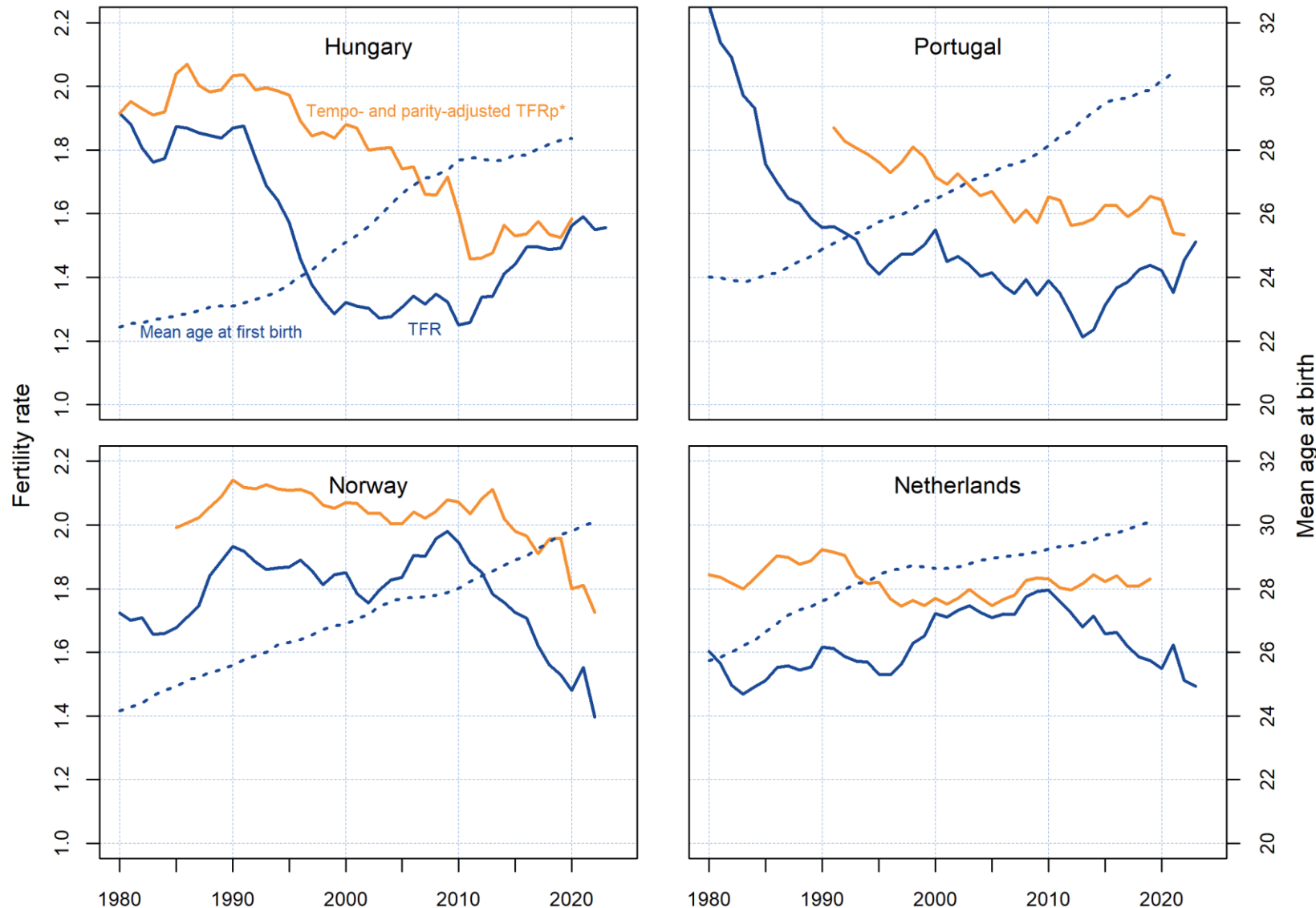


Total Fertility Rate by country of birth / migration background, selected countries, 2010-2024

Source:

Statistics Norway (Statbank 2025, Table 12482), ONS 2023 (Births by parent's country of birth), INSEE

Tempo effect: accelerating shift to later first births partly fueling period fertility declines



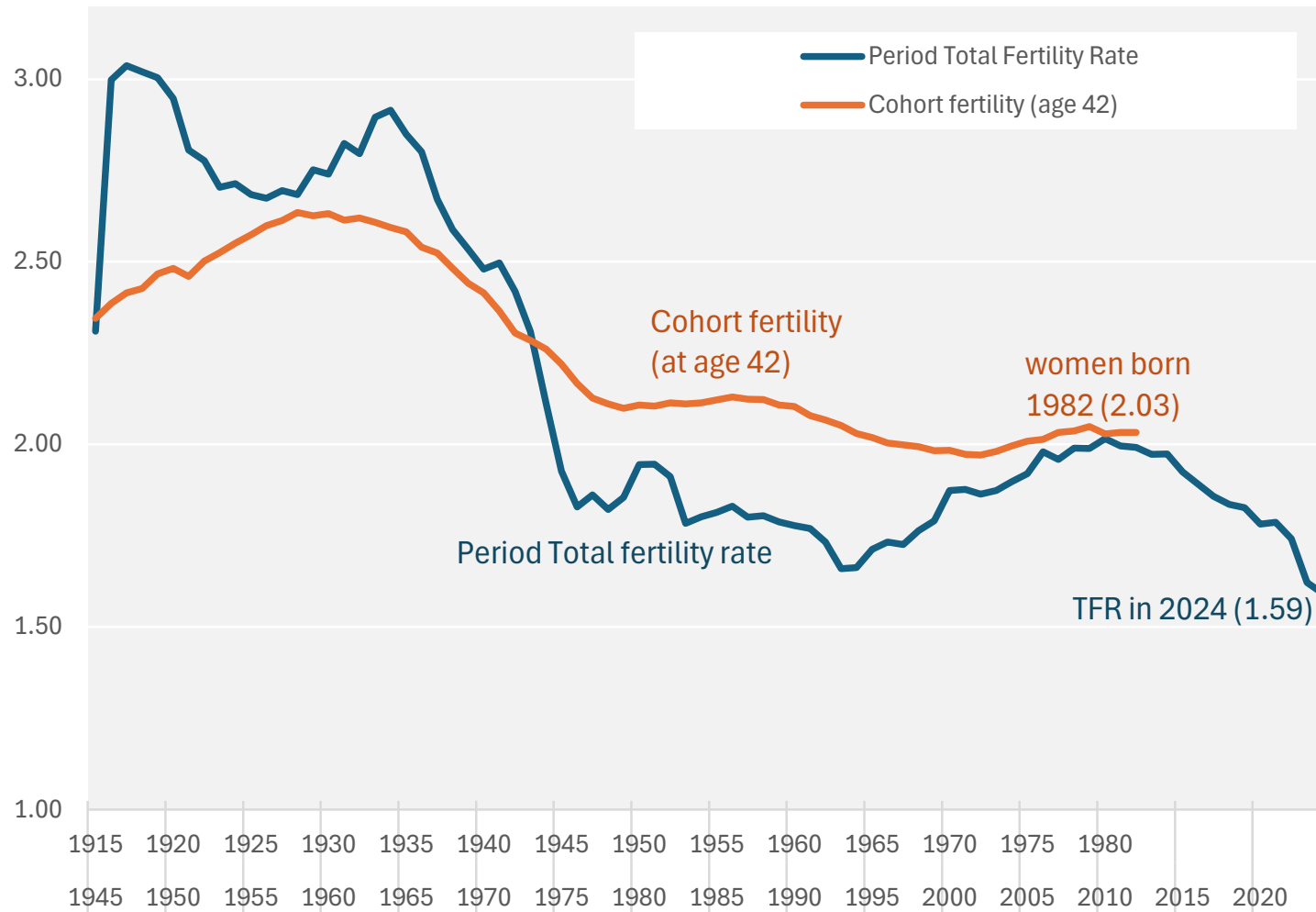
**Period TFR,
Tempo- and parity-
adjusted TFRp*
index and mean
age at first**

Source:

European Demographic
Datasheet 2024,

www.populationeurope.org

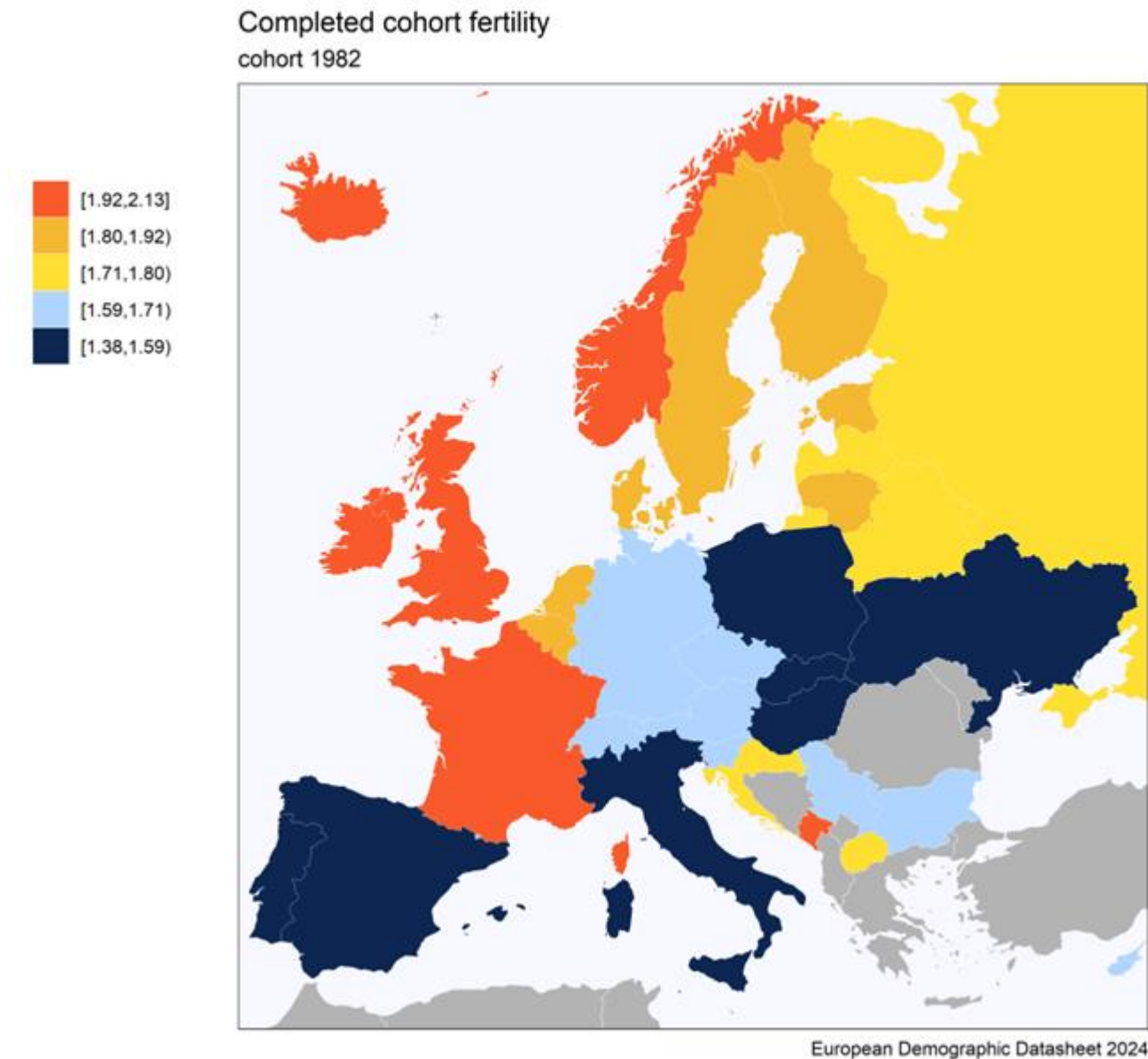
Cohort fertility rate (family size) remains higher and more stable than period fertility



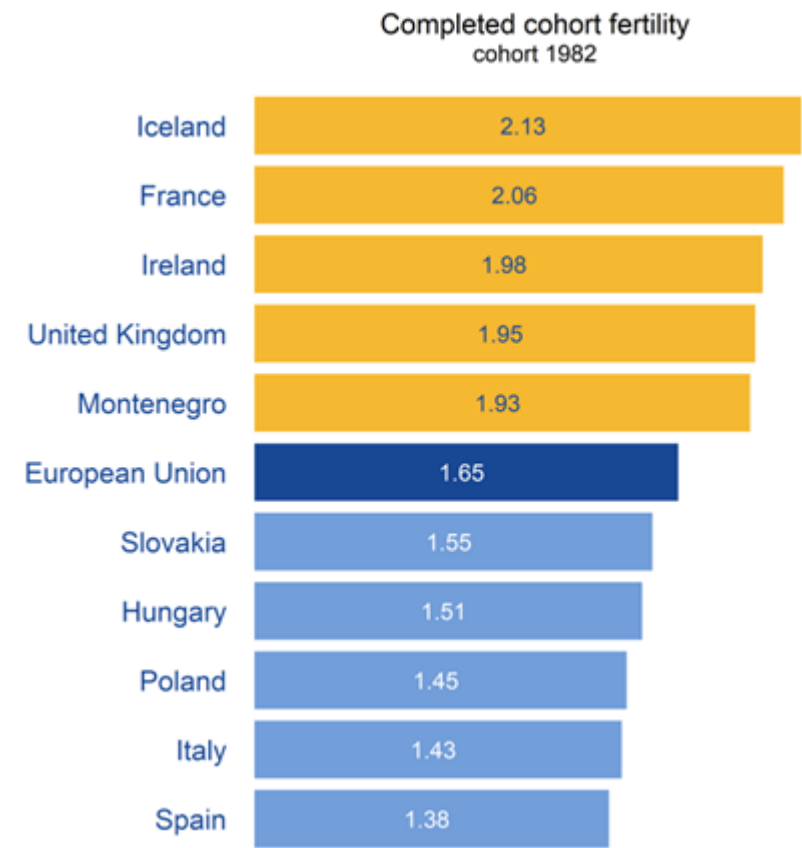
Period Total Fertility Rate (1945-2024) and Cohort fertility rate (family size) at age 42 (women born 1915-1982) in France

Data source: INSEE 2025. Naissances, natalité et fécondité Bilan démographique 2024 - Tableaux rétrospectifs. Accessed at <https://www.insee.fr/fr/statistiques/8313951?sommaire=8313983>

Fertility contrasts in Europe: a cohort view

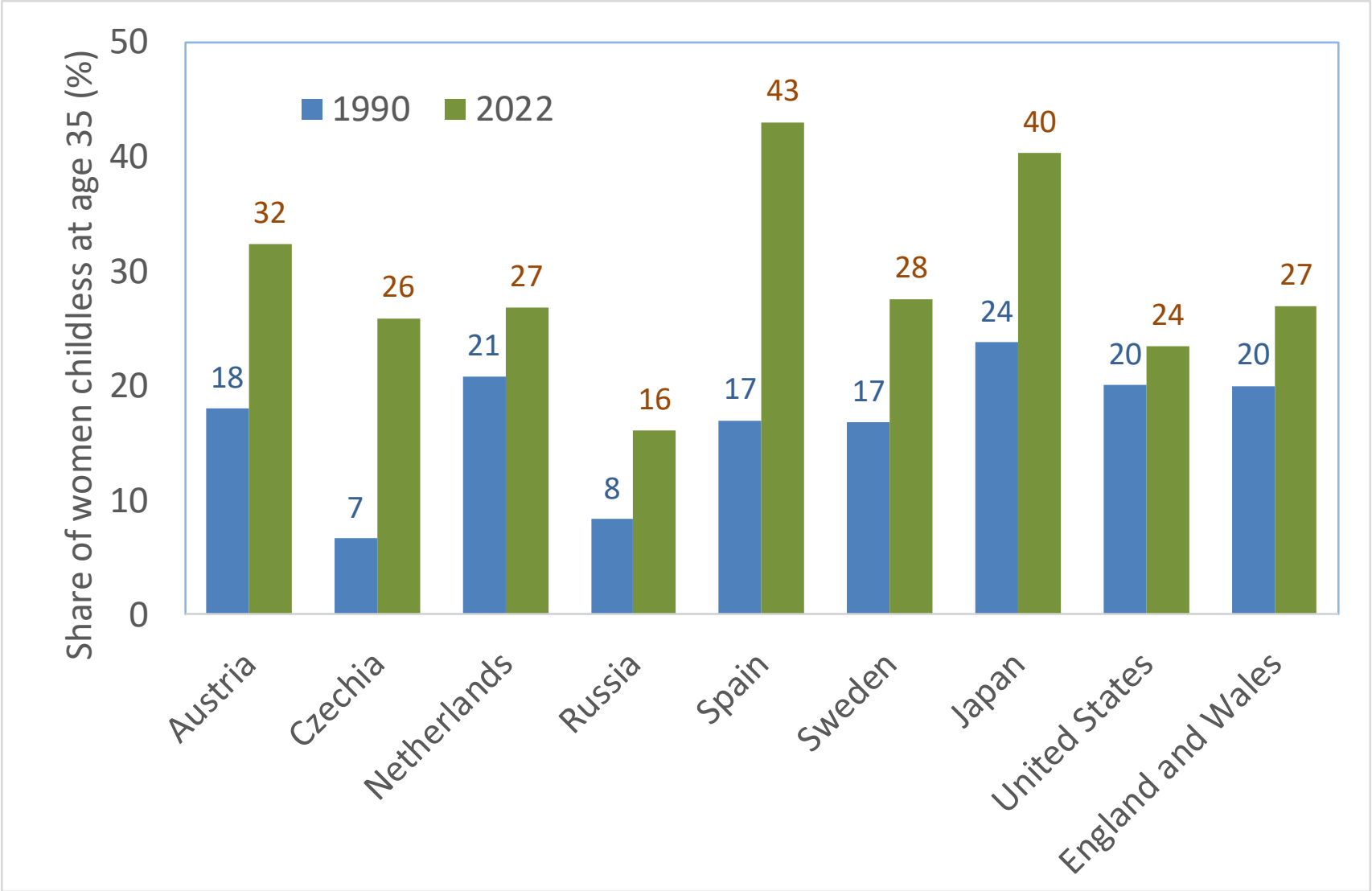


Completed Cohort Fertility in Europe: women born 1982. Top-5 and bottom-5 countries



Source: European Demographic Datasheet 2024,
www.populationeurope.org

More people remain childless in later reproductive ages



Women remaining childless when reaching age 35 (%), around 1990 and 2022 (or latest available)

Data Source:
own computations based on Human Fertility Database (www.humanfertility.org); accessed 29 November 2023; data for England and Wales based on ONS (2022) table 2 (*Childbearing statistics for women born in different years*).

Why having kids later? Not having a (right) partner

Finland: share of women and men living alone and period TFR, 1990-2019

Hellstrand et al (2022) on Finland

„Decreasing marriage (19%), cohabitation rates (2-4%) as well as higher union dissolution rates (6%) expained a smaller share of first birth decline“

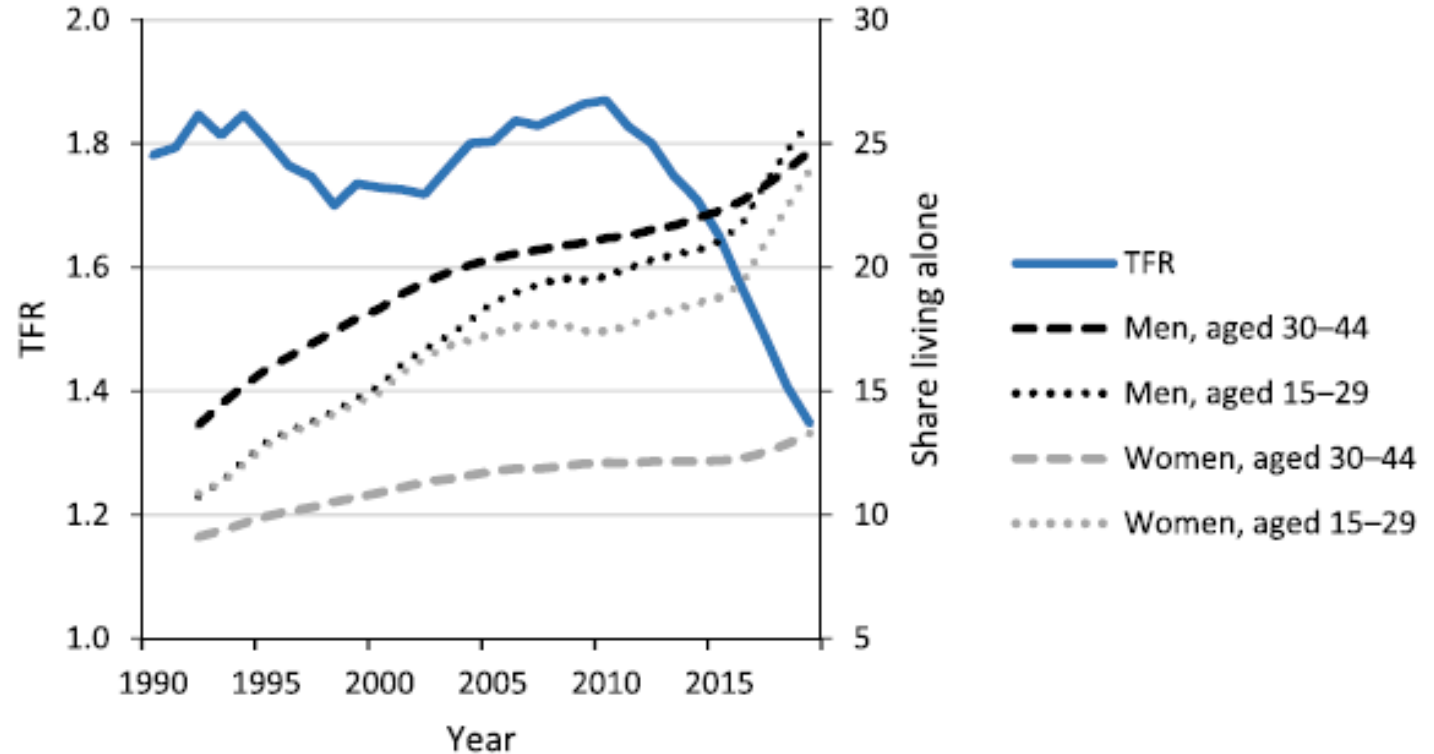
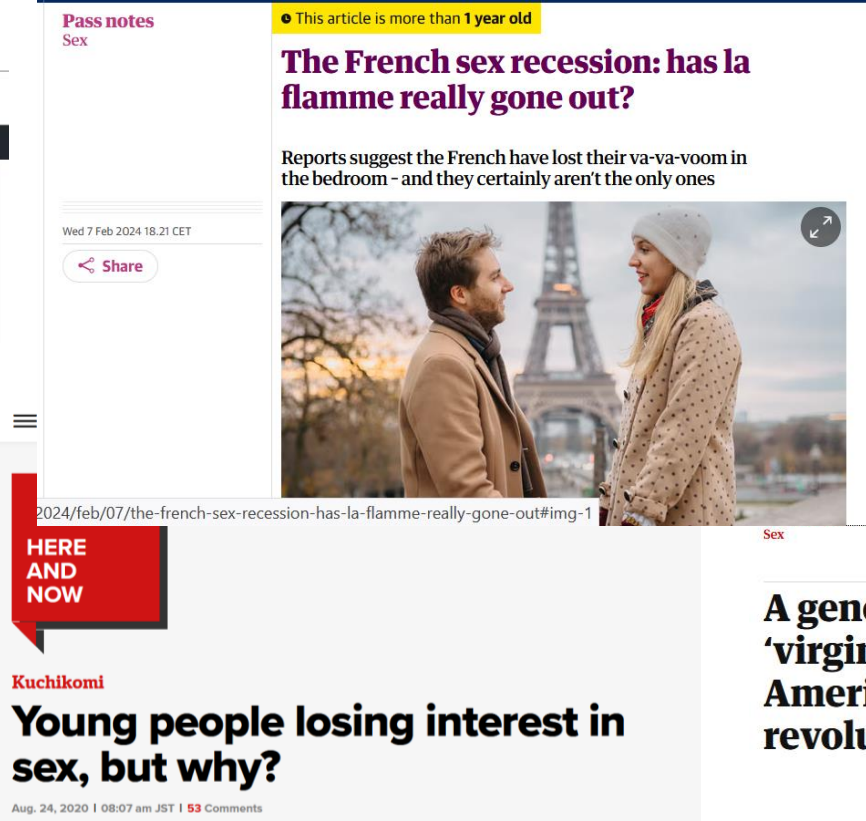
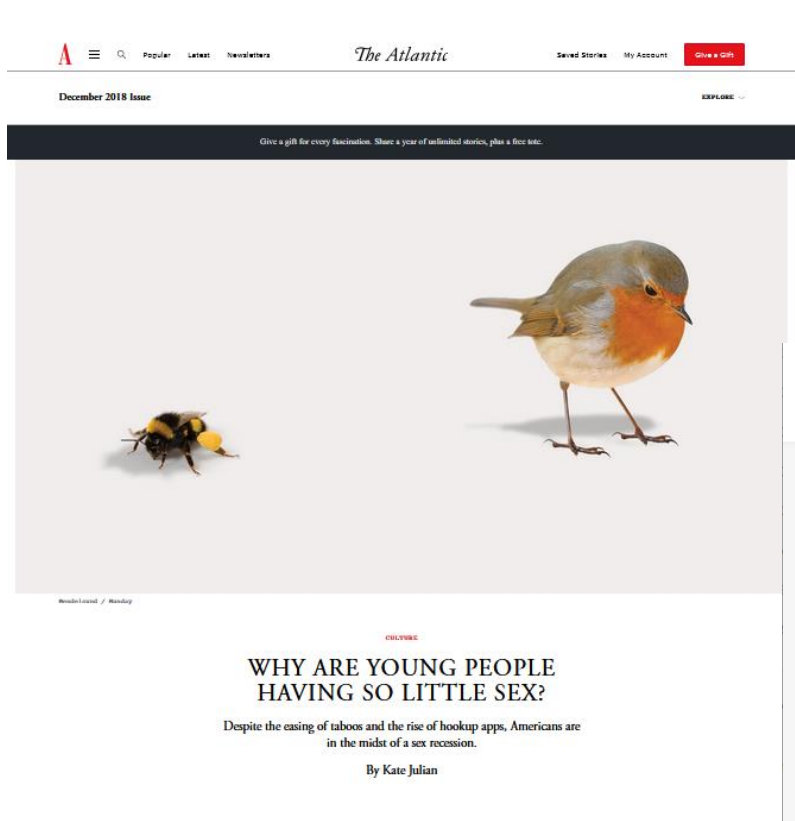


Fig. 1 The total fertility rate (TFR) and the share living alone by age group and gender in Finland, 1990–2019. Source: Statistics Finland 2020, authors' own calculations

Source: Hellstrand, J., Nisén, J. and Myrskylä, M., 2022. Less partnering, less children, or both? Analysis of the drivers of first birth decline in Finland since 2010. *European Journal of Population*, 38(2), pp.191-221.

Attractive topic often picked up by the media



Amour no more: Is France in the midst of a sex recession?

FRANCE



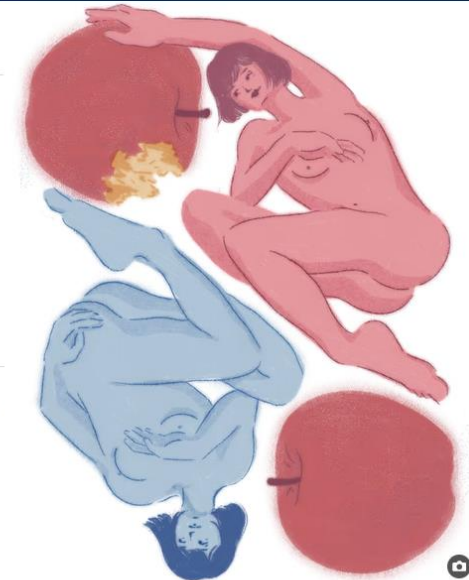
A generation of 'virgins' is leading America's next sexual revolution

Carter Sherman

Sun 29 Jun 2025 15:00 CEST

 Share

Although gen Z may be getting laid less than their elders, they're resisting older definitions of sex and gender - in the face of the right's bid for bodily control



The journalist perched on a stool in a corner of the bedroom, pen in hand, ready to jot down the most intimate details of our sex lives.



PODCAST

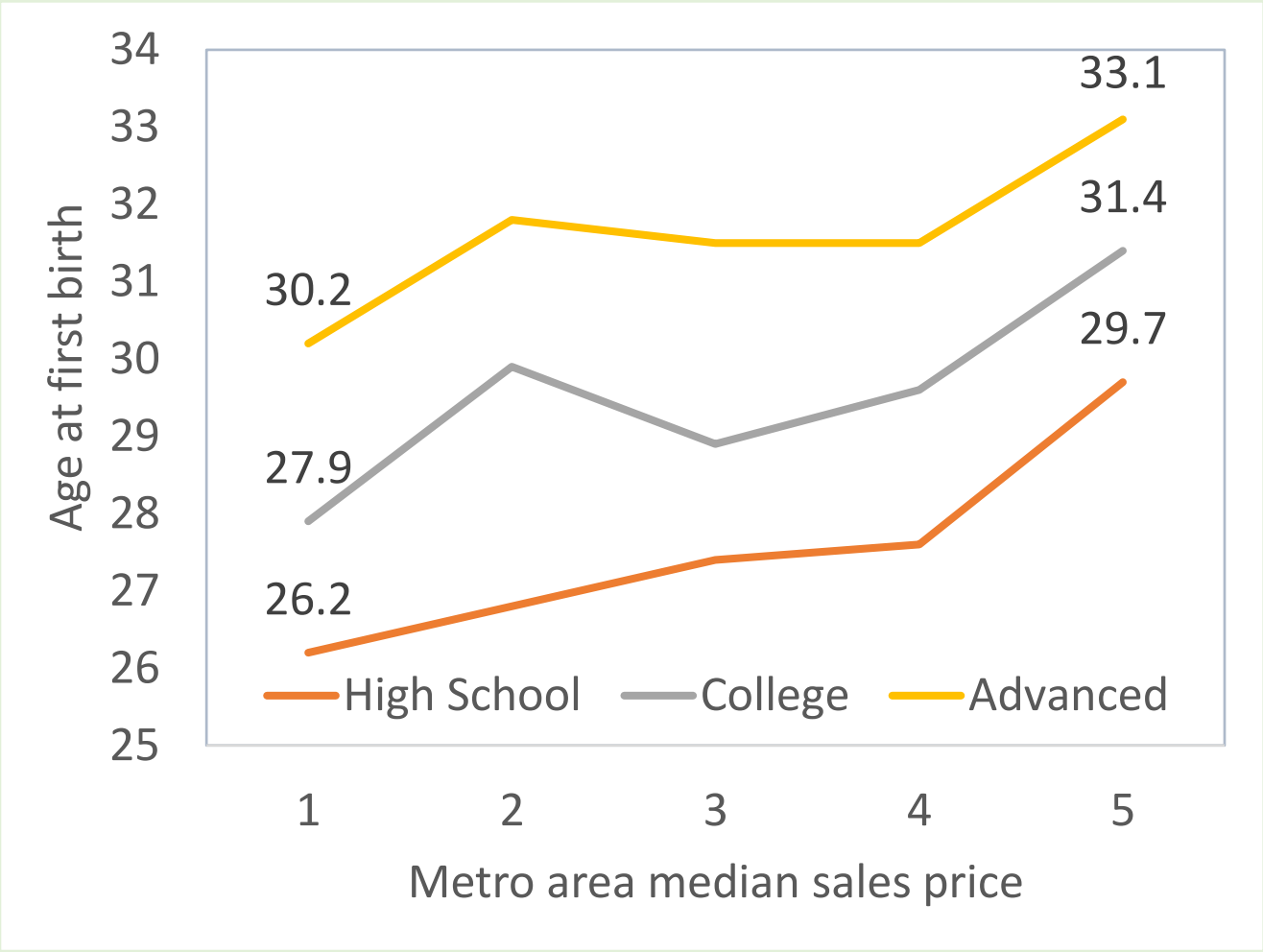
LIFE EXAMINED

Midweek Reset: Sexual Recession

Hosted by Jonathan Bastian • Sep. 18, 2024

HEALTH & WELLNESS

Housing availability (price, rental housing, mortgages) matters for family formation



Age at first birth by education, women in US metropolitan areas sorted by median housing sales price (1=Lowest, 5=Highest); women aged 20-44

Data source: Based on Table 2 in Clark, W.A.V. 2012. "Do women delay family formation in expensive housing markets?" *Demographic Research*

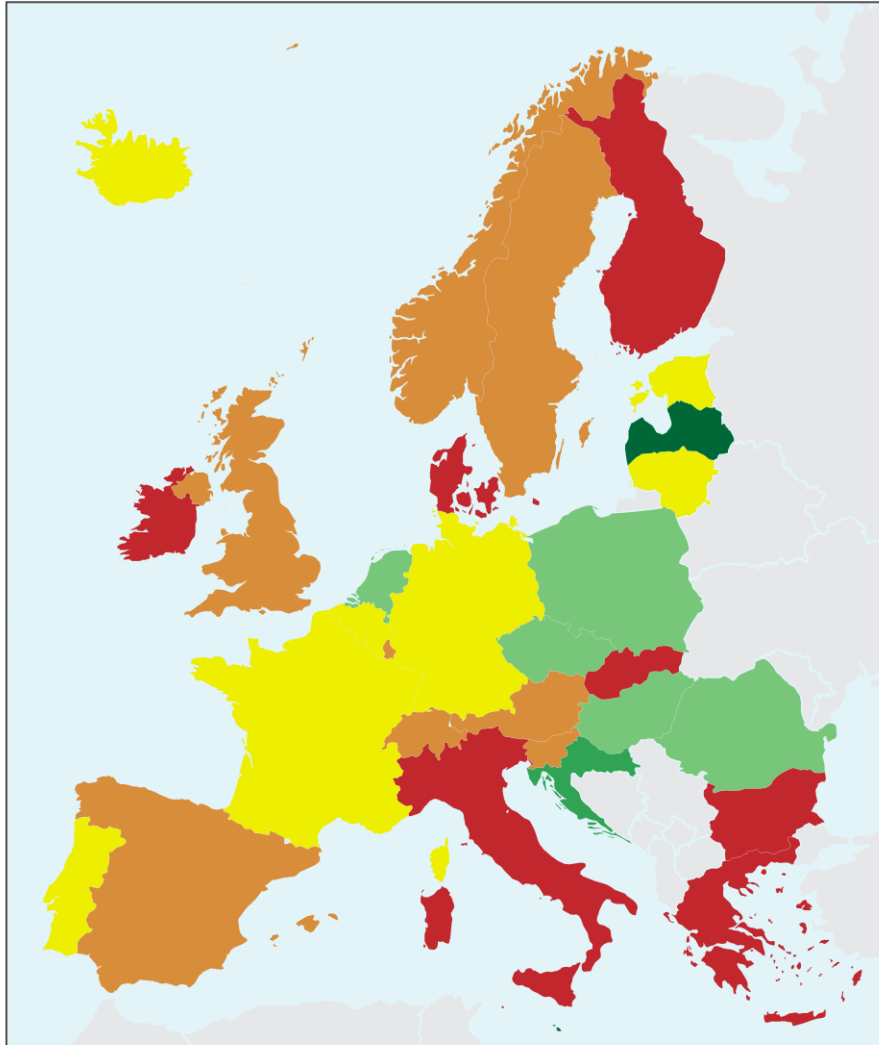
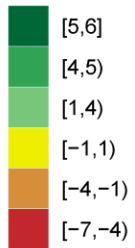
More recent evidence: Unaffordable real estate in the US linked to delayed childbearing (and lower completed fertility)

Japaridze, I. and Sayour, N., 2024. Housing Affordability Crisis and Delayed Fertility: Evidence from the USA. *Population Research and Policy Review*, 43(2), p.23.

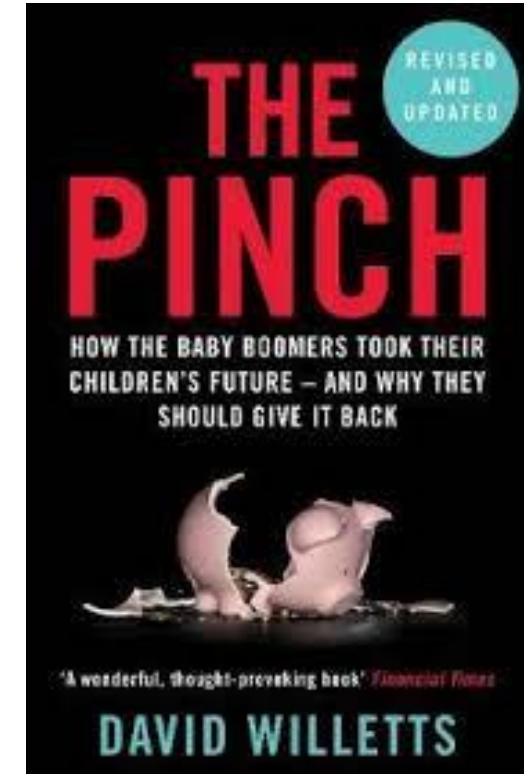
Rising income disparities and falling relative income among younger generation

Change in the relative economic position of young adults (2008–2017):
median equivalised income at age 20–39 relative to total median

REHI



European Demographic Datasheet 2020

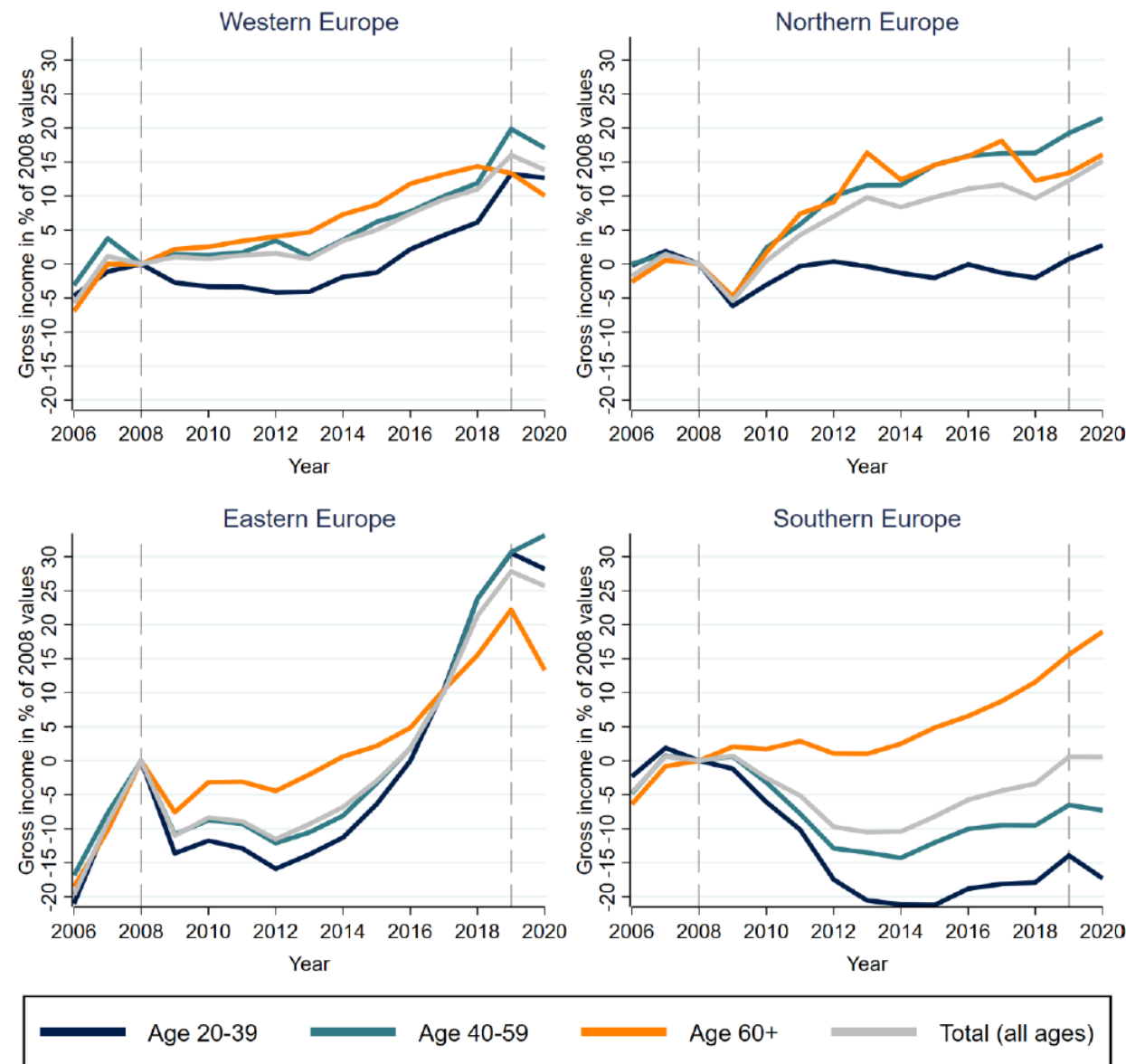


Source: Bernhard Hammer, *European Demographic Data Sheet 2020*;
www.populationeurope.org

European regions with the lowest fertility and strongest fertility declines in the 2010s experienced strongest income deterioration among young adults

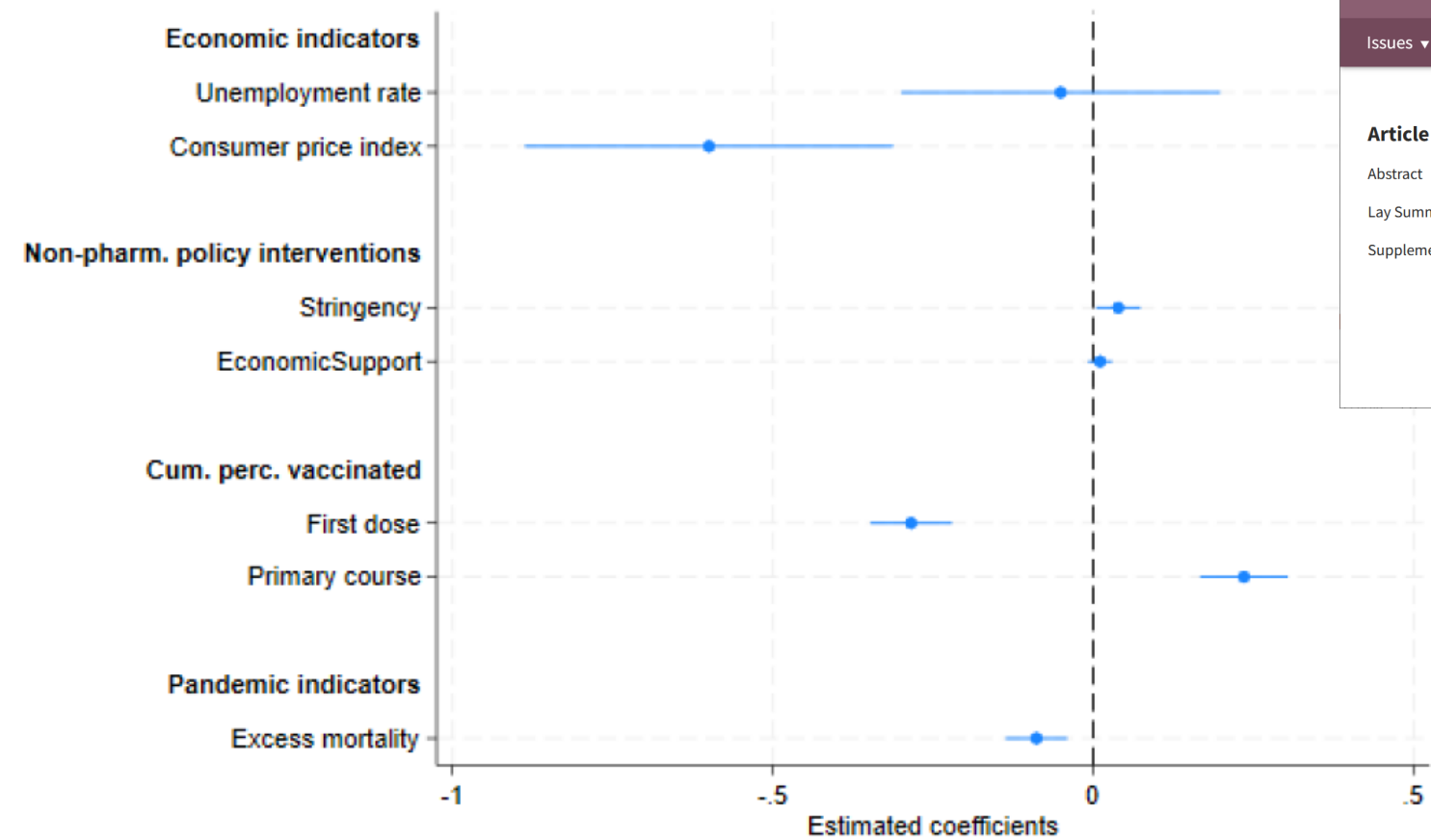
Source: Sonja Spitzer et al. 2023. Intergenerational income dynamics in Europe: Past trends and current challenges. Eurofound. WPEF2303.
<https://www.eurofound.europa.eu/en/publications/eurofound-paper/2023/intergenerational-income-dynamics-europe-past-trends-and-current>

Figure 7: Changes in age-specific gross income in % of 2008 values by region, EU27 (excluding Croatia)



Explaining short-term shifts: fertility drops during the later pahse of COVID-19 pandemic associated with inflation

Figure 3: Estimated model coefficients of the fixed effect model of the monthly seasonally adjusted TFR per 100 women.



human reproduction open

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Abstract Lay Summary Supplementary data

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Birth rate decline in the later phase of the COVID-19 pandemic: the role of policy interventions, vaccination programmes and economic uncertainty

Maria Winkler-Dworak ✉, Kryštof Zeman, Tomáš Sobotka

Human Reproduction Open, hoae052, <https://doi.org/10.1093/hropen/hoae052>

Published: 10 September 2024 Article history ▾

Note: The regression model includes additional controls for the first COVID-19 wave and country fixed effects.

Fertility panic: the rise of explicit pronatalist policies

- **“Instrumentalizing”** family policies for governments' population goals: “demographic security”; often misplaced and unrealistic expectations
- **Explicit** Total Fertility Rate **targets** in national policy documents and official speeches
- Direct and indirect monetary incentives at the heart of pronatalist efforts
- Obsession with population numbers and “renewal” or “replacement” especially among the authoritarian leaders (e.g., Russia, Turkey, Belarus, Iran)
- Often linked to conservative ideological / family agenda and nationalistic ideology
- Ignoring the often larger impact of outmigration

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

- ❑ Explicit pronatalist policies and goals in Turkey, Hungary, Russia, Poland and other countries; often with specific TFR targets

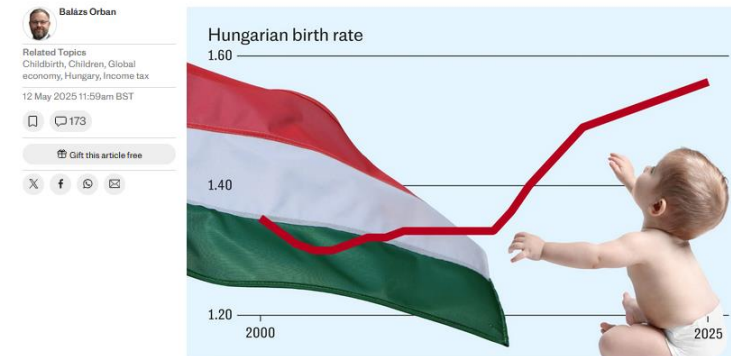
Hungarian pronatalist policies

- 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

Balázs Orban

This is how Hungary climbed the birth-rate rankings

We must state clearly: migration is not the solution to demographic decline



Home ELFAC • Activities • Events • News • Family Goals



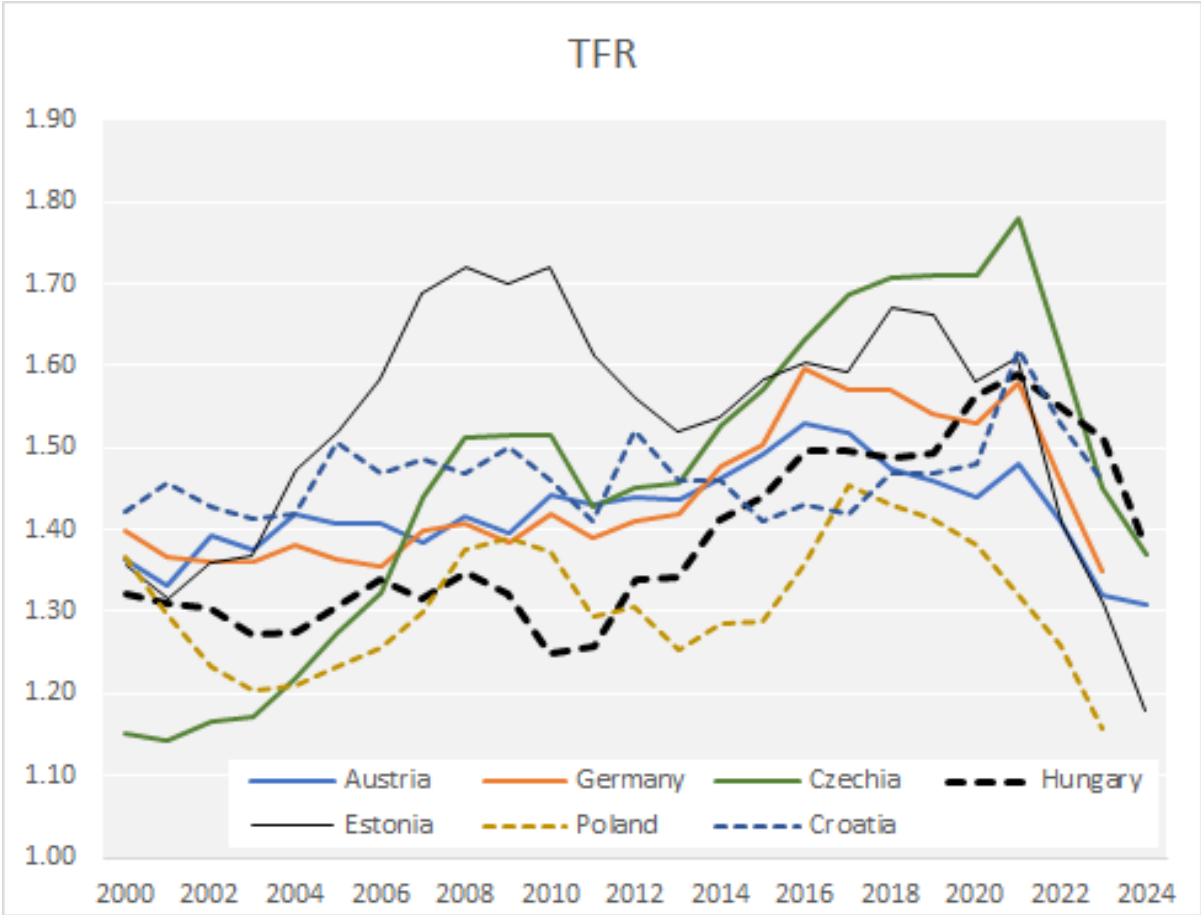
Hungary: Prime Minister Viktor Orbán announced a seven-point family protection action plan

11 February, 2019 by Adrien

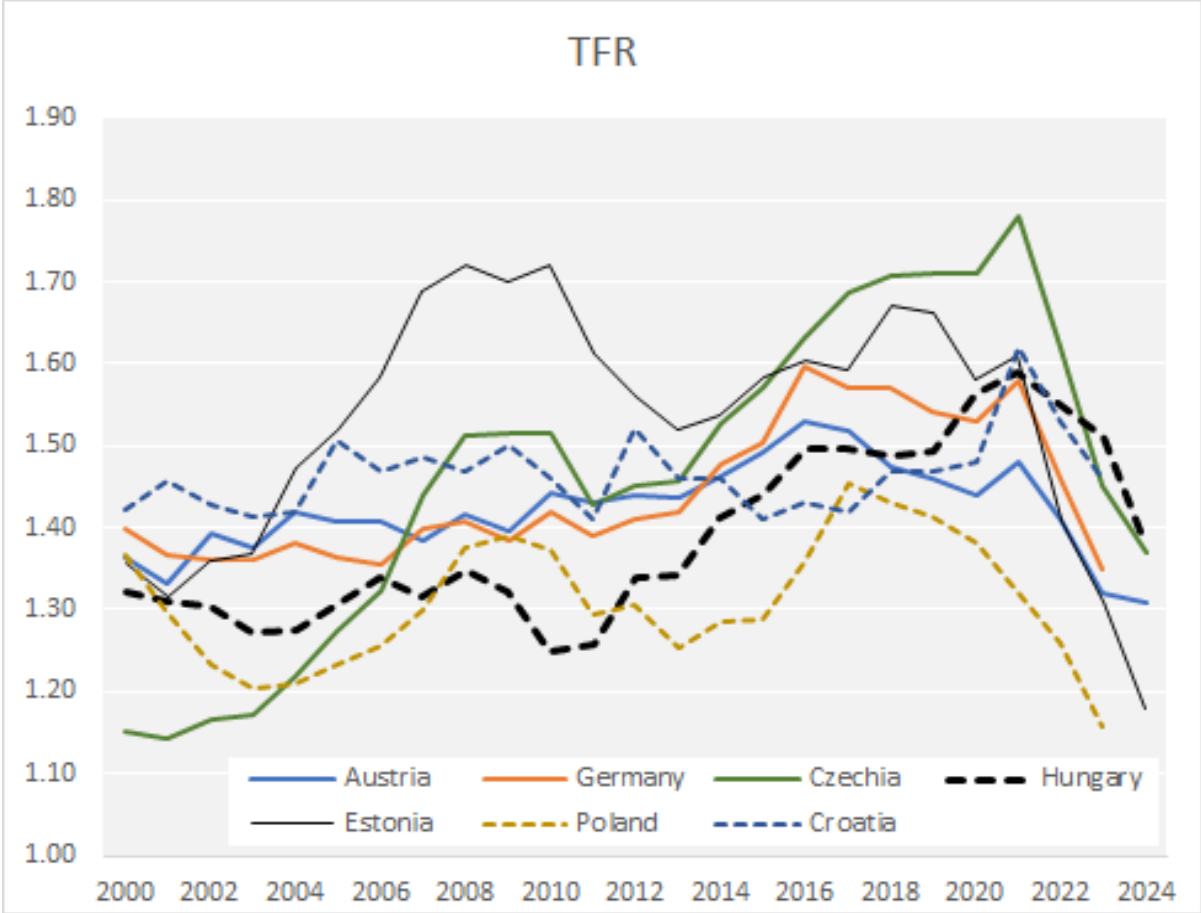
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In his “state of the nation” address at the Castle Garden Bazaar in Budapest on February 10, Prime Minister Viktor Orbán announced a seven-point family protection action plan. The Prime Minister said that Hungarians once more have confidence in their future, and national unity has been created on the issue of families.

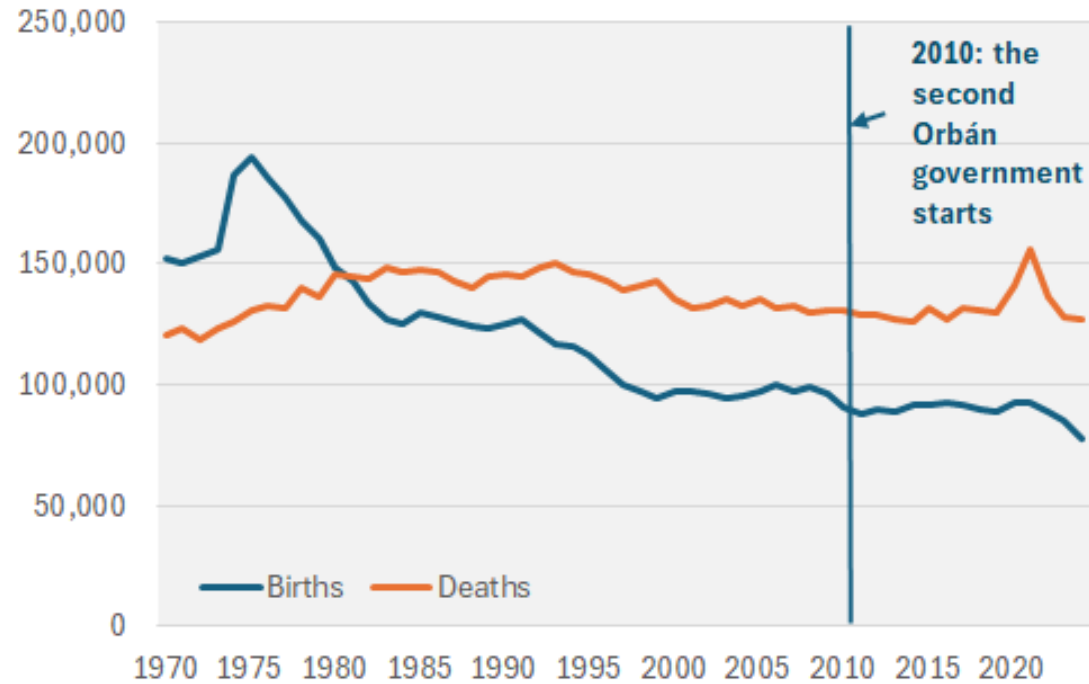
Total fertility rates, selected Central European countries, 2000-2024



Total fertility rates, selected Central European countries, 2000-2024



Births and deaths, Hungary, 1970-2024

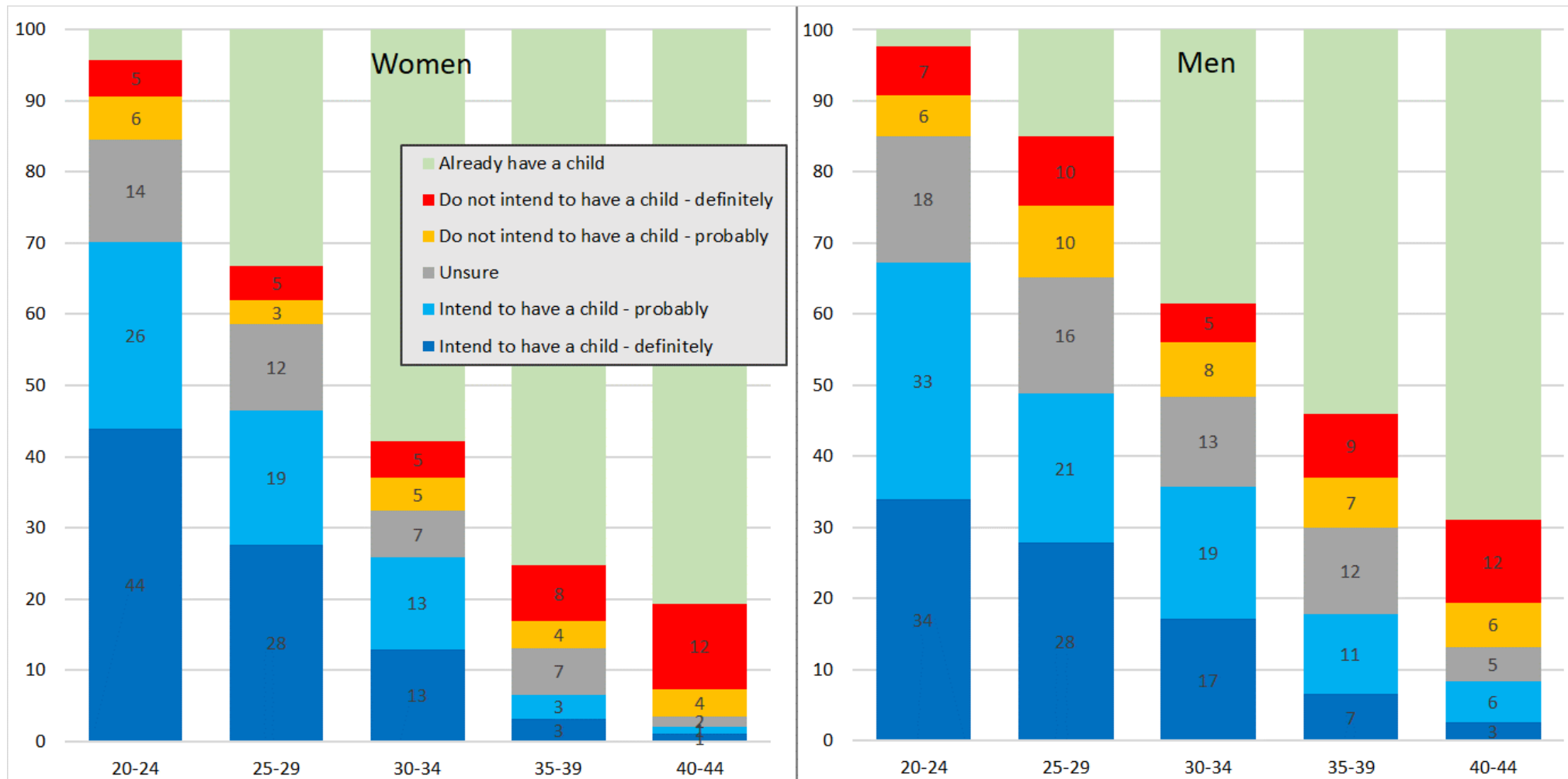


The number of children born in 2024 (77 500) is by 40% lower than the average number required to keep Hungary's population stable without immigration

Changing view of parenthood among younger generations (Millennials, Gen Z)

Young adults: Uncertain reproductive preferences

Fertility intentions among childless women and men in Austria (2022)



Source:
Generations and Gender Survey Austria, 2022.

Data analysed
by Kryštof
Zeman

Young adults:

Perceived pressures and negative future outlook

Vignoli et al. (2020, 2022): expectations, imaginaries and *narratives of the future* affect fertility decisions beyond the impact of economic uncertainty

- ❑ Broad perception that economic inequality worsened and likely to get worse
- ❑ Unaffordable housing
- ❑ Stalling or falling relative incomes at ages < 35 in many countries (EDS 2020)
- ❑ Insecure jobs and dual labour market
- ❑ Unfolding crises affect younger generation the most

OECD 2024. Society at a Glance 2024. OECD Social Indicators

EDS 2020. European Demographic Datasheet 2020. www.populationeurope.org

Hwang, In Do et al. 2023. "Lowest-low Fertility and Super-aged Society: Causes and Impacts of the Extreme Population Structure, and Policy Options" (November 30, 2023). Bank of Korea. Chapter 3 in *Korea Economic Outlook* (November 2023).

David Brooks (2024): pessimism, negativity and gloom permeating US culture and expectations of younger generations

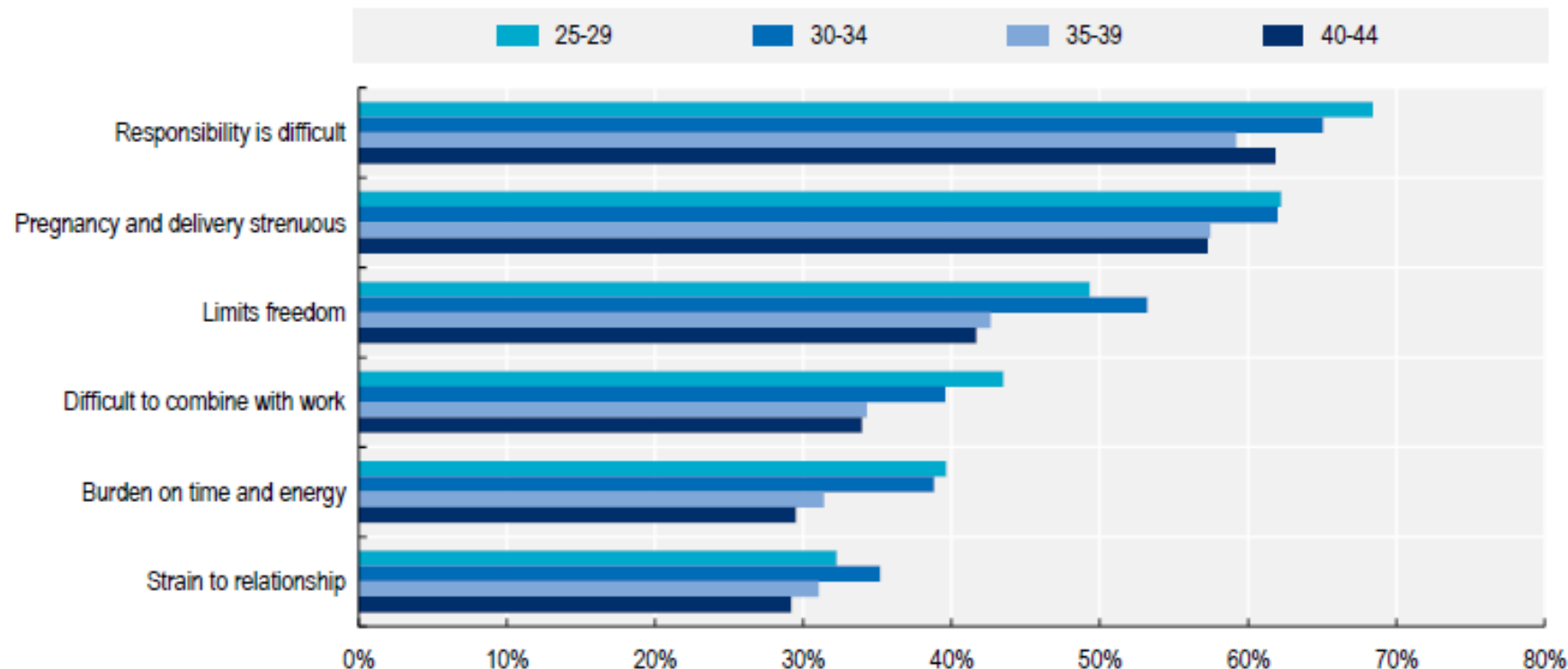
“In previous eras, people were enculturated to see parenthood as a challenging but deeply rewarding and love-drenched experience. Now motherhood is regarded as a postapocalyptic shit show.”

The Atlantic, 31 January 2024: “Chicken Littles Are Ruining America Doomsaying can become a self-fulfilling prophecy.”

Having kids seen as a (too) big burden to many

Figure 5.3. Daunting responsibility is most commonly reported as an important reason to not have (more) children

Proportion of respondents age 25-44 stating that each reason is a “fairly important” or “very important” reason to not have (more) children, by age group, Norway, 2020



Source: OECD (2023), Exploring Norway's Fertility, Work, and Family Policy Trends, OECD Publishing, Paris, <https://doi.org/10.1787/f0c7bddf-en>

Shifting views on parenthood and parenthood responsibilities?

Fertility shifts cannot be explained solely by economic factors and structural constraints

Reproduction is increasingly optional, uncertain, delayed, negotiated between partners, and contingent upon individual circumstances

- ❑ Changing partnerships and intimate behaviour; higher level of loneliness
- ❑ Digital generation: not a cool thing to have kids: sacrifice; parenthood also perceived as a burden
- ❑ Unclear impact of social media and digital technologies
- ❑ Absence of “cues” – few children mean less motivation for parenthood

Rotkirch, A., 2020. The wish for a child. *Vienna Yearbook of Population Research*, 18, pp.49-62. doi:

[10.1553/populationyearbook2020.deb05](https://doi.org/10.1553/populationyearbook2020.deb05)

Twenge, J. M. 2017. *iGen: Why today's super-connected kids are growing up less rebellious, more tolerant, less happy - and completely unprepared for adulthood - and what that means for the rest of us*. Simon and Schuster.

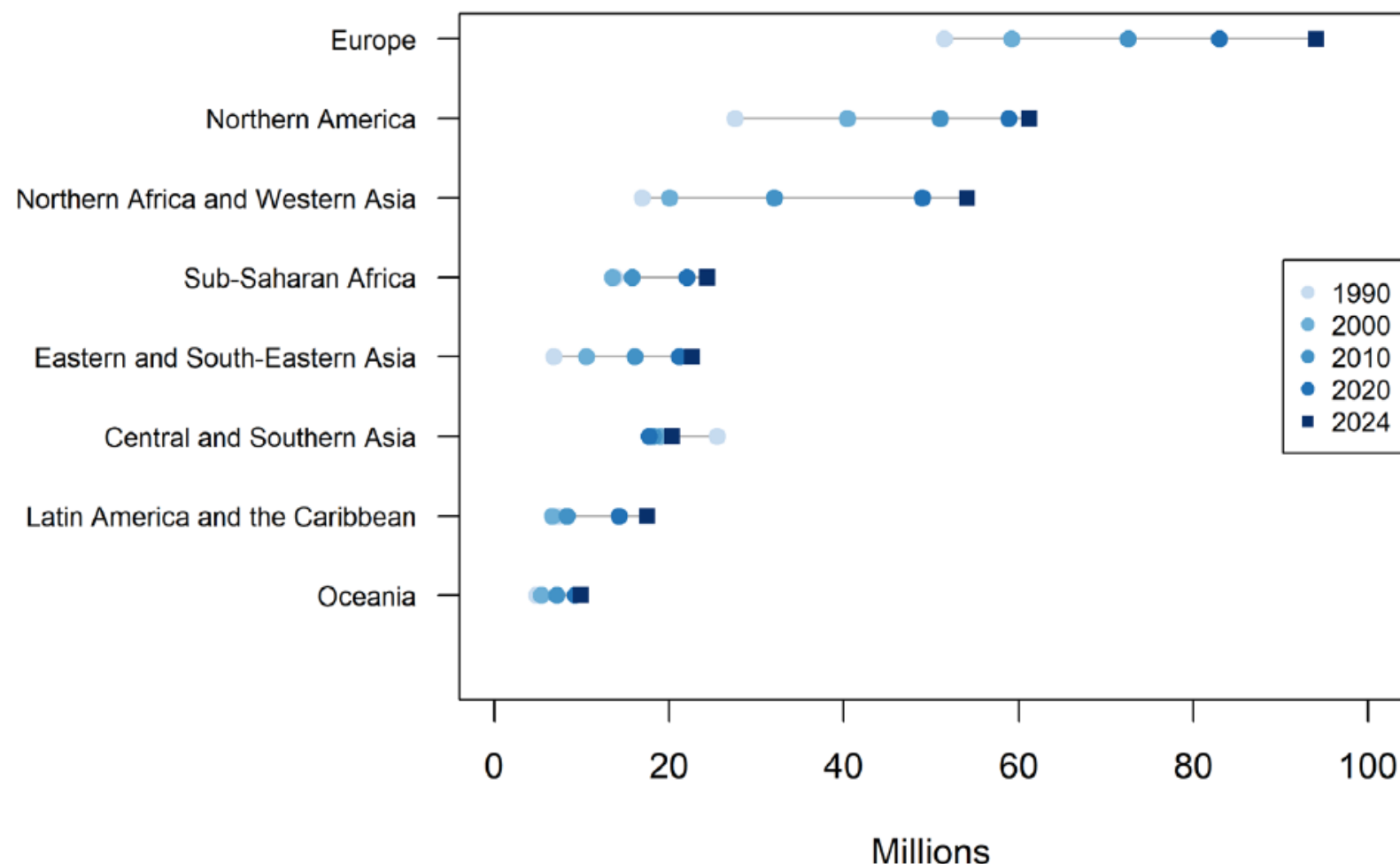


Migration and migration challenges

Europe hosts the largest & rising number of migrants

Figure 2

Number of international migrants by region of destination, 1990-2024



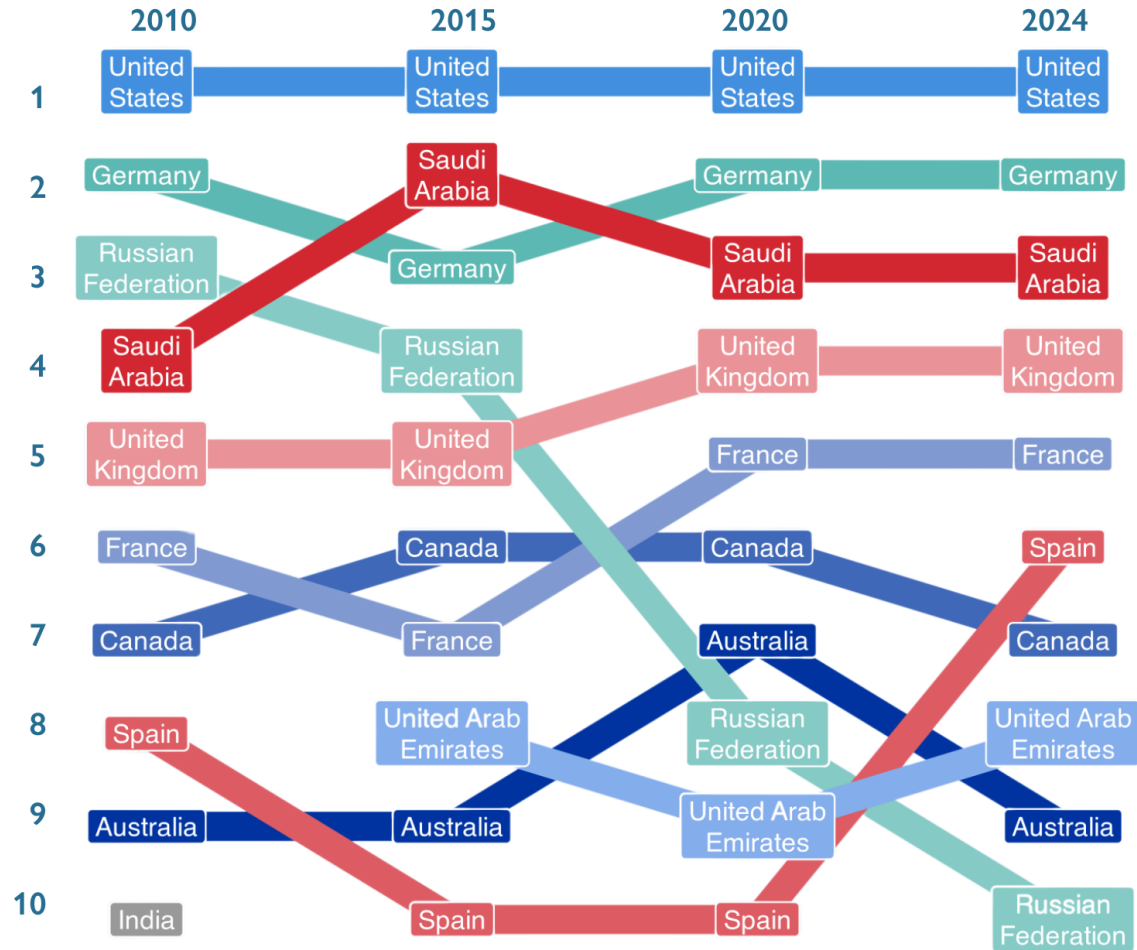
Source: Figure 2 in United Nations (2024). International Migrant Stock 2024: Key facts and figures. UN DESA/POP/2024/DC/NO. 13..

source: United Nations (2025).
Note: Regions ordered by number of international migrants in 2024.



Top 10 countries of destination of international migrants, 2010 - 2024

The United States remained the top destination country for migrants at mid-year 2024.



Source: UN DESA, 2025.

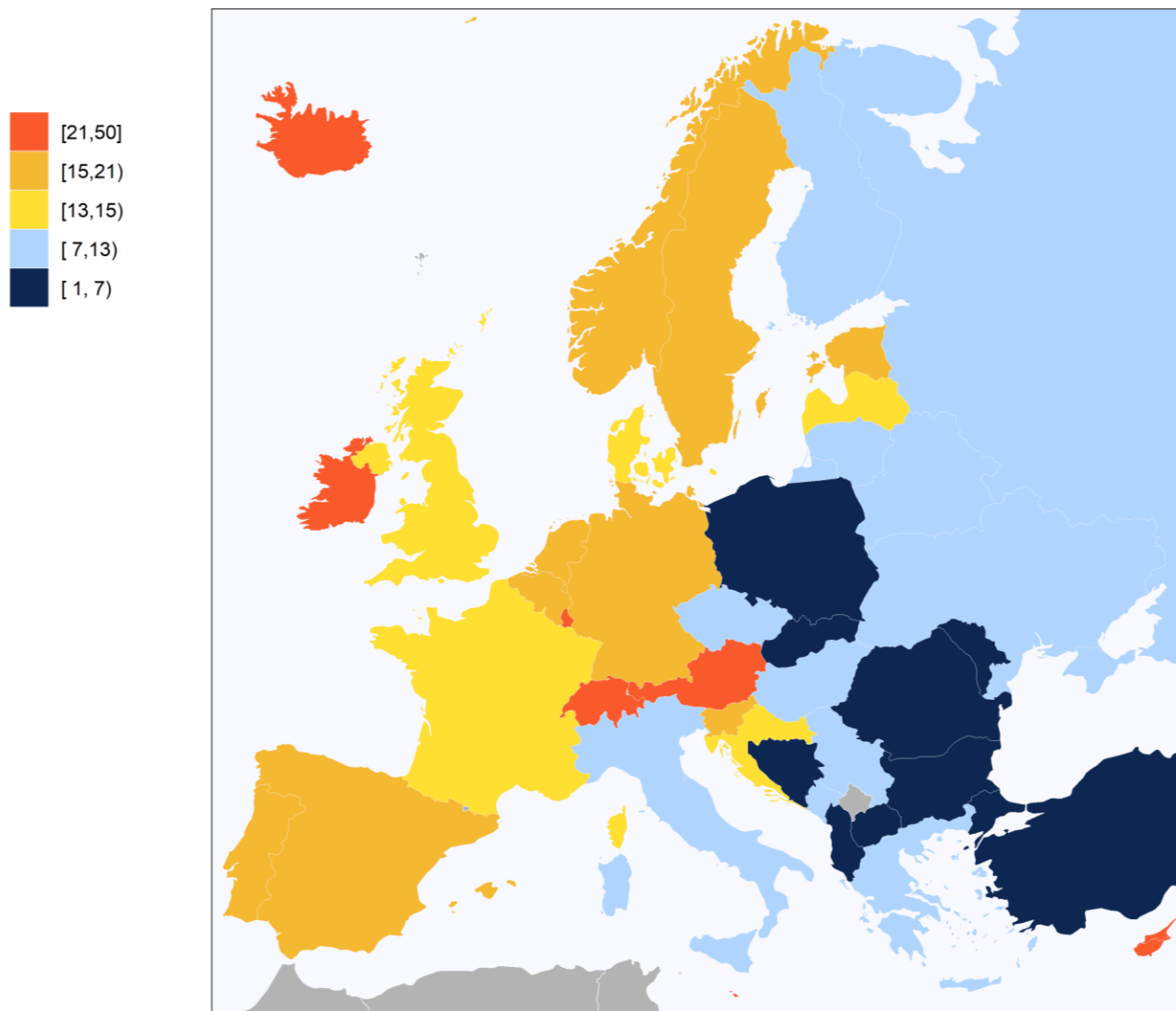
Top countries of destination

Source:

The Global Migration data Portal (the Global Migration Data Analysis Centre (GMDAC) of the International Organization for Migration (IOM)) 2025.

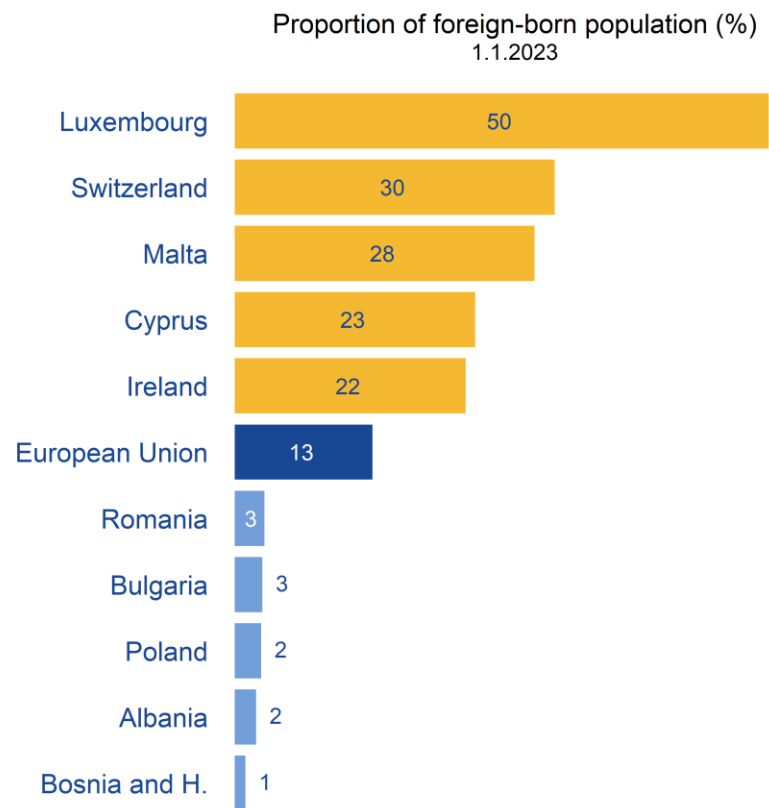
<https://www.migrationdataportal.org/themes/international-migrant-stocks-overview>

Proportion of foreign-born population (%)
1.1.2023



European Demographic Datasheet 2024

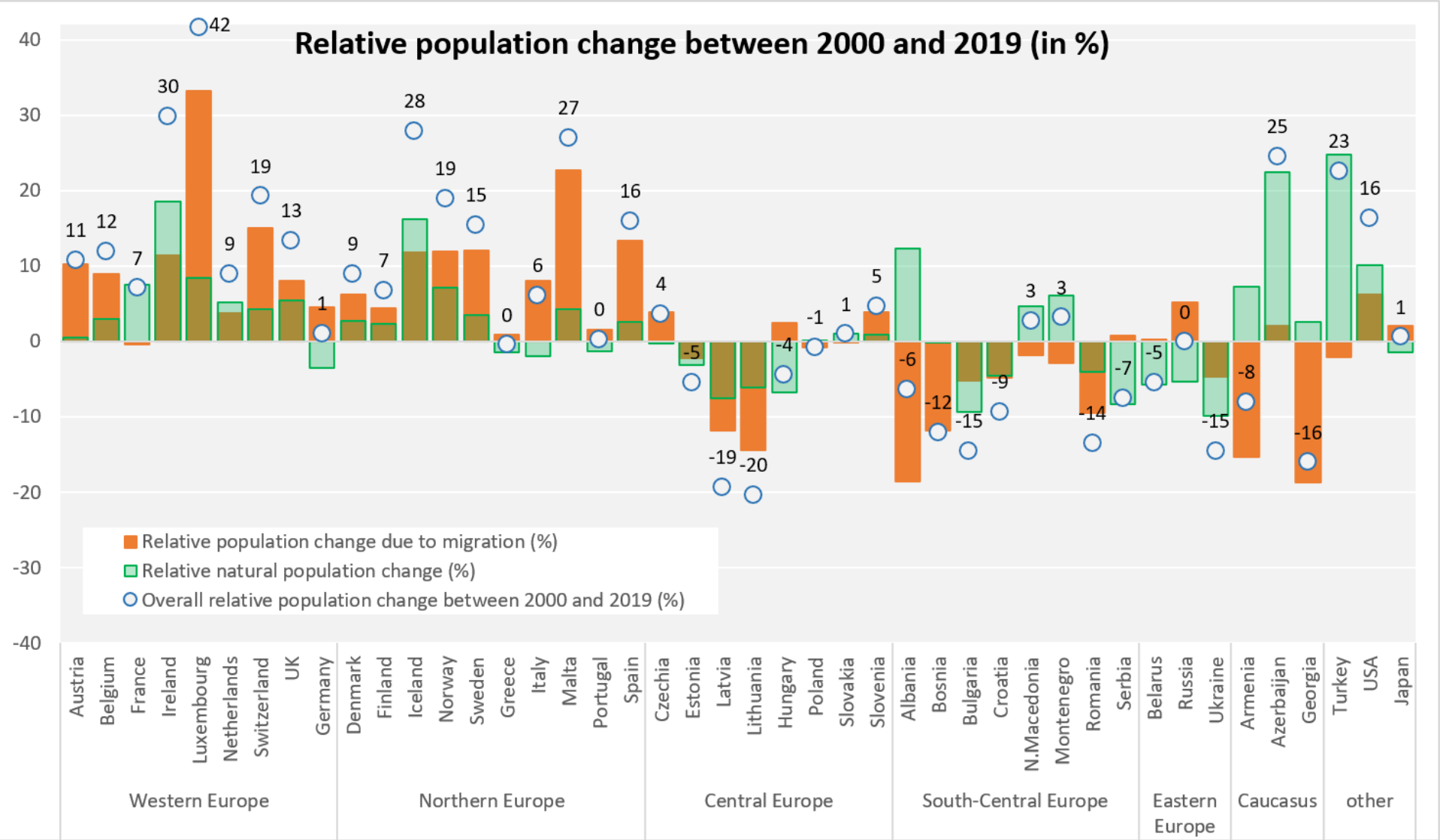
Foreign-born population in Europe (%)



European Demographic Datasheet 2024

Source: *European Demographic Data Sheet 2024*;
<http://www.populationeurope.org>

Migration as an engine of population growth in the North, West and South of Europe (2000-2019)

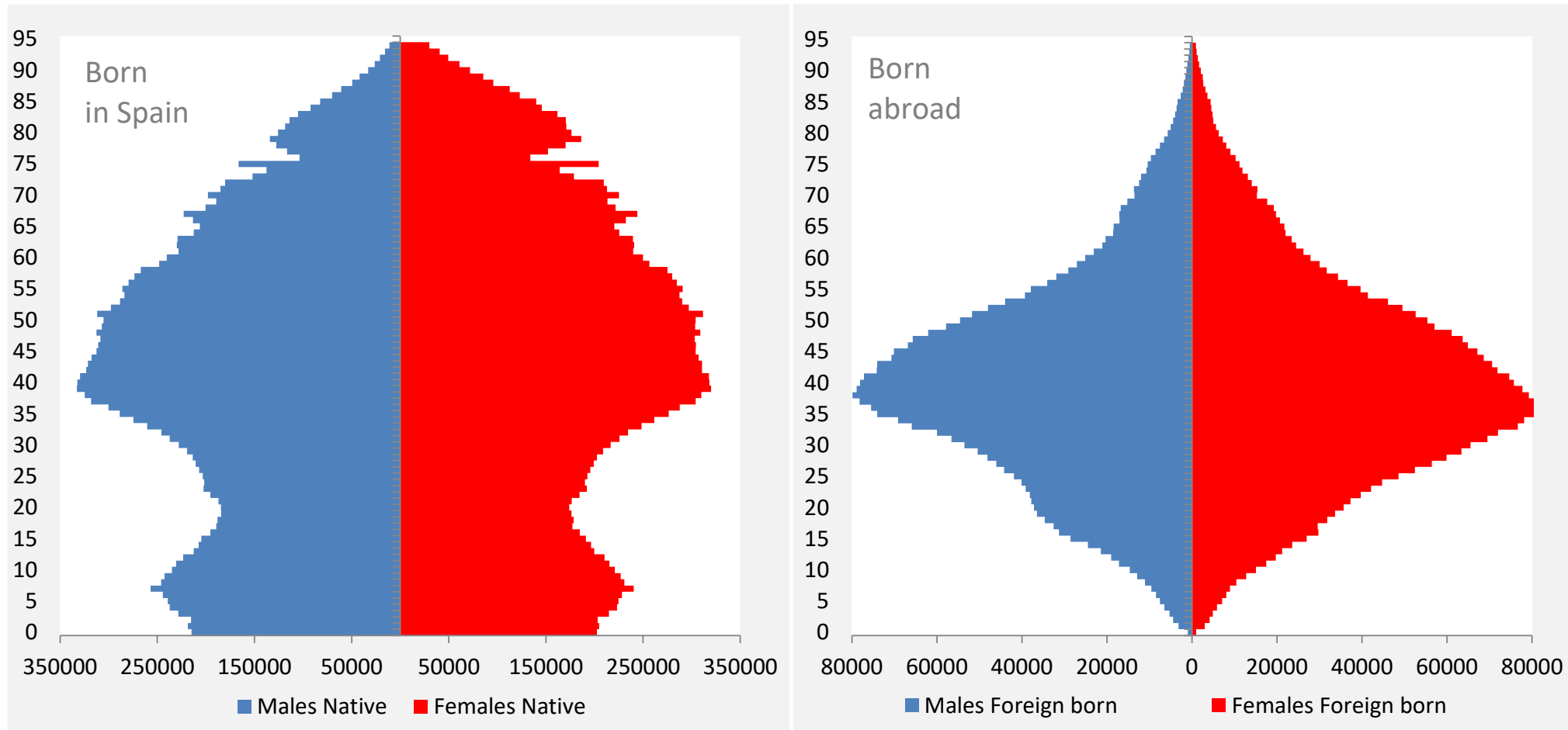


Source: European Demographic Data Sheet 2020;
<http://www.populationeurope.org>

Population pyramids, trees or diamonds?

The age structure of native vs. foreign-born population

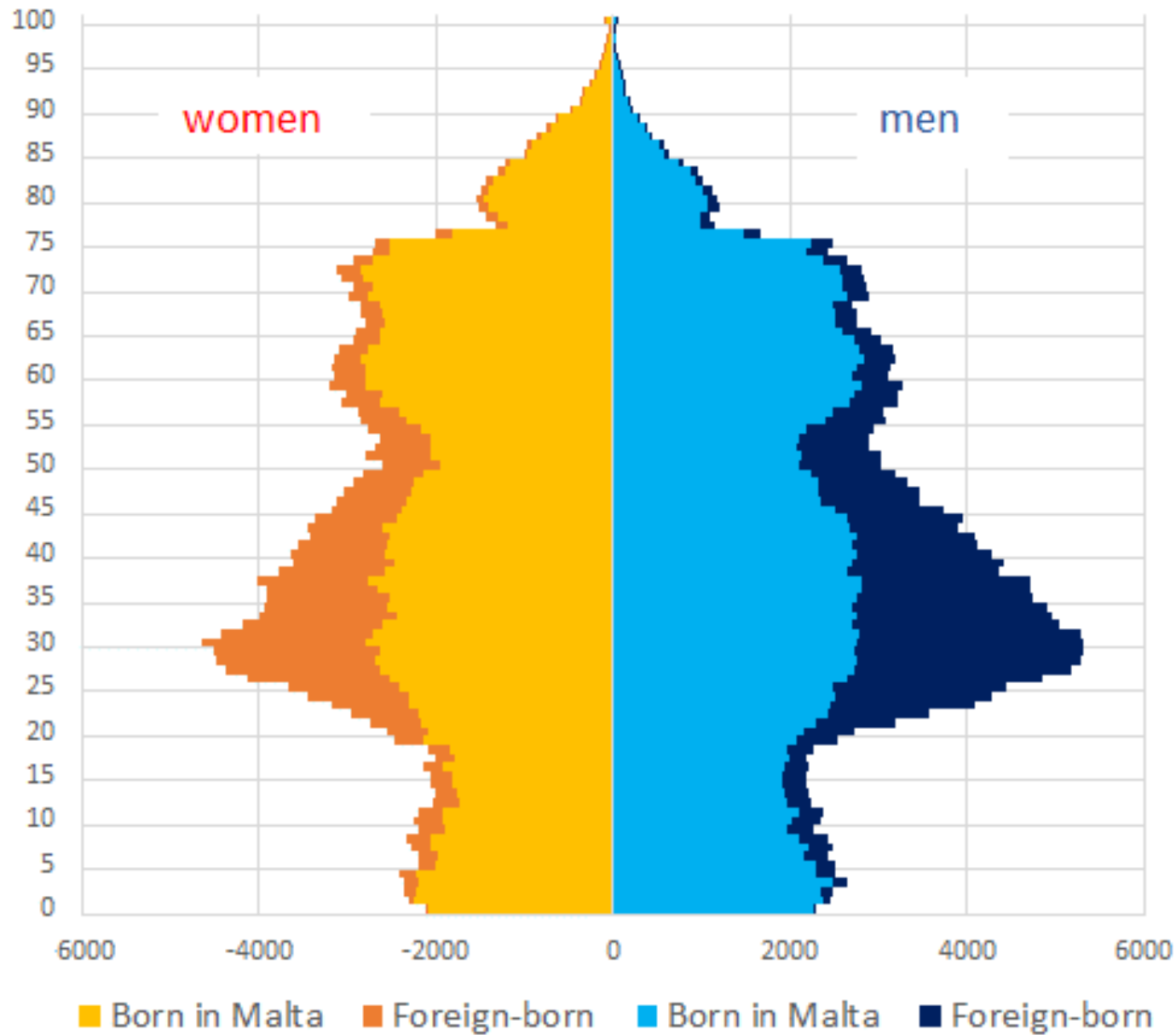
“Native” and Foreign-born population in Spain by sex and age, 2016



→ migrants' age profile strongly concentrated around peak productive ages

Source: Based on Eurostat 2017 data

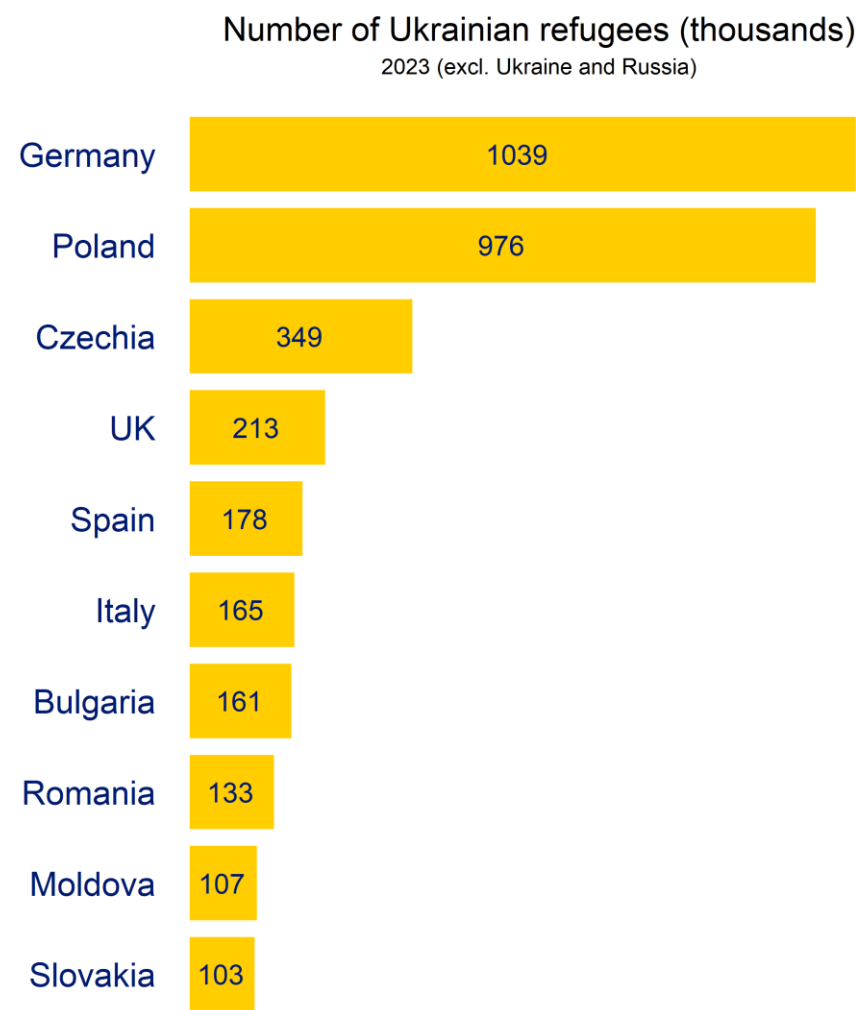
Malta: Population by country of birth, 2020



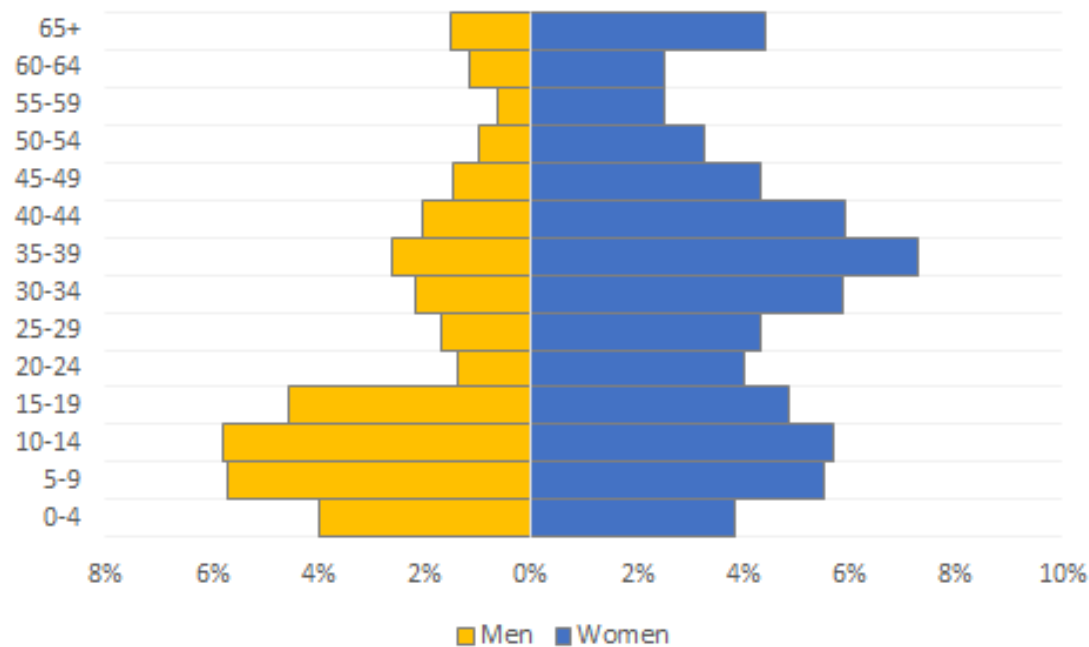
“Native” and Foreign-born population in Malta by sex and age, 2020

Data source: Eurostat database 2021

Uneven age and sex composition of Ukraine refugees



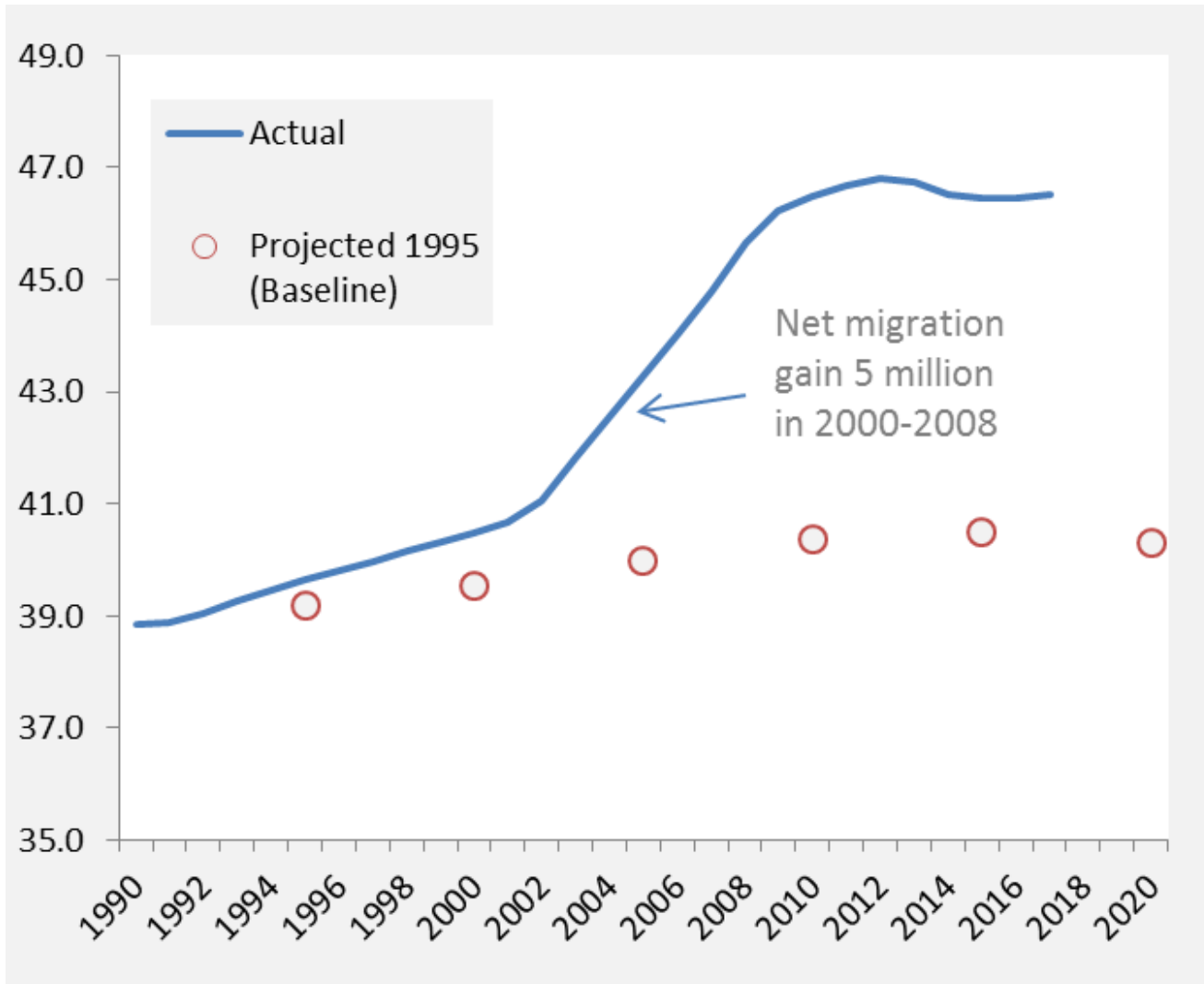
Estimated age and sex composition of Ukrainian refugees in European Union (mid-2023)



Source: *European Demographic Data Sheet 2024*;
<http://www.populationeurope.org>

Rapid population growth due to migration difficult to anticipate

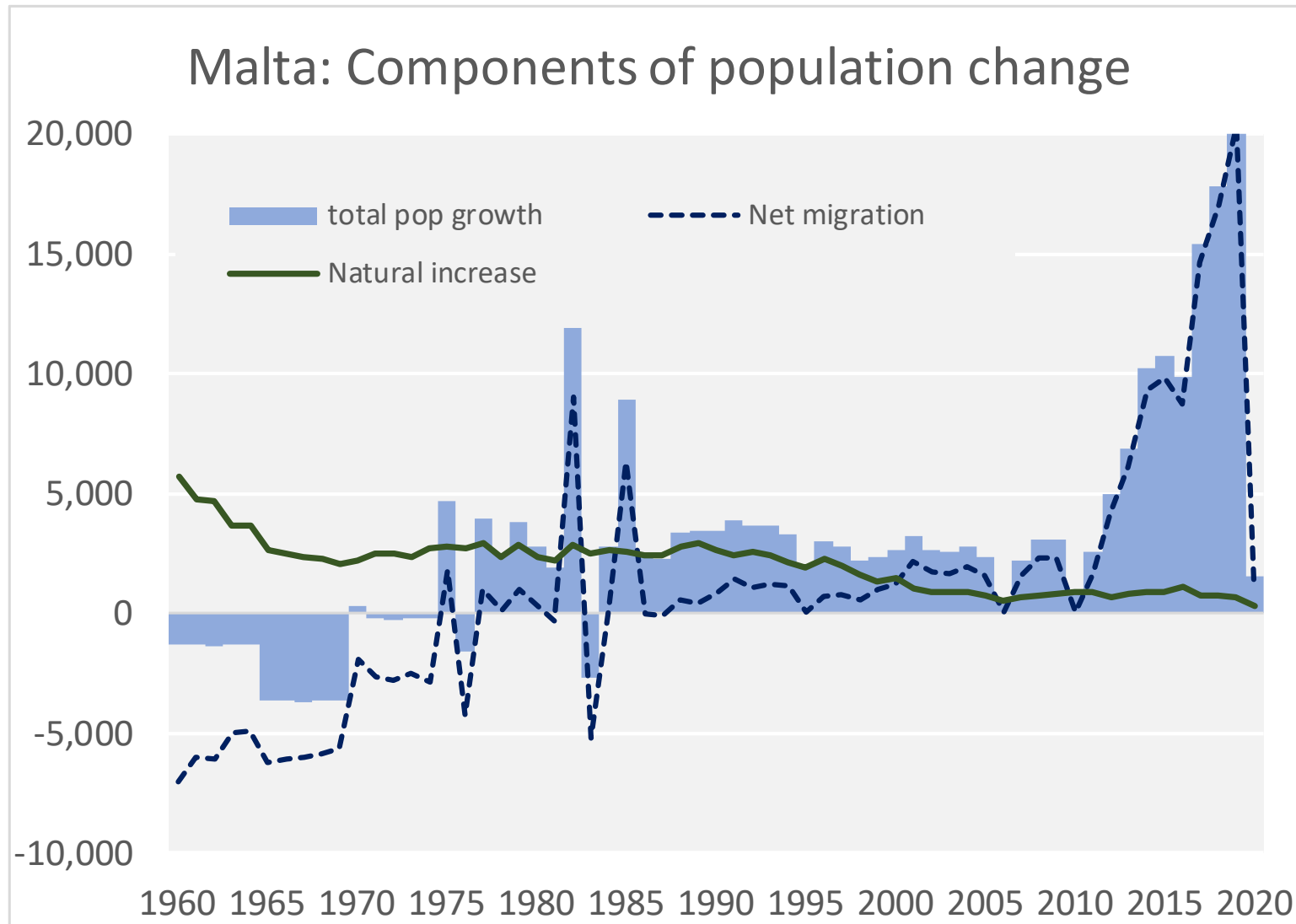
- Past population projections underestimated migration and predicted an early onset of population decline in Europe



Projected (1995 Eurostat baseline variant) and observed population size in Spain, 1990-2017 (2020)

Data source: Eurostat

Rapid population growth in some countries



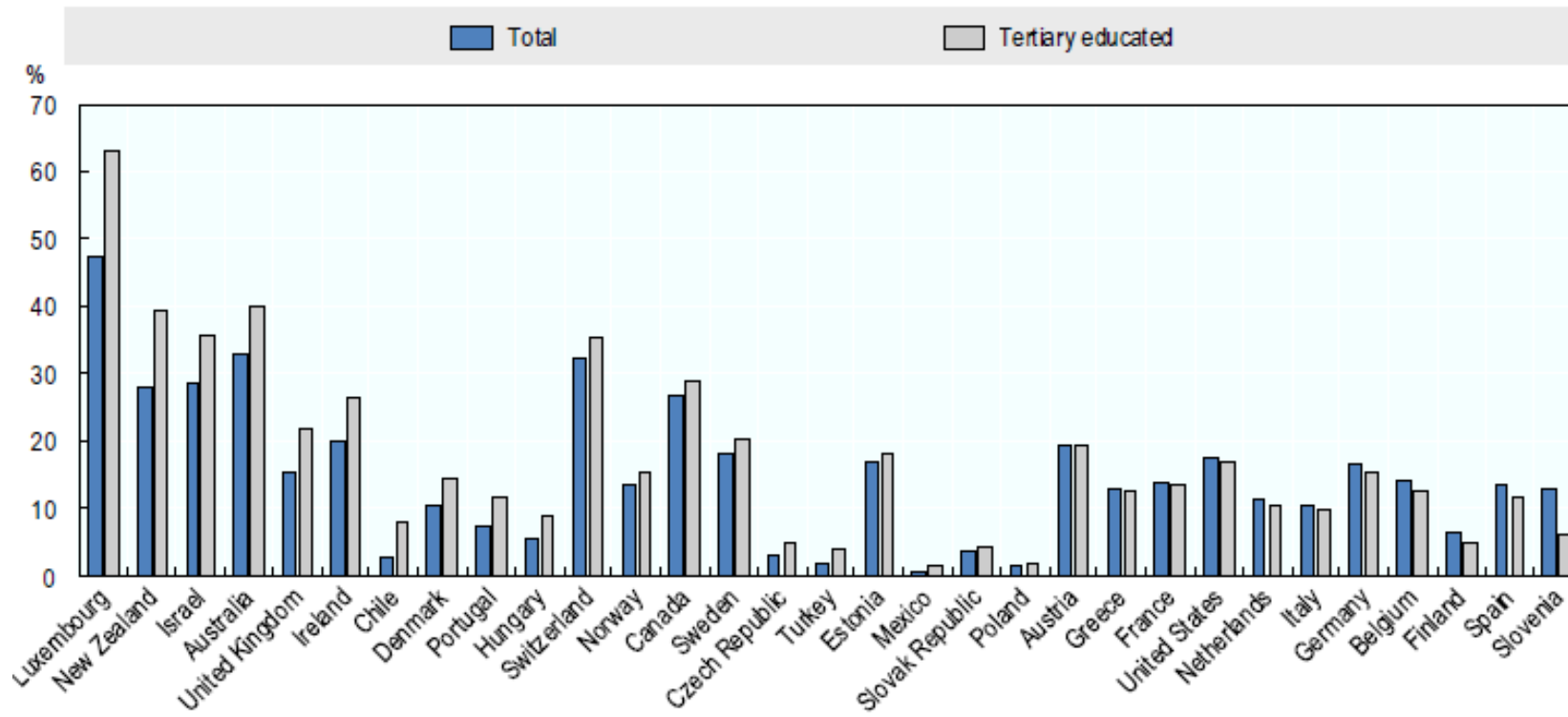
Long-term population dynamics in Malta, 1960-2020

Data source:

Eurostat online database 2021;
<https://ec.europa.eu/eurostat/data/database>

OECD countries: (Slightly) more immigrants among higher-educated

Figure 3. Share of immigrants in the total population and among the tertiary-educated (15+) in OECD countries, 2015/16



Source: Database on Immigrants in OECD Countries (DIOC) 2000/01 and 2015/16.

Source:

d'Aiglepiere, R et al. 2020. A global profile of emigrants to OECD countries. OECD *Social, Employment and Migration Working Papers* No. 239.

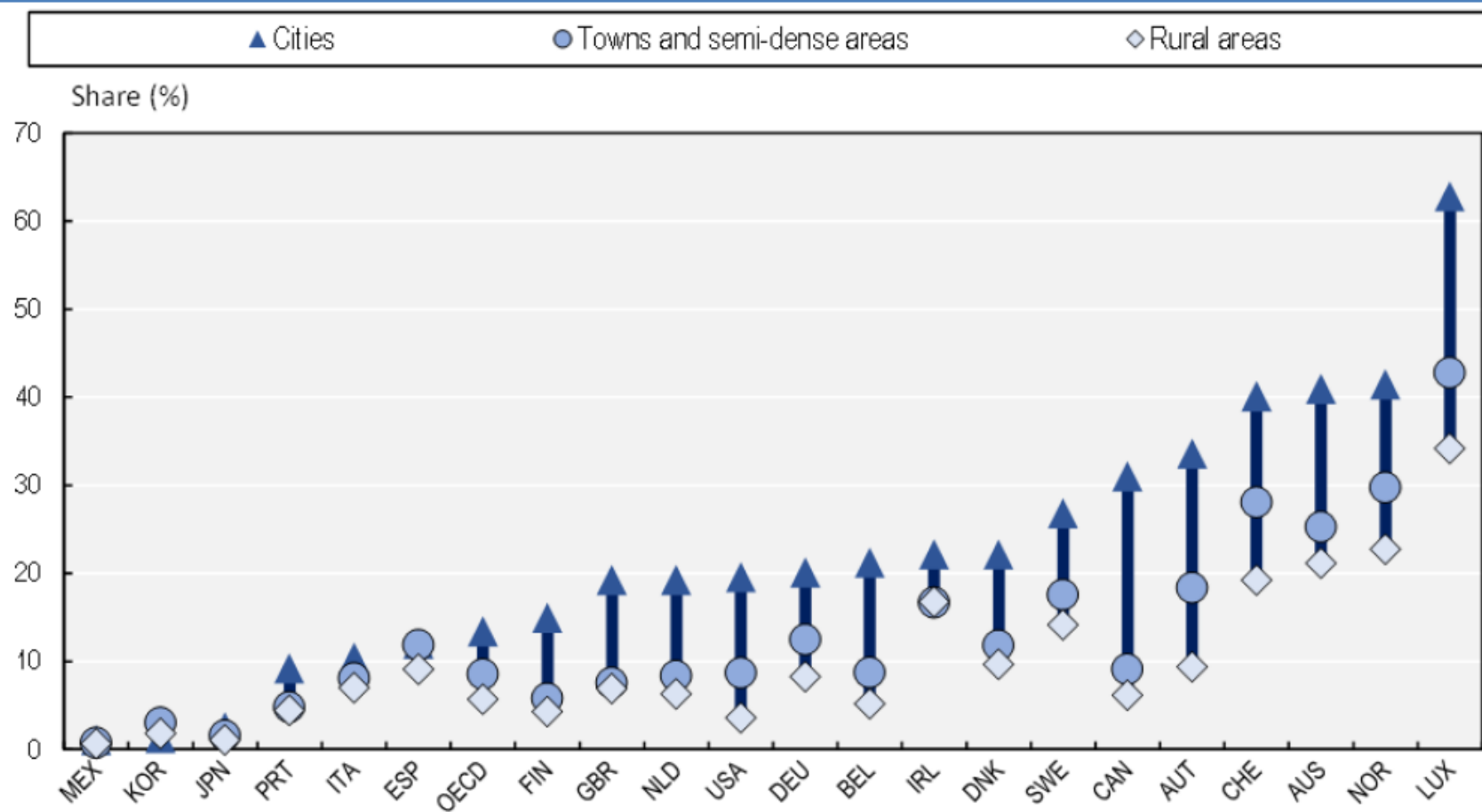
Migrants concentrated especially in large cities

- Major **cities become magnets of immigration**, also internal
- One in five migrants living in the major 20 cities globally
- Large cities becoming engines of economic and population growth despite low fertility (also East Asia)
- Migrants largely responsible for their population “renewal” (also through births / fertility)
- Migration also contributing to the rapid rise in housing prices

Migrants concentrated especially in large cities

Figure 11. Migrant share by country and degree of urbanisation

Share of migrants among the total population by available OECD countries and degree of urbanisation, 2022 or latest available year



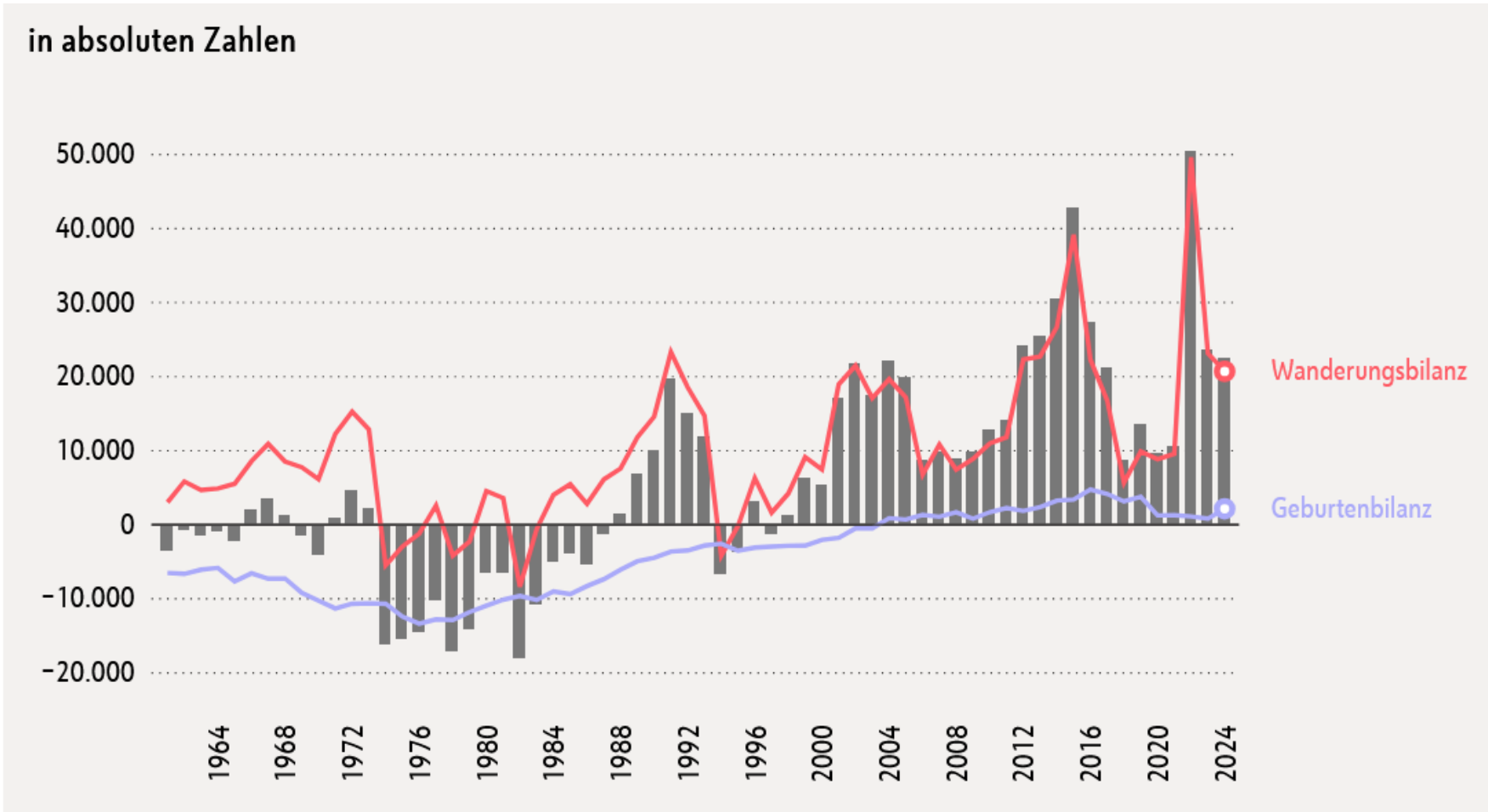
Source:

Figure 11 in OECD. 2024. (Mael Astruc-Le Souder, Jasper Hesse, Claire Hoffmann, Lukas Kleine-Rueschkamp, Cem Özgüzel) The OECD Municipal Migration Database.

Going granular Working paper. OECD Regional Development Papers 4 November 2024.

https://www.oecd.org/en/publications/the-oecd-municipal-migration-database_a79b007d-en.html

From gentle hills to Alpine peaks? Migration as an engine of population growth and fluctuations in Vienna



Source:

Wiener Bevölkerung
2025: Daten und
Fakten zu Migration
und Integration

Accessed 7 October
2025 at
<https://www.wien.gv.at/zusammenleben/bevoelkerung-daten-fakten-migration-integration>

The East-West population divides in Europe

The main Europe's demographic divide

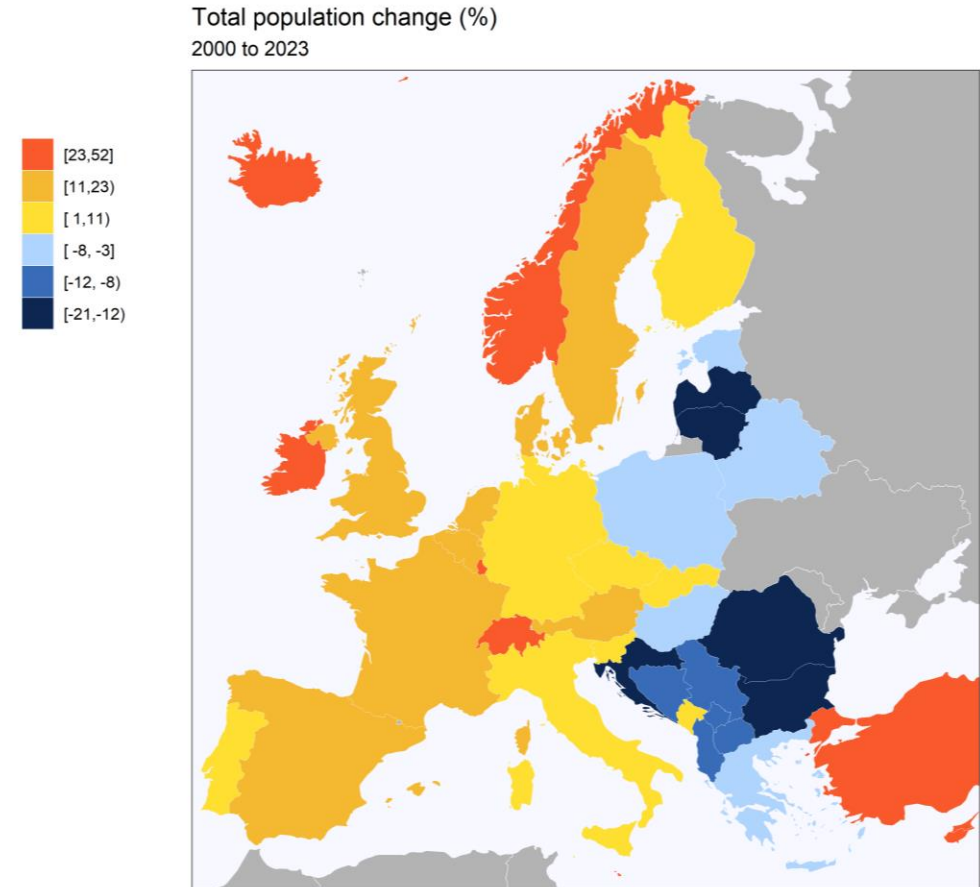
Western Europe & Nordic countries

- Immigration & long-term population growth

South-eastern and Eastern Europe

- Outmigration, accelerated ageing & population decline
- But also huge cross-country differences

Population change in European countries, 2000-2023 (%)



European Demographic Datasheet 2024

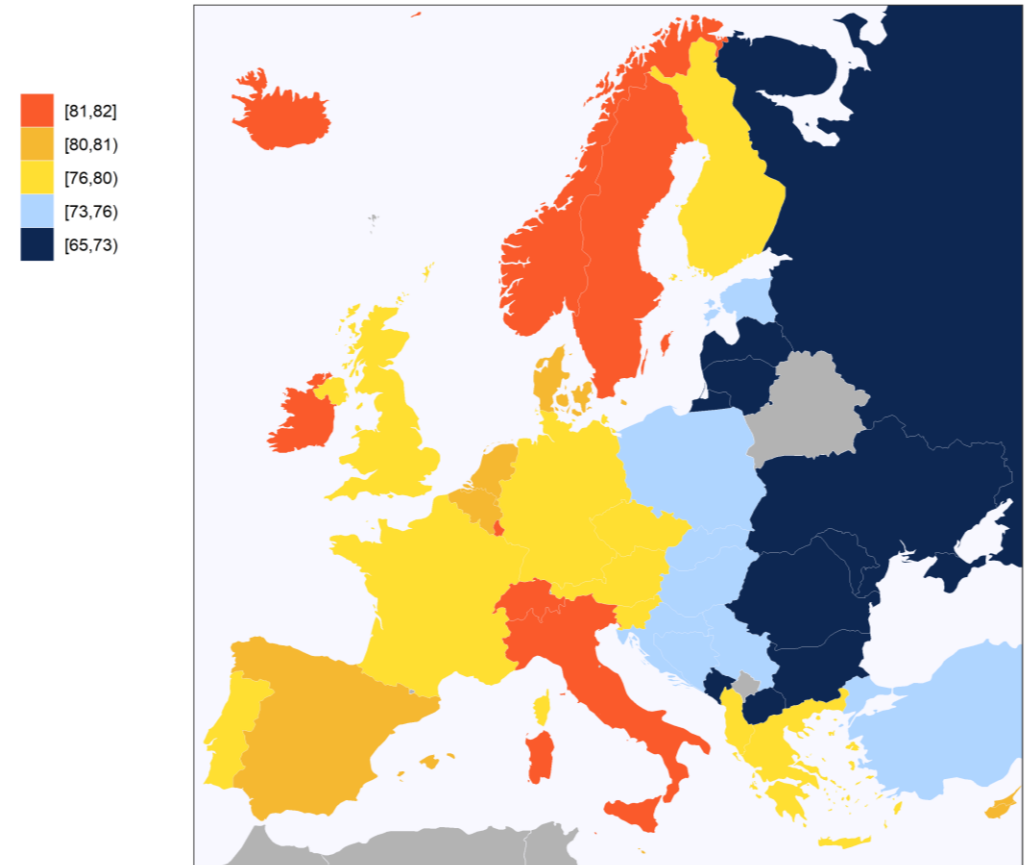
Source: European Demographic Datasheet 2024, <https://www.populationeurope.org>

CEE: Improving longevity, but worse population health than in Western Europe

- Persistent East-West gradient in mortality in Europe
- Larger life expectancy gap for men
- Worse health, poorer lifestyle, more obesity, less exercise...
-but also inadequate healthcare
- Women and (especially) men get sick earlier in life and die sooner in the East
- Crises like the COVID pandemic have a more negative impact in CEE

Life expectancy at birth, men, 2022

Life expectancy at birth (years), Men
2022



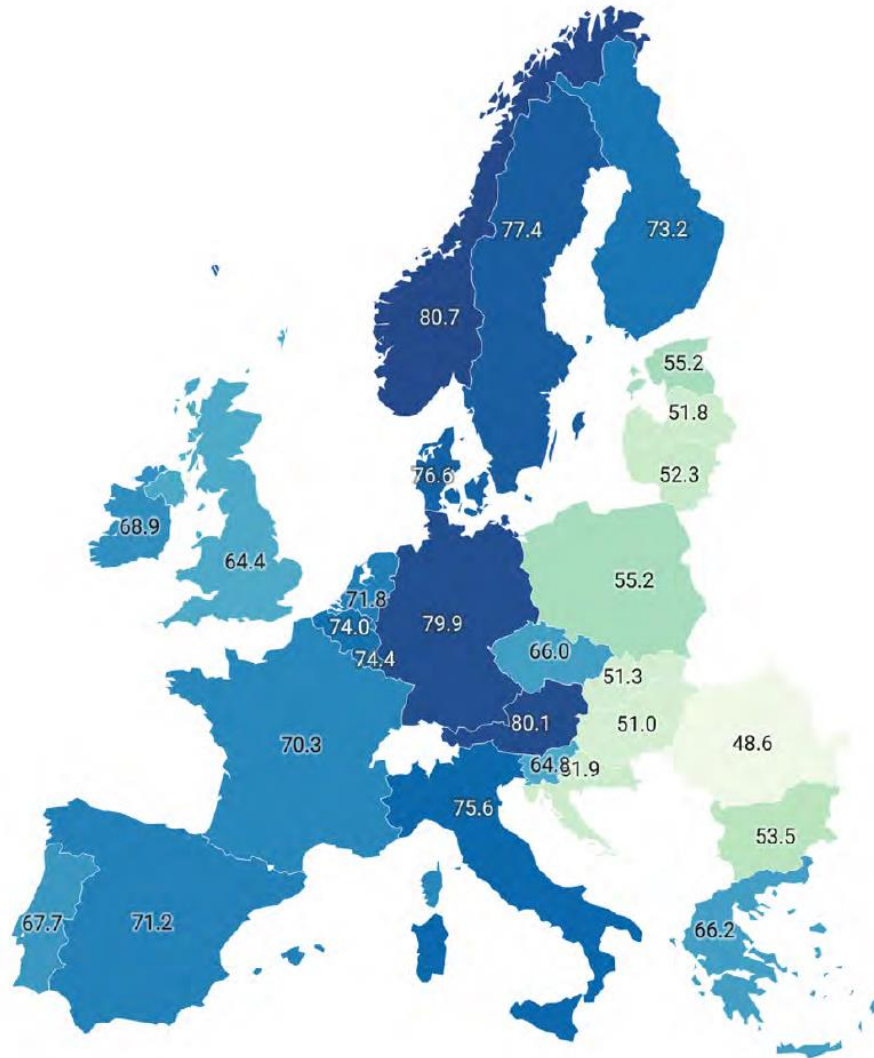
European Demographic Datasheet 2024

Source: European Demographic Datasheet 2024, <https://www.populationeurope.org>

“Readiness Today” reflects a country’s current ability to meet healthcare needs and deliver effective services. It provides a snapshot of

how well a country can address its population’s healthcare demands at this moment.

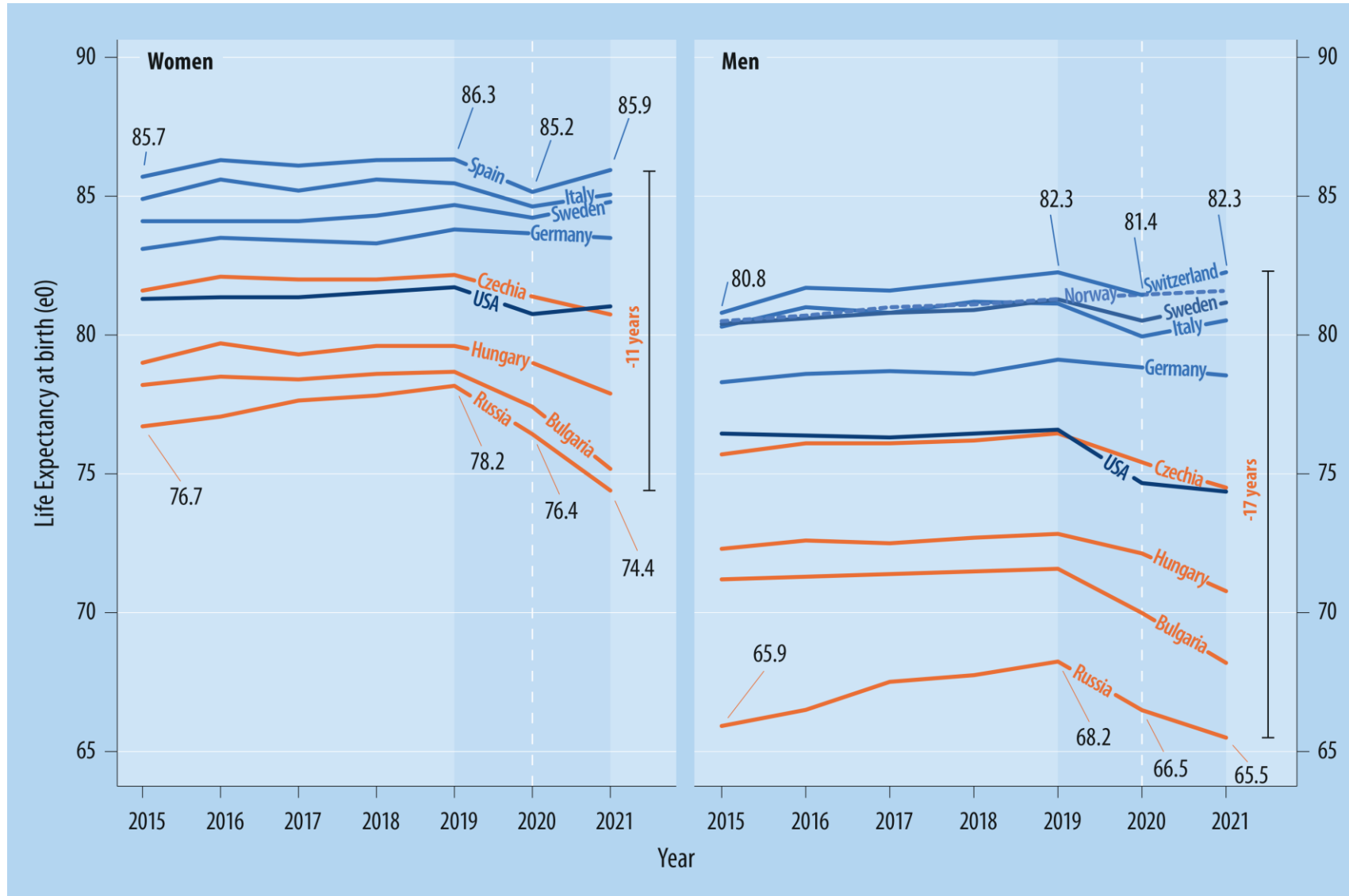
Healthcare Readiness Index 2023: results of Readiness Today



Source: Healthcare Readiness Index 2023 Report; Globsec 2023;
<https://www.globsec.org>



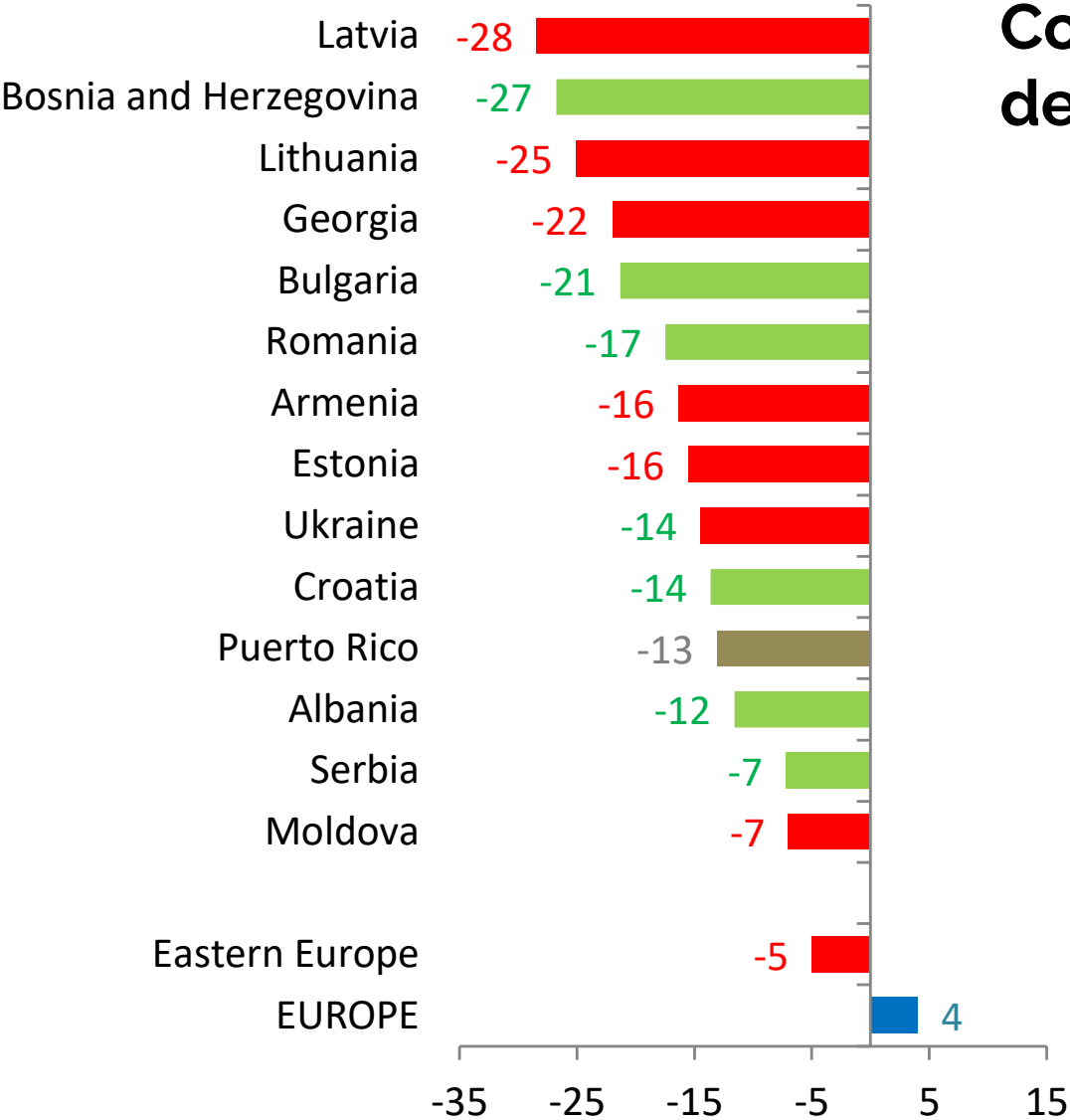
Life expectancy during COVID pandemic: strong fall and widening gender gaps in Central & Eastern Europe



Life expectancy trends in selected countries before and during the COVID-19 pandemic

Source:
European
Demographic Data
Sheet 2022;
www.populationeurope.org
Graphic: Vanessa di Lego

Population decline driven by outmigration and low fertility

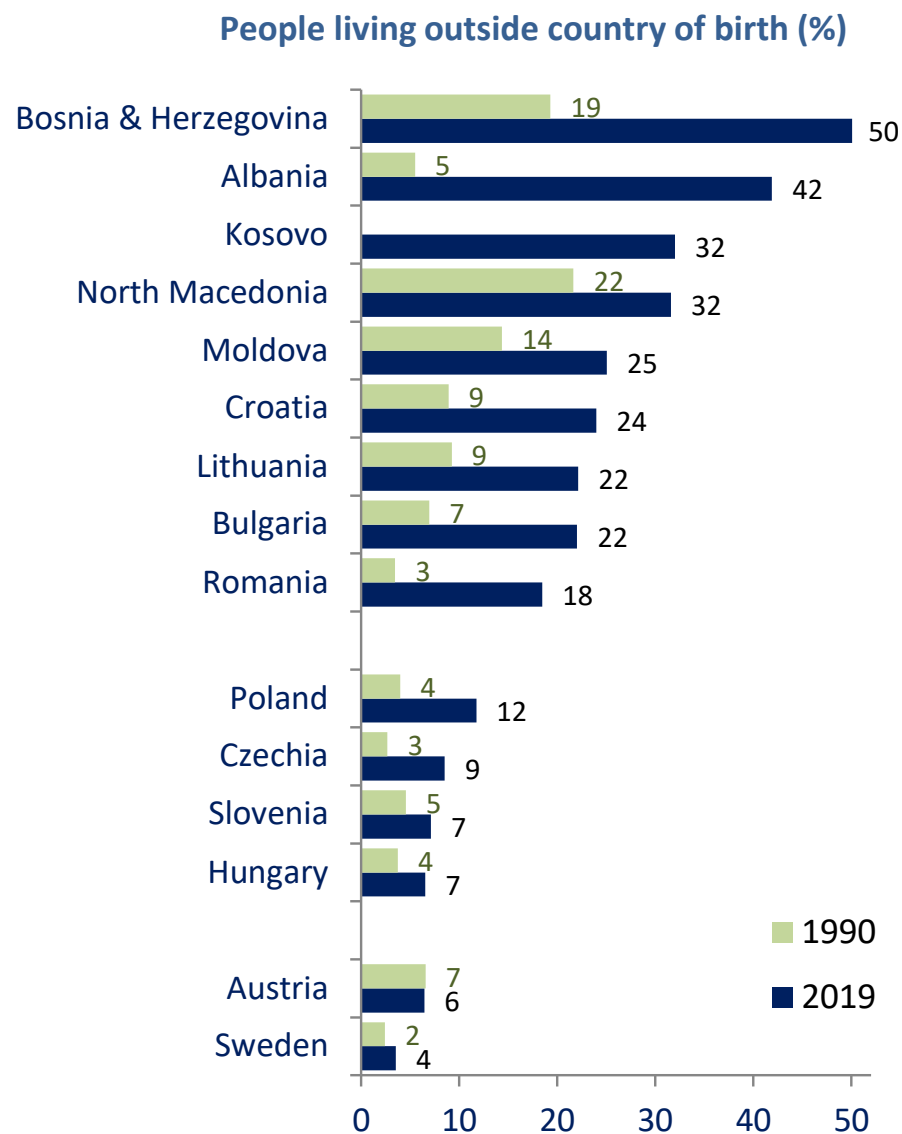


Countries with fastest population decline globally (%), 1989-2019

Source: UN World Population Prospects 2019: Estimated population size 1950-2020. Data for Georgia: NSO Georgia (2018) and own estimates for 1989.

Note: Only countries with population > 1 million in 2019 ranked

High level of outmigration and low immigration especially in Western Balkans, Baltic countries

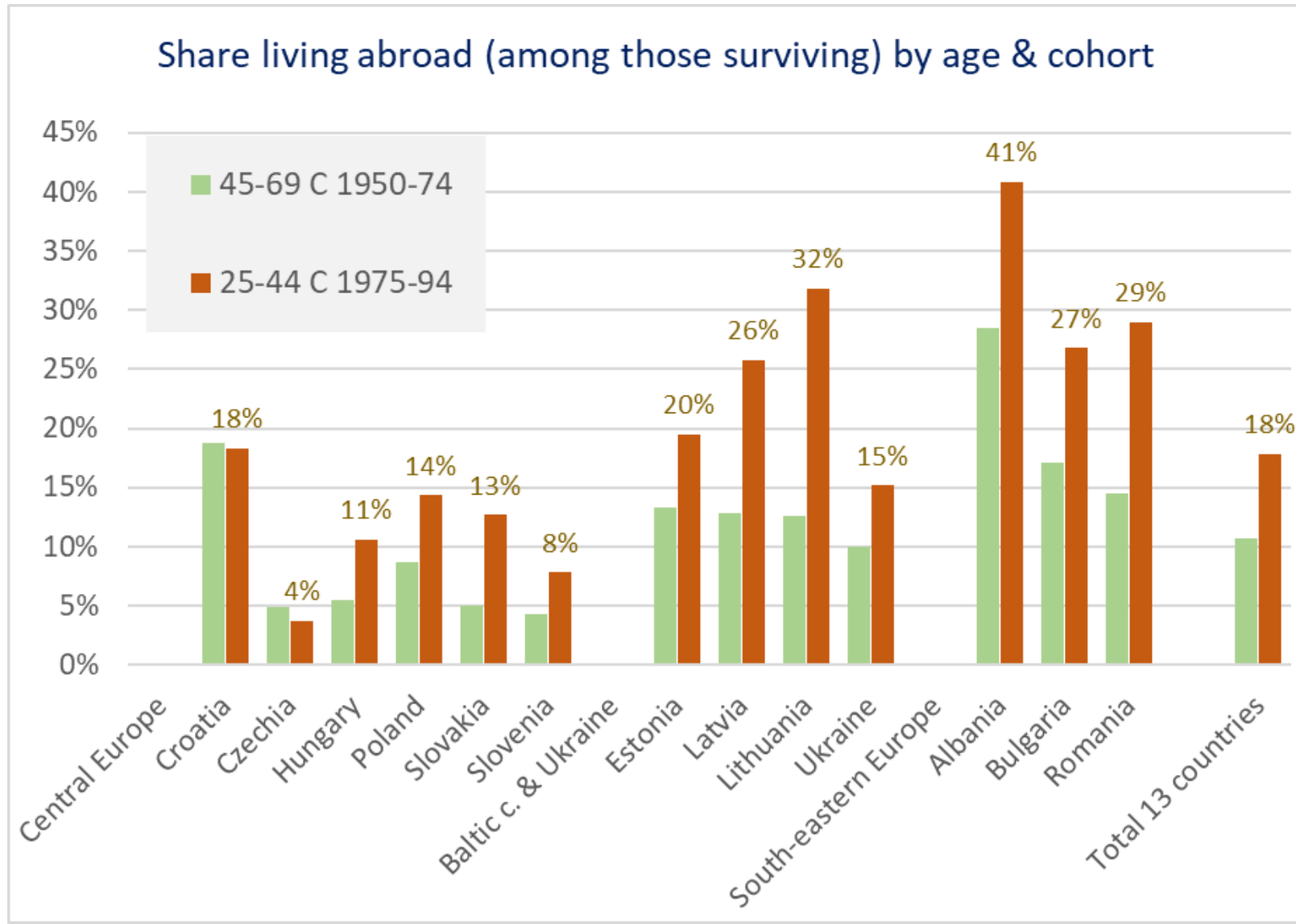


Ratio of people born in a country & living abroad to the population living in a country, 1990 and 2019

Source:
Sobotka, T. and Fürnkranz-Prskawetz, A., 2020. Demographic change in Central, Eastern and Southeastern Europe: Trends, determinants and challenges. In 30 Years of transition in Europe (pp. 196-222). Edward Elgar Publishing.

Computed from International Migrant Stock Data (UN 2019).

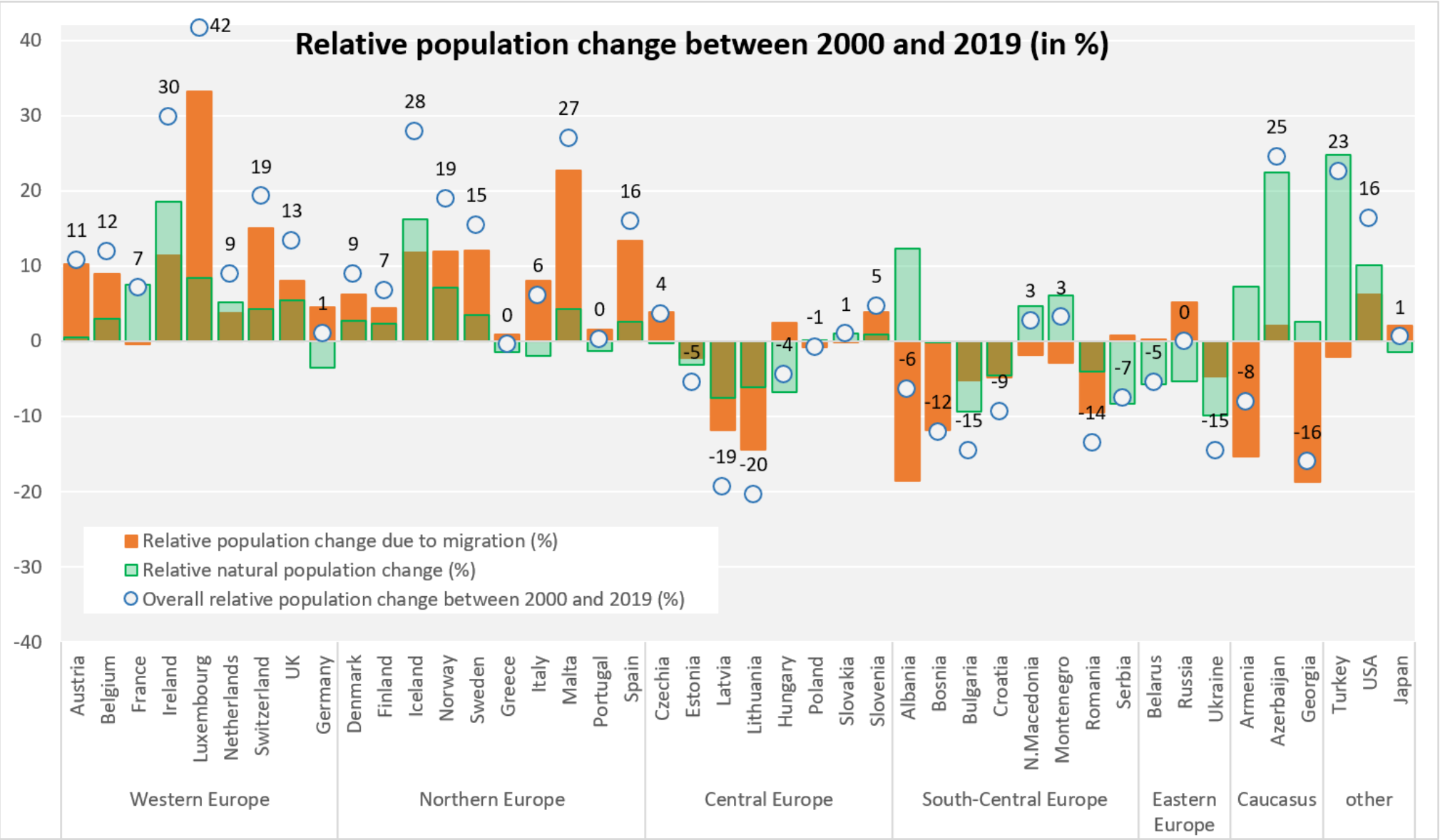
Share of population living abroad by broad cohort groups



Based on: T Sobotka & K Zeman: "Missing generations? A cohort perspective on cumulated outmigration from South-Eastern, Central and Eastern Europe" (Wittgenstein Centre Conference 2021, *"The causes and consequences of depopulation"*, 29 November 2021)

Data: Eurostat database, UN DESA (Global migration stocks), Human Fertility Database, Human Mortality Database

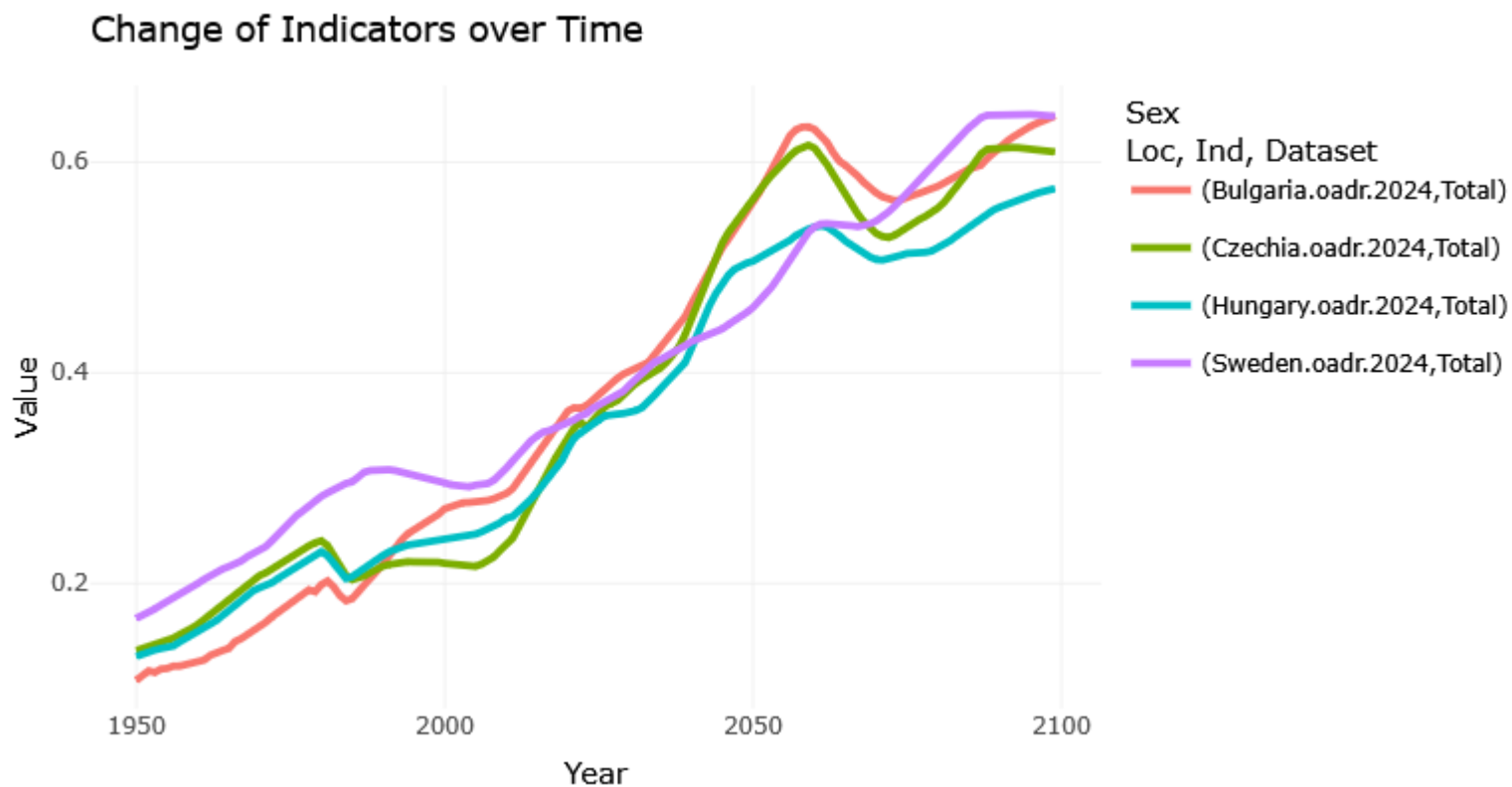
Population decline driven by outmigration and low fertility



Source:
European
Demographic
Datasheet 2020,
[https://eds2020.
populationeurope.org/en/](https://eds2020.populationeurope.org/en/)

Accelerated population ageing & gender disparities

Old-age dependency ratio in Bulgaria, Czechia, Hungary and Sweden, observed and projected, 1950-2100

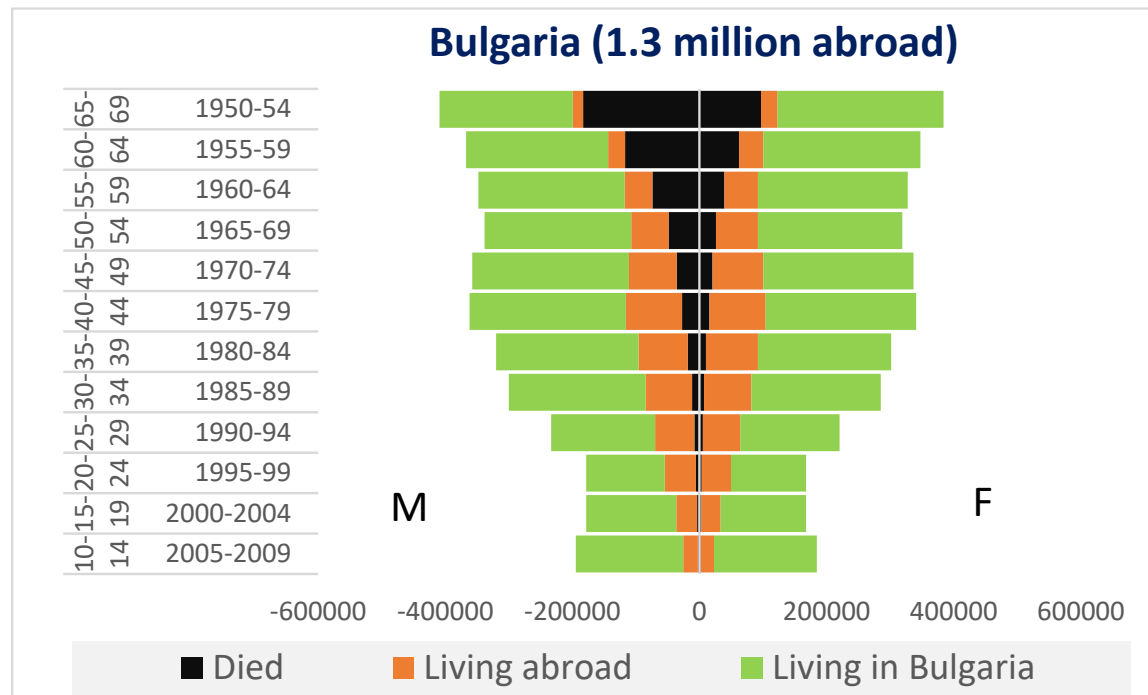


Source: Ageing Data Explorer by Sergei Scherbov,
<https://demog.iiasa.ac.at/apps/wpp2024>
(accessed 5 June 2025)

Shrinking labour force, also due to outmigration

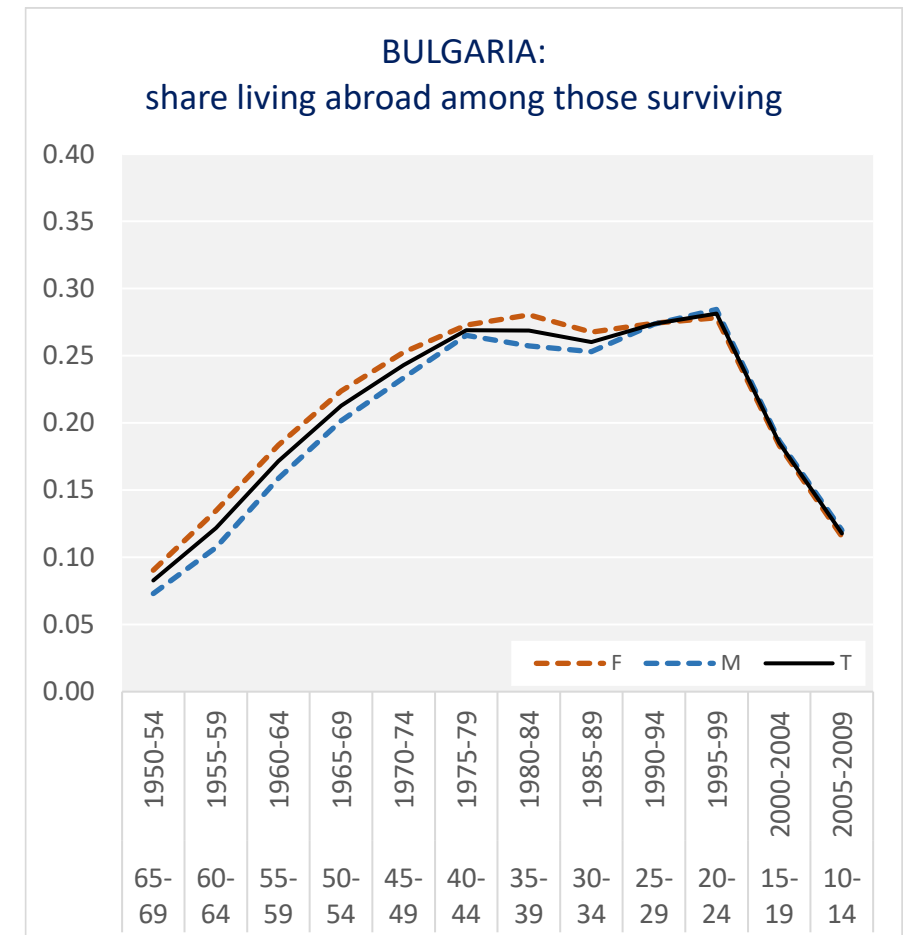
Bulgaria

Absolute numbers and relative shares of F and M born in the country by their status in 2020 (died, moved abroad, stayed in the country)



Relative profiles:

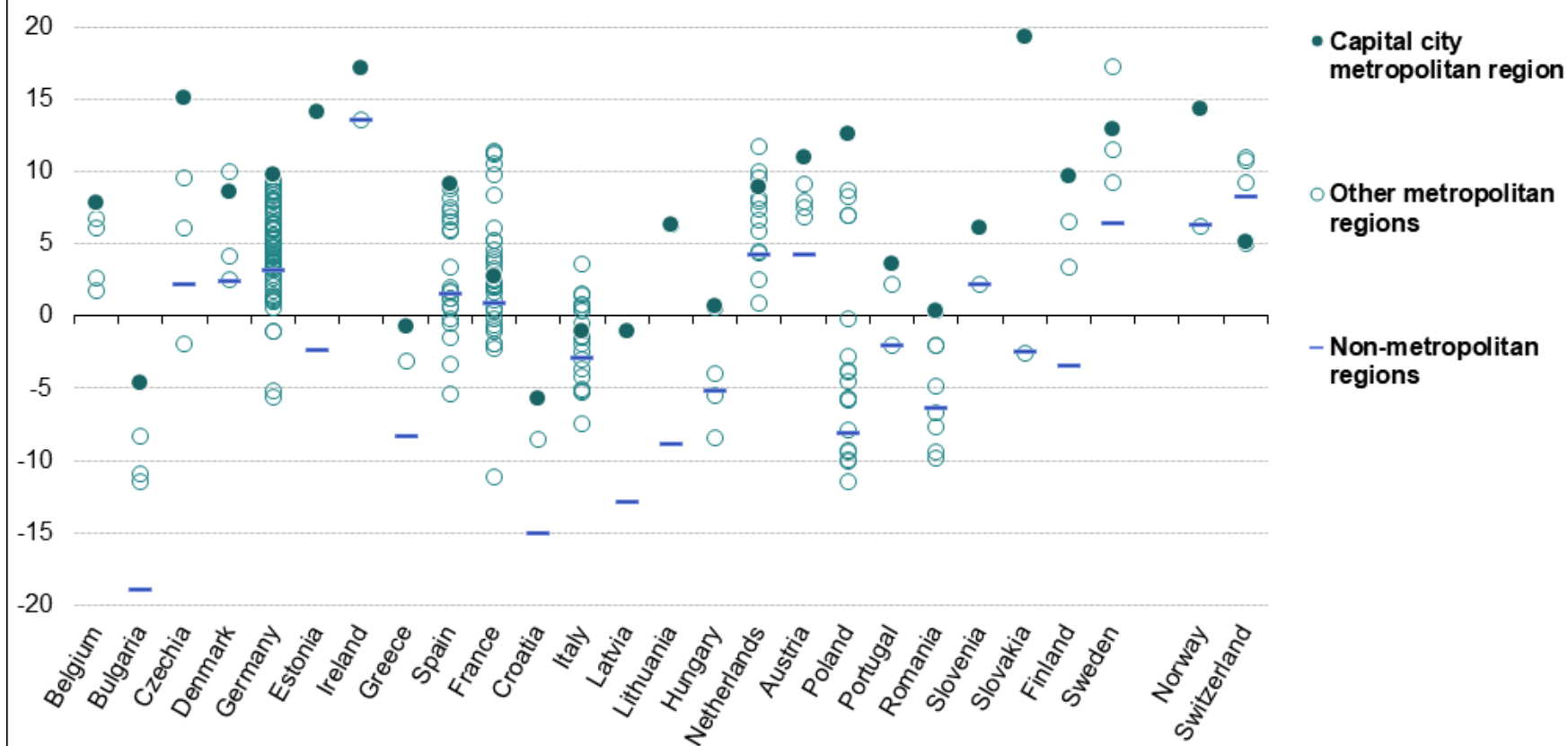
Share of F and M living abroad among those born in BG and still surviving in 2020 (by cohort / age group)



Huge regional disparities in population change: the role of internal migration

Crude rate of total population change in metropolitan regions, 2015–22

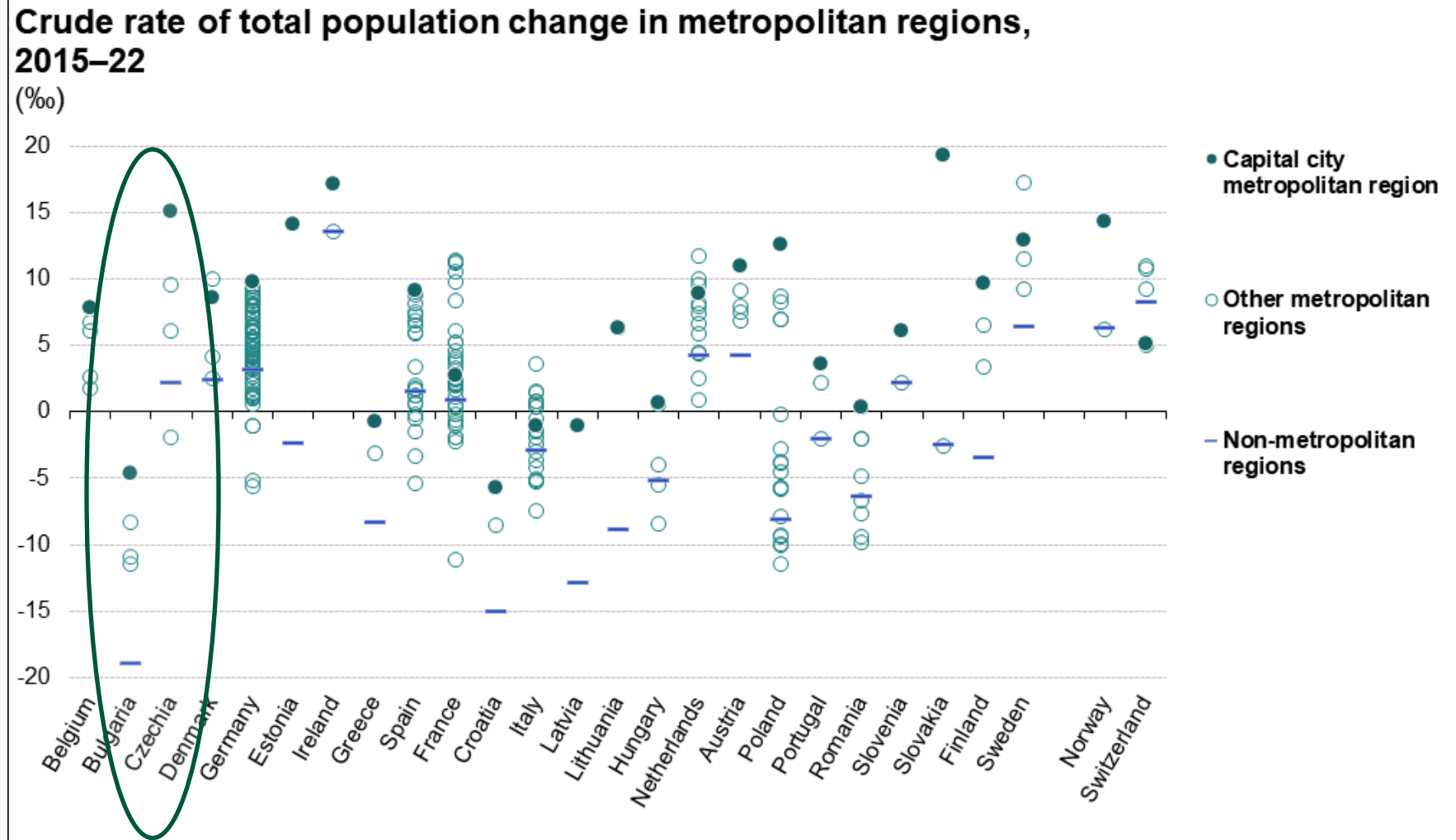
(‰)



Note: based on available data. Cyprus, Luxembourg and Malta: not shown (only one or two regions at NUTS level 3). Romania: estimates. France and Portugal: provisional. Czechia, Estonia, Croatia, Italy and Portugal: breaks in series.

Source: Eurostat (online data code: met_gind3)

9 Huge regional disparities in population change: the role of internal migration



Note: based on available data. Cyprus, Luxembourg and Malta: not shown (only one or two regions at NUTS level 3). Romania: estimates. France and Portugal: provisional. Czechia, Estonia, Croatia, Italy and Portugal: breaks in series.

Source: Eurostat (online data code: met_gind3)

Huge regional disparities in population change

Diverging population trends in East vs. West Germany, 1990-2012

Source:

Berlin Institut. 2016. *So geht Einheit: Wie weit das einst geteilte Deutschland zusammen gewachsen ist*. Berlin-Institut für Bevölkerung und Entwicklung
<https://www.berlin-institut.org/presse/detail/neue-studie-so-geht-einheit>

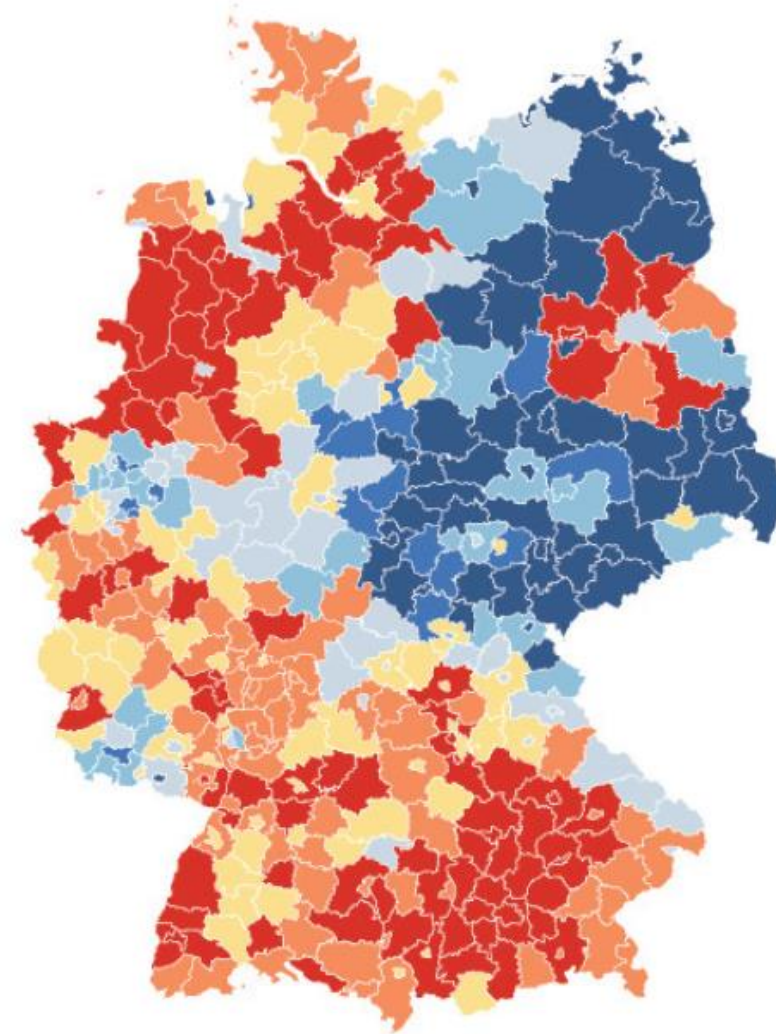
Der ländliche Raum schrumpft

Zwischen 1990 und 2012 haben vierzig Prozent aller Kreise an Bevölkerung verloren. Am gravierendsten war die Entwicklung dabei in den neuen Bundesländern, wo nur 10 der 76 Kreise sich dem demografischen Abwärtstrend entziehen konnten. Bis 2035 dürfte sich das Schrumpfen nach Westen ausweiten und auch hier vor allem ländliche Regionen fernab der Ballungsräume erfassen.

Entwicklung der Einwohnerzahl zwischen 1990 und 2012 in Prozent und prognostizierte Bevölkerungsentwicklung bis 2035, in Prozent (Datengrundlage: BBSR[®])

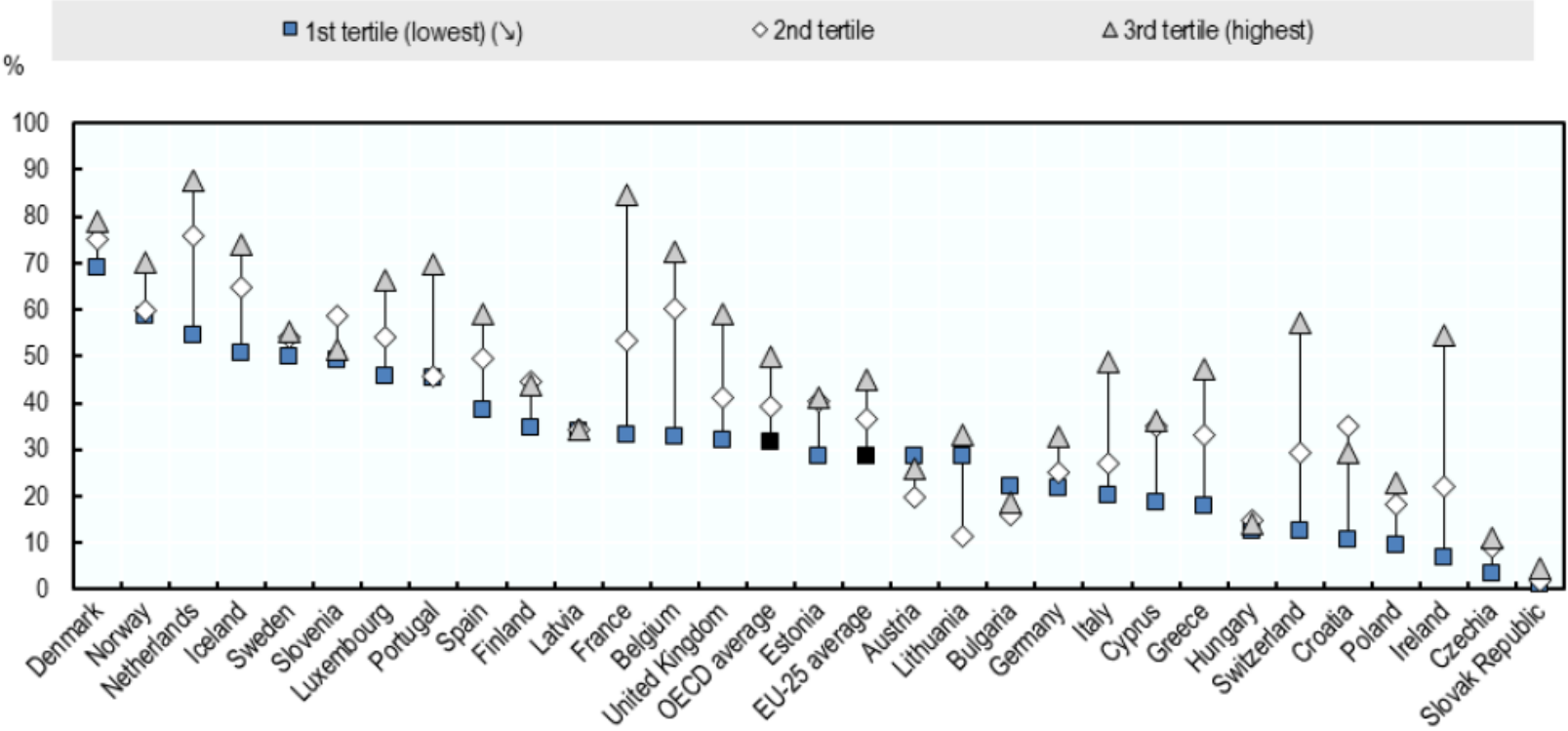


1990 – 2012



Many women outside of labour force due to lacking childcare

Chart PF3.2.B. **Participation rates in early childhood education and care by income, 0- to 2-year-olds**
Participation rates in early childhood education and care, 0- to 2-year-olds, by equivalised disposable income tertile, 2022 or latest available

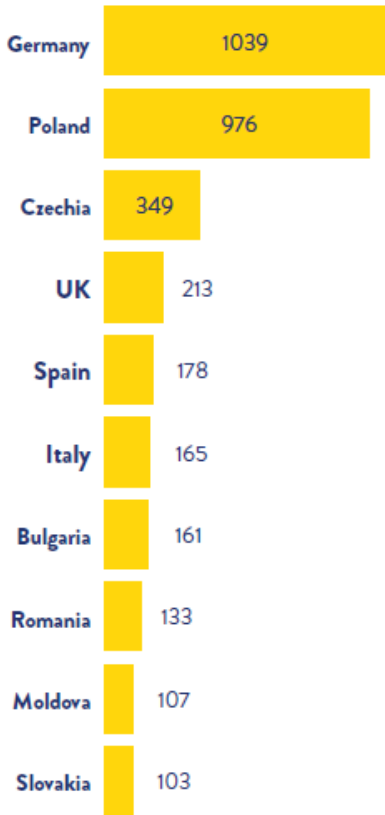


Source:
OECD Family Database.
2025. PF3.2 Enrolment in
childcare and pre-school.
Accessed 5 June 2025 at
<https://www.oecd.org/en/data/datasets/oecd-family-database.html>

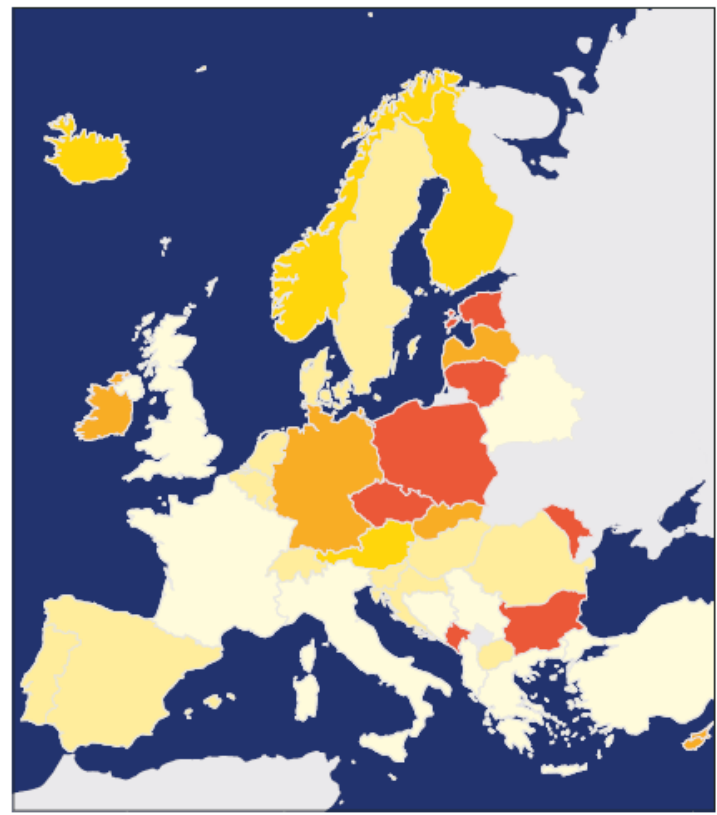
The war in Ukraine reshaping the East-West migration divide in Europe

Ukrainian and non-Ukrainian refugees in Europe

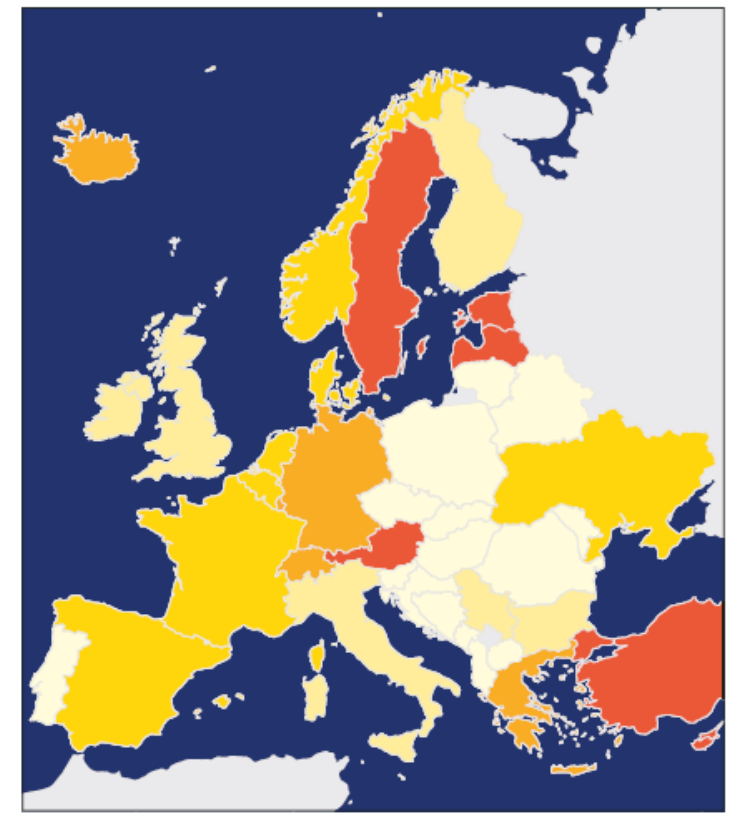
Number of Ukrainian refugees
(thousands), 2023
(excl. Ukraine and Russia)



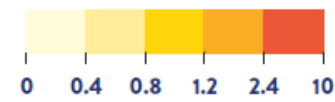
Proportion of Ukrainian refugees
(% of total population), 2023



Proportion of non-Ukrainian refugees
(% of total population), 2023

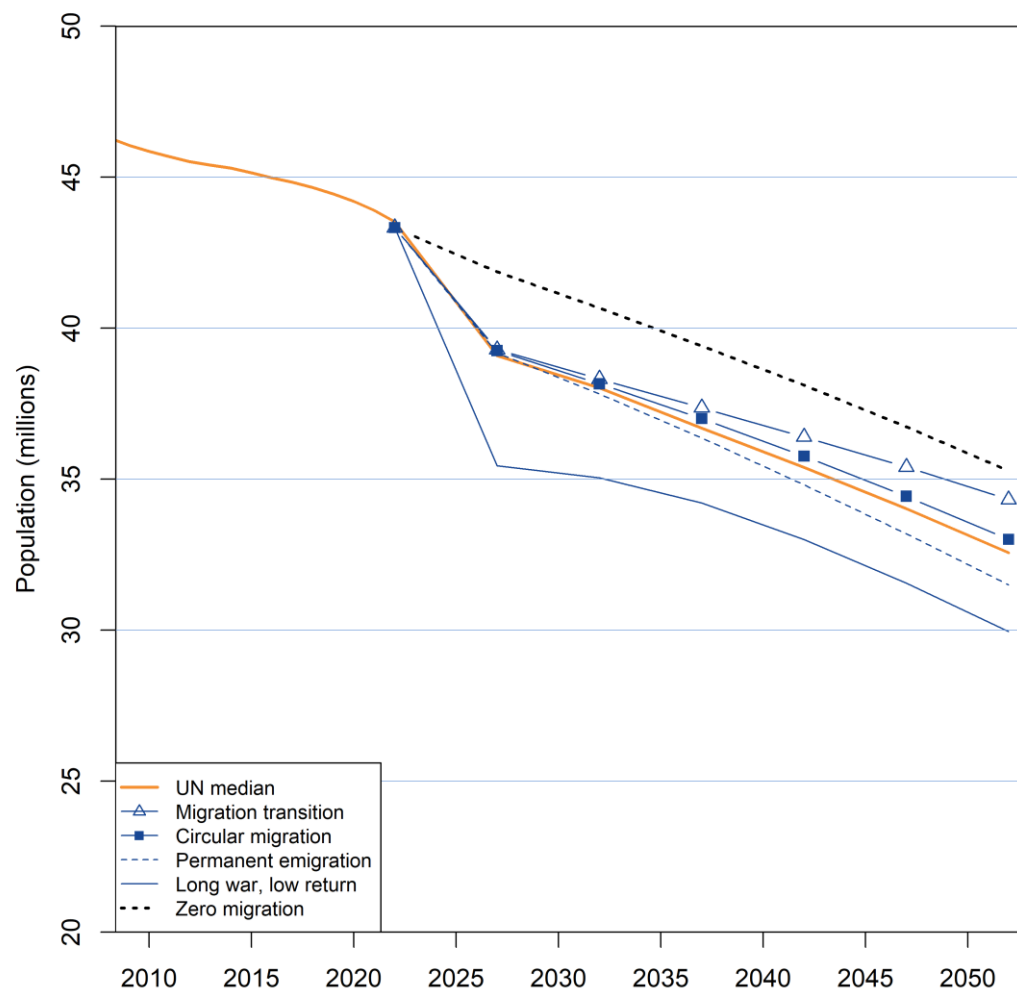


Source: *European Demographic Data Sheet 2024*;
<http://www.populationeurope.org>



War in Ukraine driving a new migration wave

Accelerated population losses in Ukraine

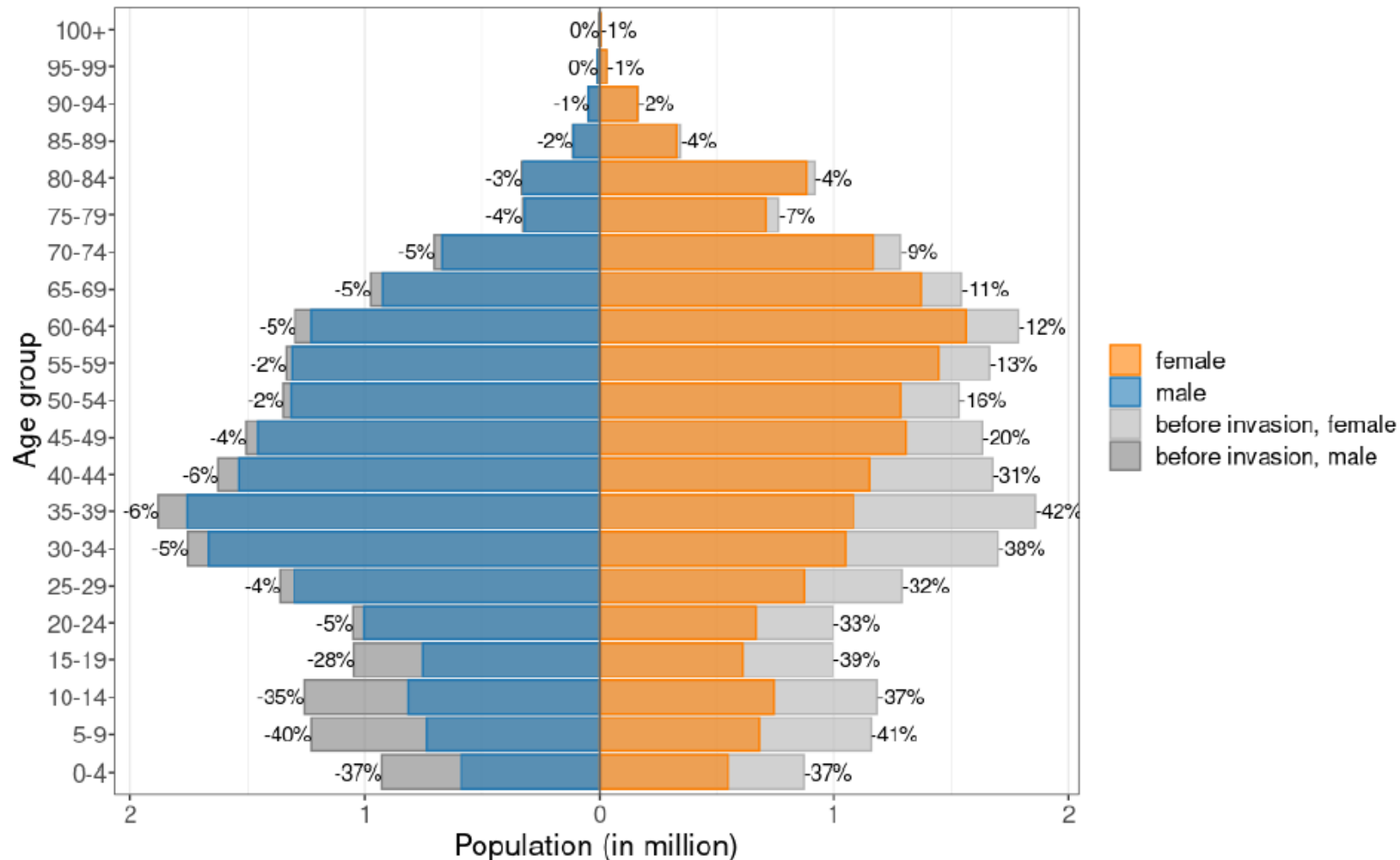


Projected total population in Ukraine based on different scenarios due to the war-related migration

Source: *European Demographic Data Sheet* 2024;
<http://www.populationeurope.org>

Ukraine: Uneven population losses by sex and age

Figure 6 Impact of international displacement on Ukraine's population: Pre-war age-sex structure of the population (Estimate for 1 January 2022) and the impact of international displacement per age and sex group. Source: Authors' estimates based on data from ISTAT, Eurostat and UNHCR



Source:

Ueffing, P., Adhikari, S., K.C., S., Poznyak, O., Goujon, A. and Natale, F., 2023.

Ukraine's population future after the Russian Invasion, Publications Office of the European Union, Luxembourg, 2023, doi:10.2760/756870, JRC132458.

<https://publications.jrc.ec.europa.eu/repository/handle/JRC132458>

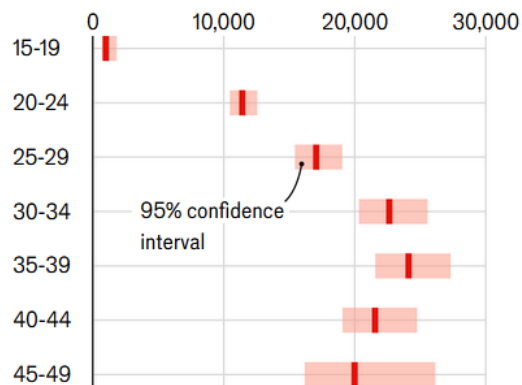
Mortality consequences: military losses by age (Russia vs. Ukraine)

Estimated Russian soldiers killed in Ukraine

February 22nd 2022-June 21st 2024

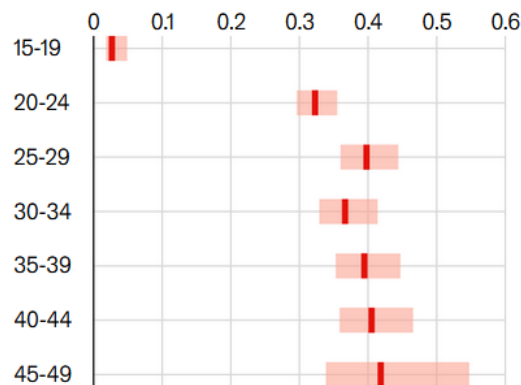
3

By age group



Sources: Mediazona; Meduza; UN

As % of male population

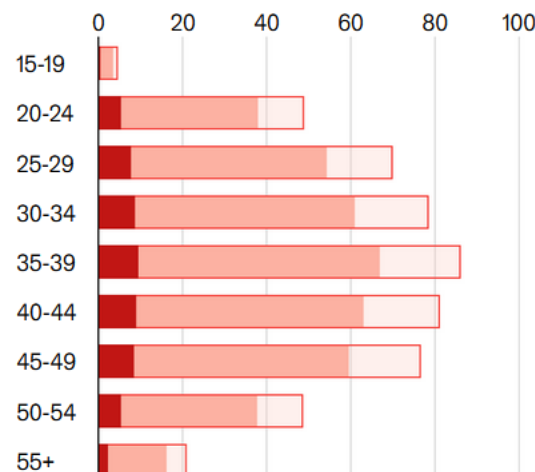


Ukrainian soldier casualties in Russia-Ukraine war*

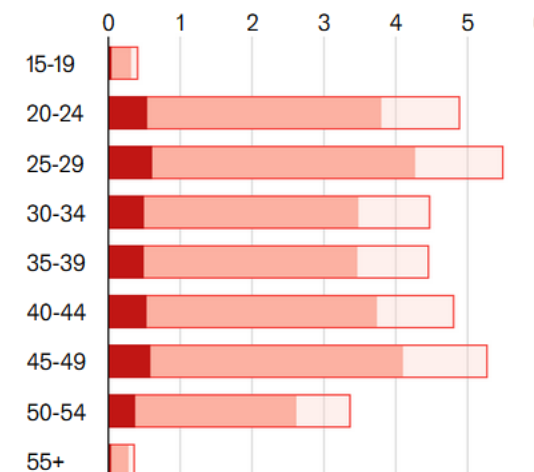
Recorded February 24th 2022-November 19th 2024

■ Killed ■ Injured, low estimate[†] ■ Injured, high estimate[‡]

By age group, '000



As % of male population



Sources: UALosses; UN

*57,118 known fatalities with age listed. Data do not include all fatalities

[†]Assuming six per fatality [‡]Assuming eight per fatality

Source: The Economist: Graphic detail |

How many Russian soldiers have been killed in Ukraine? July 5, 2024

How many Ukrainian soldiers have died? November 26, 2024

Future outlook, challenges & policy adjustments

New population landscape in Europe

Long-term cumulative effects of migration often as powerful for population & age structure changes as the effects of low fertility

- Migration has become a long-standing force reshaping the population trends and structure on the continent
- Richer parts of Europe becoming more like US, Canada, Australia in their reliance on immigration

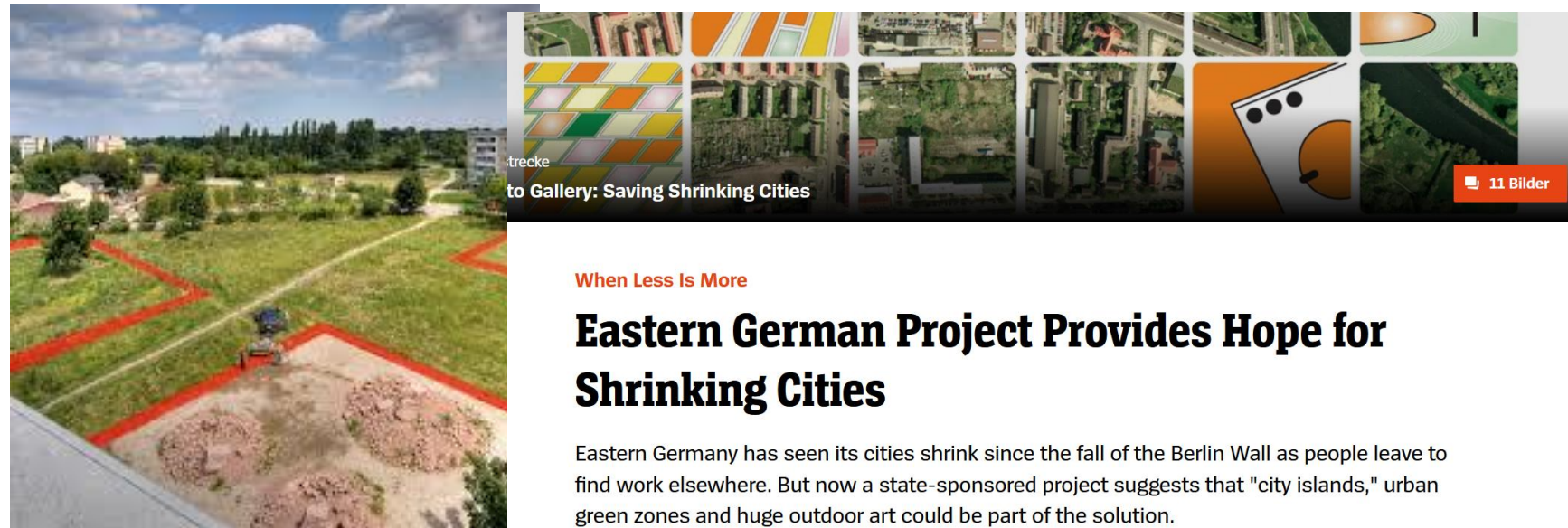
Paul Collier (2013, *Exodus*): Migration is a response to extreme global inequality (...) Effective and rational migration policies needed.

Zygmund Bauman (*Europe of Strangers*, 2010): *The future of Europe and every part of it depends on our ability and willingness to learn to live with cultural diversity.*

Consequences of population change will differ by context

Regional disparities matter

- Different population dynamics in major urban areas vs. peripheral rural areas despite shared (very) low fertility
- Huge differences between capital cities and major metropolitan areas and rural, remote, peripheral areas
- Local challenges posed by depopulation & ageing: infrastructure, services, local budgets, care for the elderly



Migration pressures & flows likely to stay high in Europe, North America (possibly, East Asia)

But shifting importance of the sending & receiving regions

Eastern Europe: fewer potential emigrants, migration reversals as in Southern Europe?

- But protracted conflicts can drive future outmigration, also from Russia

Central Europe: Reversal from outmigration to immigration (similar to Southern Europe), war in Ukraine accelerating this trend

Population in Africa projected to jump from 1.3 to 4.5 billion between 2017 and 2100 & and its share of global population from 17 to 40% (UN World Pop. Prospects)

- New significance of East Asia & middle-income countries as immigration destinations?

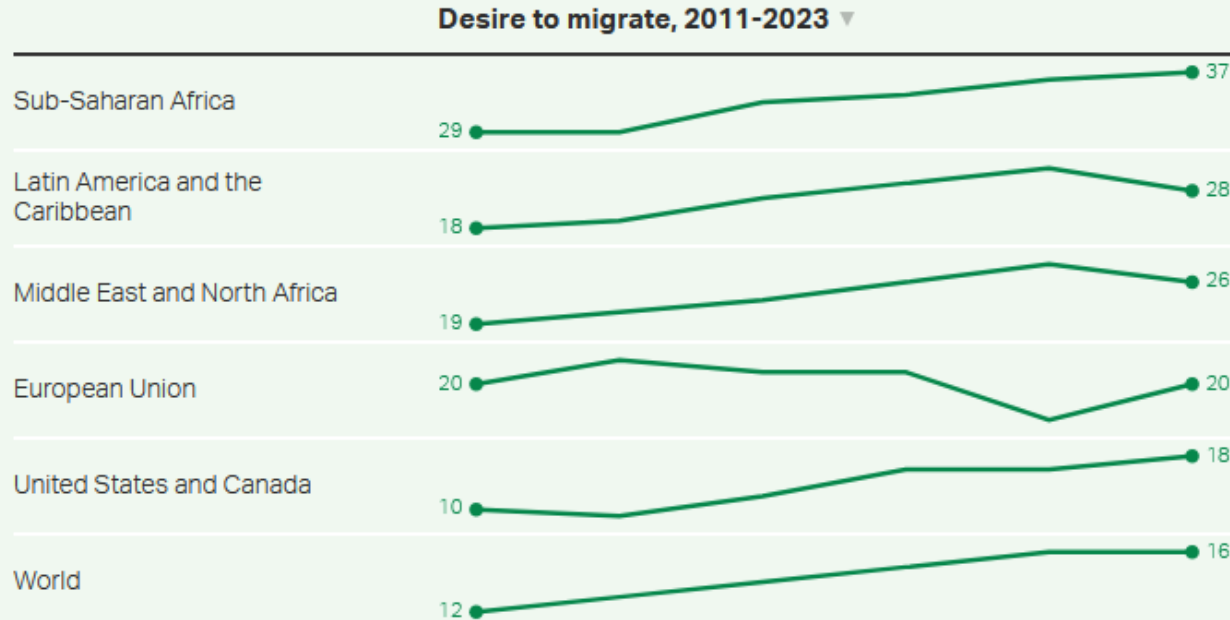
Desire to migrate staying high globally

Gallup poll, % adults saying they would like to move permanently to another country if they had the opportunity (2011-23)

Global Desire to Migrate, 2011-2023

Ideally, if you had the opportunity, would you like to move PERMANENTLY to another country, or would you prefer to continue living in this country?

% Would like to move permanently to another country



Source: Gallup. 2024. Julie Ray and Anita Pugliese. Desire to Migrate Remains at Record High. October 30, 2024.

<https://news.gallup.com/poll/652748/desire-migrate-remains-record-high.aspx>

Migration makes future population trends in Europe & North America more uncertain

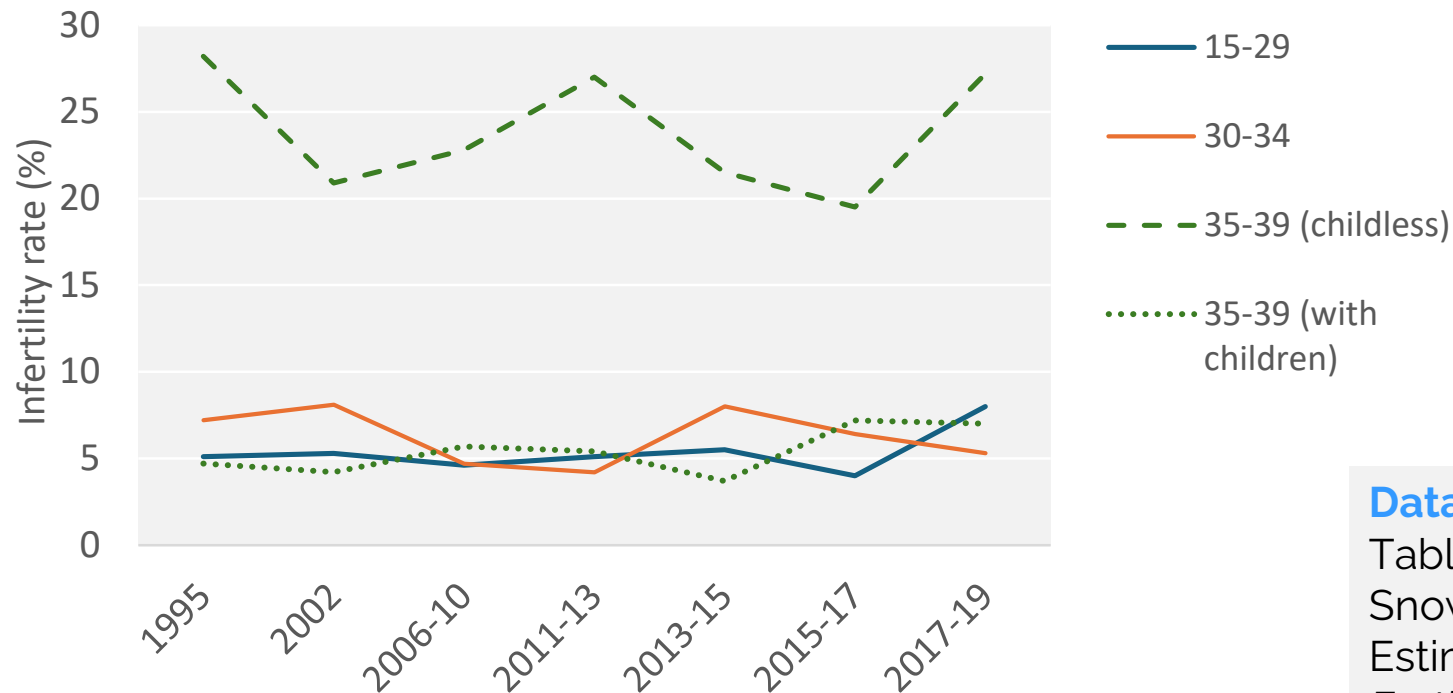
- Continued population & labour force increase likely in most countries (except in Eastern & South-eastern Europe)
- Migration shifts and reversals in the wake of COVID-19 pandemic and new crises and conflicts in other regions (especially Ukraine)
- Immigration and outmigration closely linked to economic cycles (e.g., Spain 2008+), but also conflicts and insecurity in the sending regions
- **Uncertainty about future immigration flows:** lacking data, difficulties counting irregular migrants, volatility of migration flows, uncertainty about global climate change, food security, conflicts and disasters

Long-term migration unpredictable → uncertain population trends, challenges for population projections

The future infertility crisis?

Rising share of women and men who postpone family formation into their late 30s and consider having a child in the future

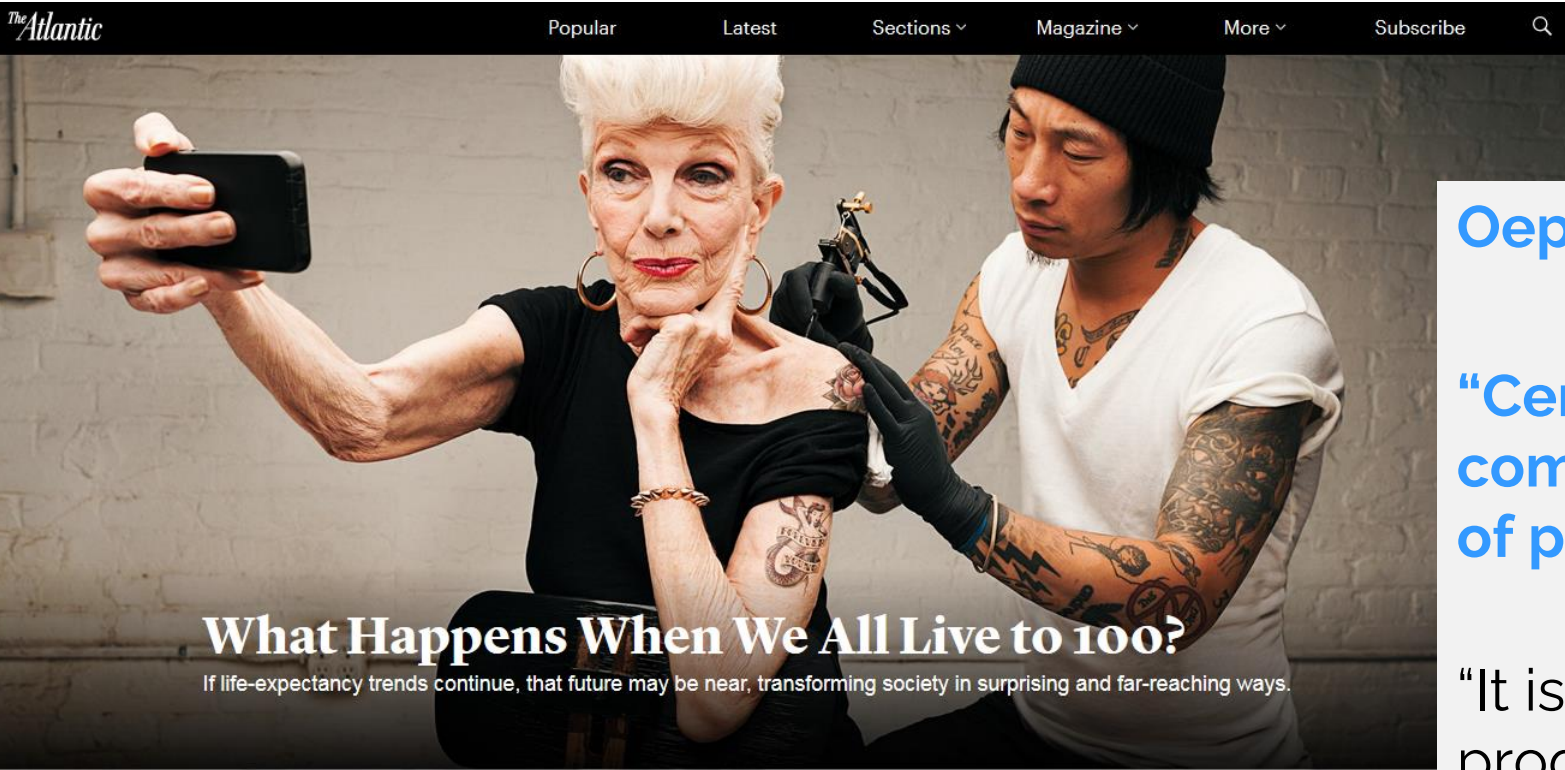
- many of them will not be able to realise their reproductive goals



Percentage of married and cohabiting women with 12-month infertility, United States, 1995-2019

Data source:

Table 2 in
Snow, M., Vranich, T.M., Perin, J. and Trent, M., 2022.
Estimates of infertility in the United States: 1995–2019.
Fertility and Sterility, 118(3), pp.560–567.



Oeppen & Vaupel (2002):

“Centenarians will become commonplace within the lifetimes of people alive today.”

“It is possible, if we continue to make progress in reducing mortality, that most children born since the year 2000 will live to see their 100th birthdays in the 22nd century”

(James Vaupel; cited by *Population Reference Bureau* (2011);
<https://www.prb.org/biodemography/>)

Greg Easterbrook, The Atlantic, October 2014

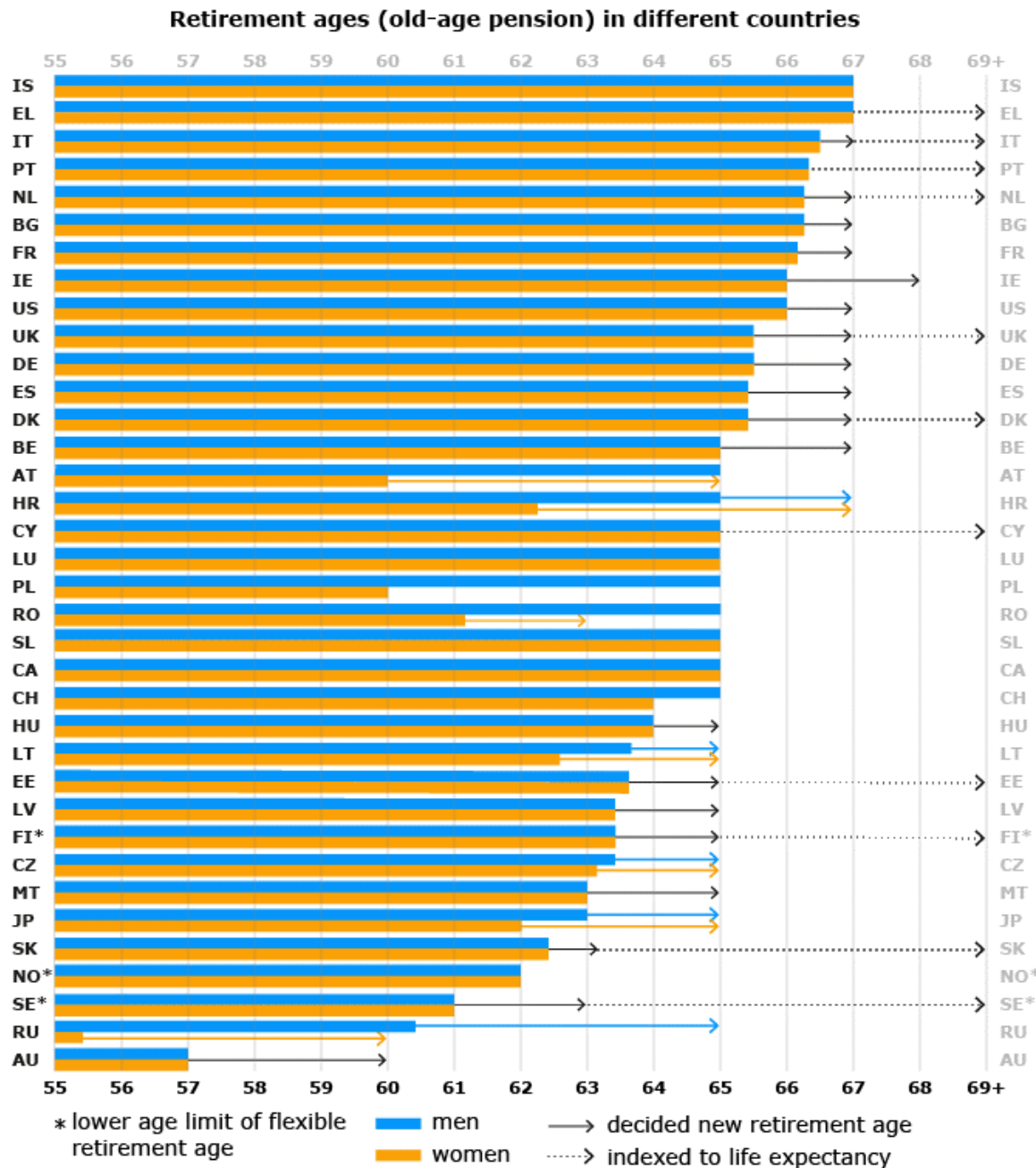
<https://www.theatlantic.com/magazine/archive/2014/10/what-happens-when-we-all-live-to-100/379338/>

Life expectancy: future challenges

- **Cardiovascular revolution** partly running out of steam
- **Life expectancy rise likely to slow down** further: improvements concentrated at older ages
- **Life expectancy stalls** in some countries in 2010s
- **Life span** has not been significantly extended: unless a new breakthrough occurs, mortality will improve more slowly
- **New lifestyle challenges and inequalities:** obesity, poor diet, mental health, especially among lower-SES groups
- **Post-COVID 19:** mortality is still unstable and not fully back to pre-covid trend in some countries; possible longer-term consequences?

The challenge of adjusting pension and retirement systems to longer lives

Differences in official retirement ages across Europe



Source: Finnish Centre for Pensions; <https://www.etk.fi/en/the-pension-system/international-comparison/retirement-ages>

Adjusting pension systems: different options

JOHN BONGAARTS

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TABLE 2 Change required in demographic, labor force, retirement, and benefit variables to reduce pension expenditures by 10 percent in 2050 (G7 average)

Policy variable	Change required
Fertility (2000–2050)	Increase of 0.27 births per woman
Net migration rate (2000–2050)	Increase of 1.8 net migrants per 1,000 population
Employment ratio (2050)	Increase of 9 percent ^a
Mean age at retirement (2050)	Increase of 1.6 years
Pension benefits (2050)	Reduction of 10 percent

^aThis rise in the employment ratio also causes a 1 percent decline in the pensioner ratio.

Source: John Bongaarts (2004). “Population Aging and the rising Cost of Public Pensions.” *Population and Development Review*

Biological age is a very crude and misleading indicator of ageing, health, employment potential and disabilities

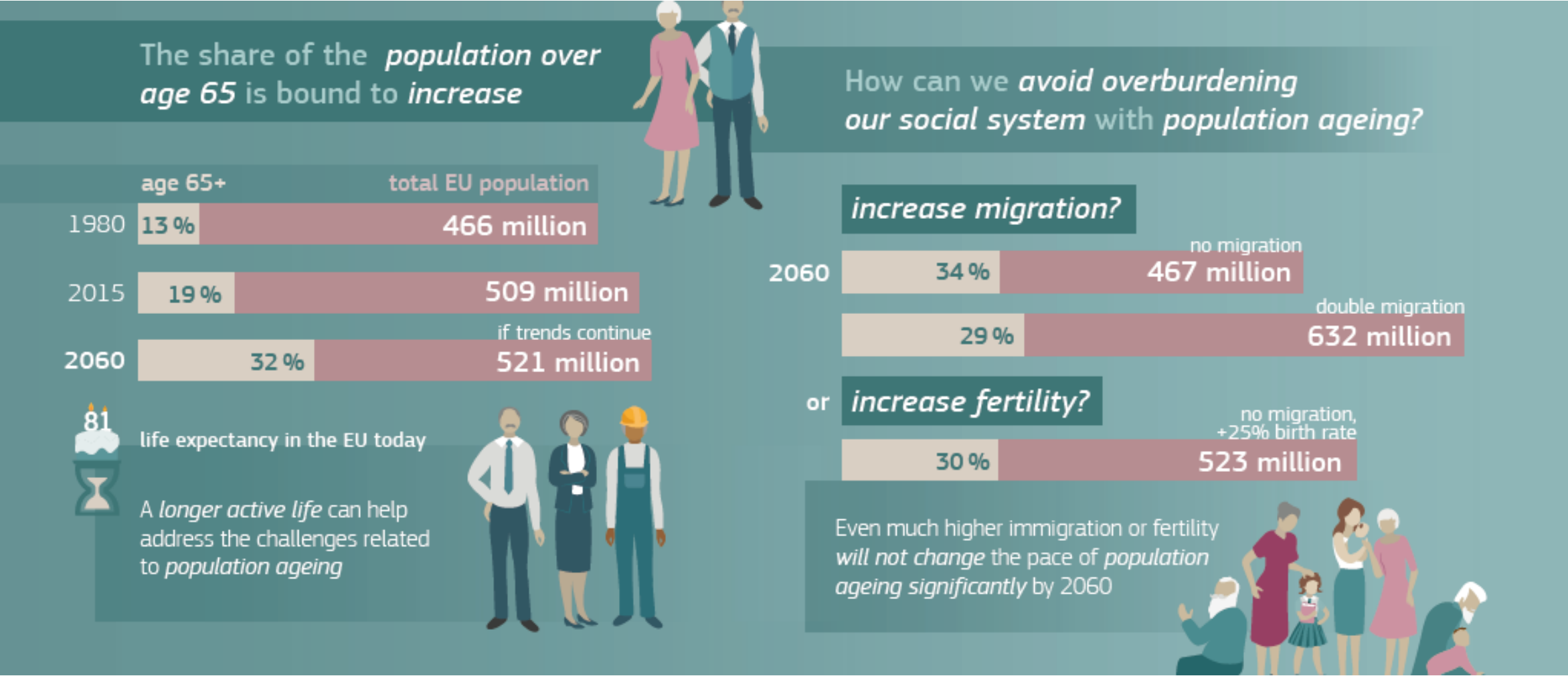


Glorious Bodies: a circus show of Belgian acrobats aged 57-69

<https://www.i60.cz/clanek/detail/36550/glorious-bodies-s-akrobaty-ve-veku-55-az-67-let-boriklise-o-starsi-generaci-na-jevisti-i-ve-spolecnosti>



Policy options for the European Union (28)



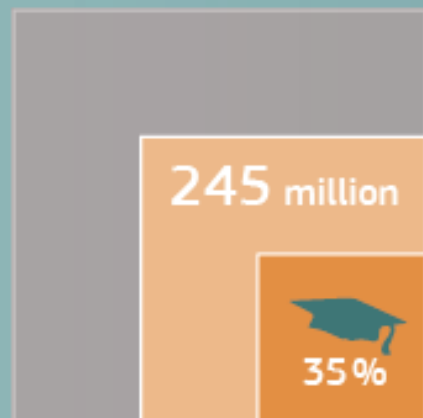
Source Lutz W. (Ed.), Amran G., Bélanger A., Conte A., Gailey N., Ghio D., Grapsa E., Jensen K., Loichinger E., Marois G., Muttarak R., Potančoková M., Sabourin P., Stonawski M., Demographic Scenarios for the EU Migration, Population and Education executive summary , Publications Office, Luxembourg, 2019, doi:10.2760/98611, JRC116398.

The EU's future *labour force* will be *smaller* and *better educated*

EU labour force over total population

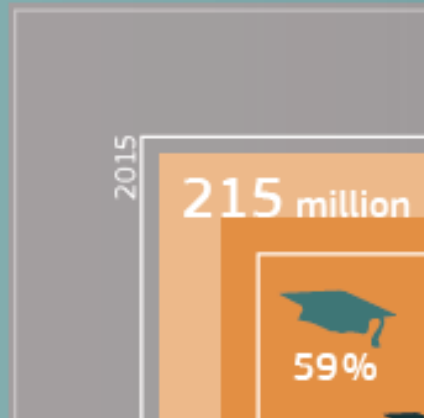


2015

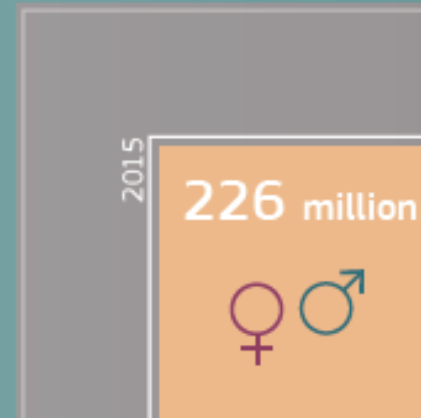


A smaller, better-educated labour force may prove to be *more adaptable* to the changing nature of work, automation and artificial intelligence

2060 if trends continue, *labour force participation rate* as today



2060 if men and women *equally participated*

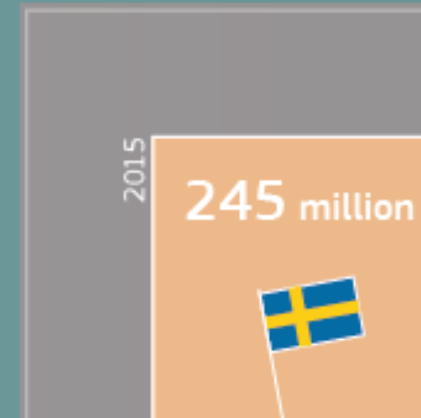


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100

Increasing labour force participation is the most effective way to cope with *population ageing*



if participation rate as high as in Sweden today



106
100

lowest ratio of dependents to workers

