

SESSION 001

The Shape of Things to Come: Demographic Decline, Economic Stagnation, and Geopolitical Instability



Antitrust Policy

Professional societies, including the Conference of Consulting Actuaries (CCA), are subject to federal and state antitrust laws, and must constantly monitor their activities to ensure continued compliance with all antitrust regulations.

Purpose of Antitrust Laws

The antitrust laws prohibit any concerted activity or combination of competitors from interfering with free competition. In other words, the primary thrust of the law is to control private economic power by protecting competition. Persons and organizations are prohibited from engaging in any action which unreasonably restrains commerce or trade (i.e., competition). Per se violations (practices presumed to be inherently wrong regardless of the motivating factors) include: agreements to fix or stabilize prices, to divide markets, to allocate production, or to impose boycotts. In essence, this means any concerted action that significantly diminishes rivalry among competing firms.



Speakers



Tom Terry, FSA, MAAA, FCA, EA
CEO, The Terry Group



Neil Howe
Sector Head for Demography,
Hedgeye Risk Management



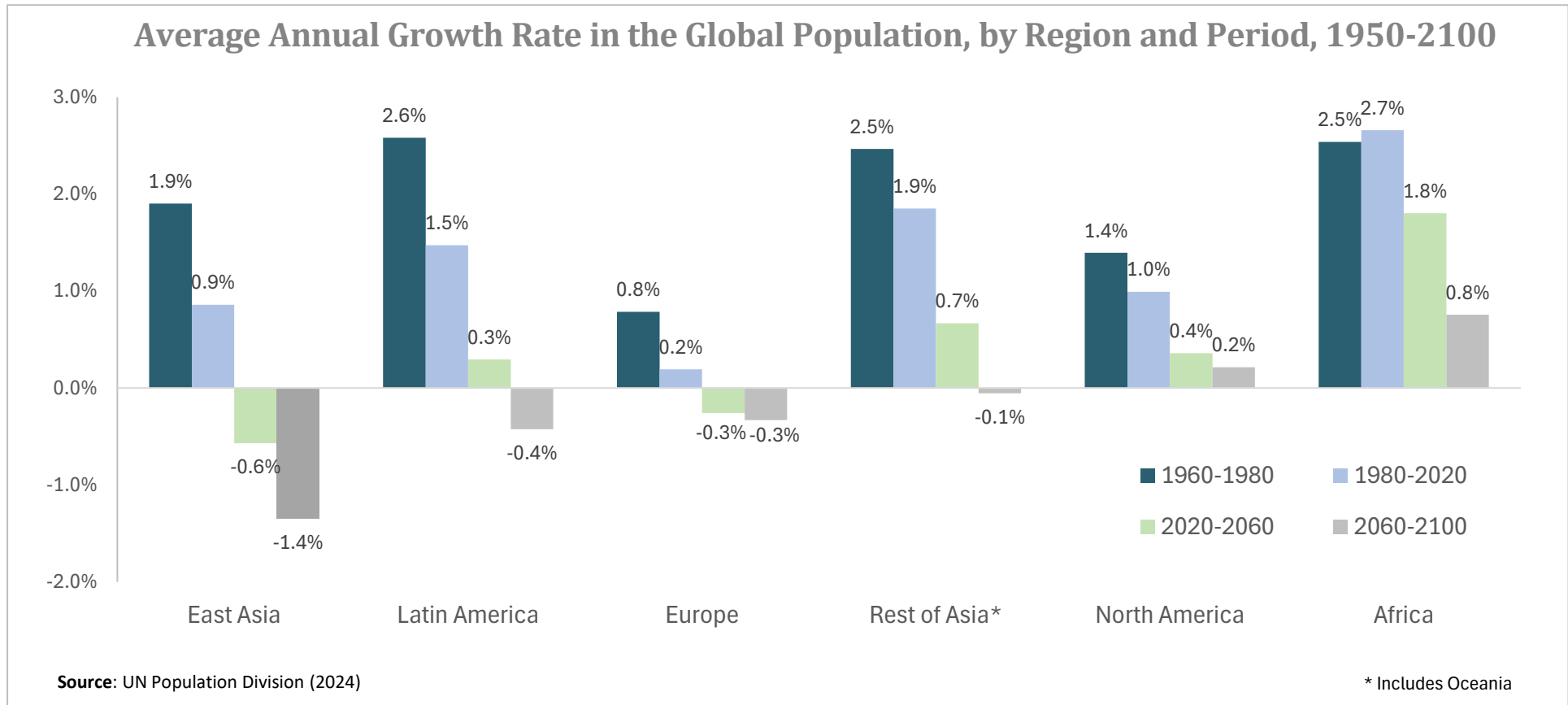
Richard Jackson, Ph.D.
President, Global Aging Institute



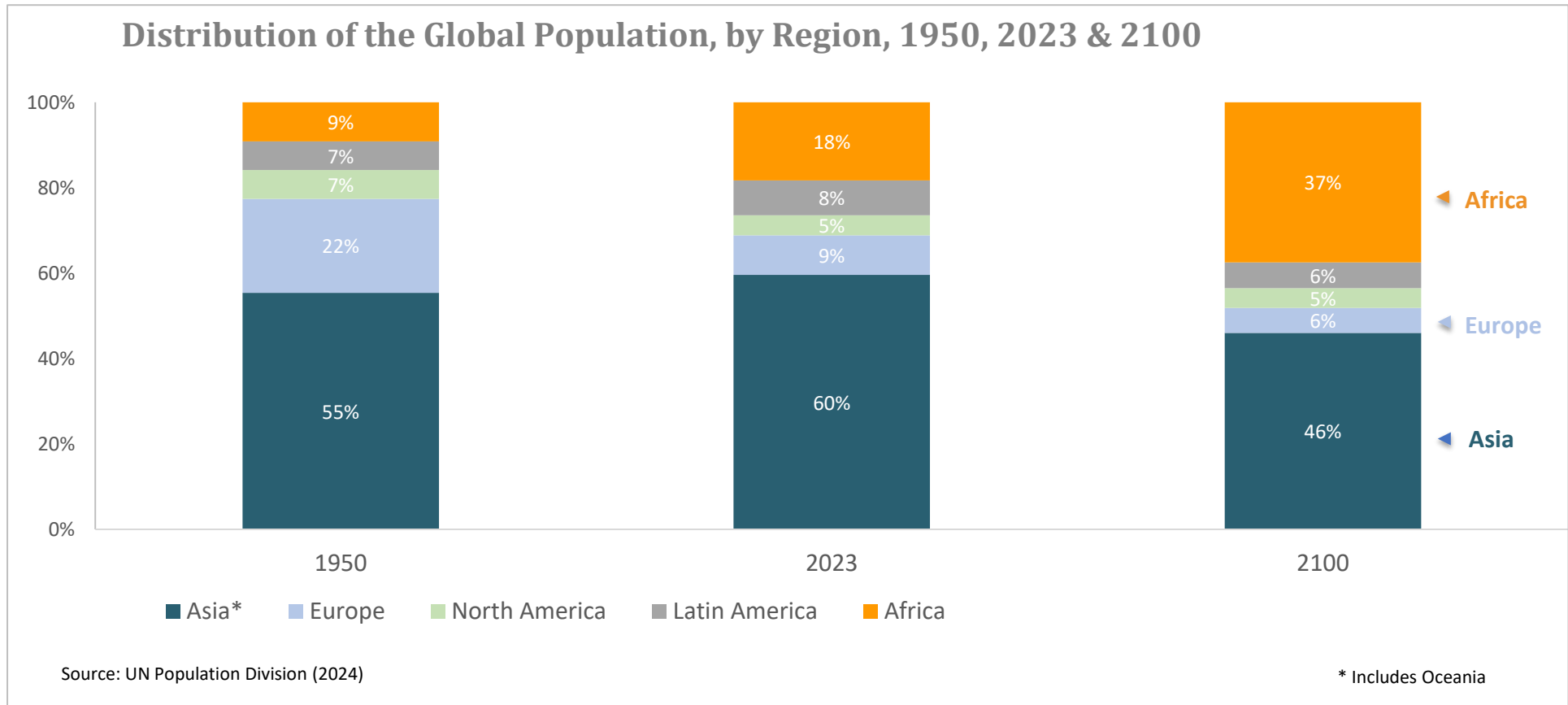
Global Demographic Trends



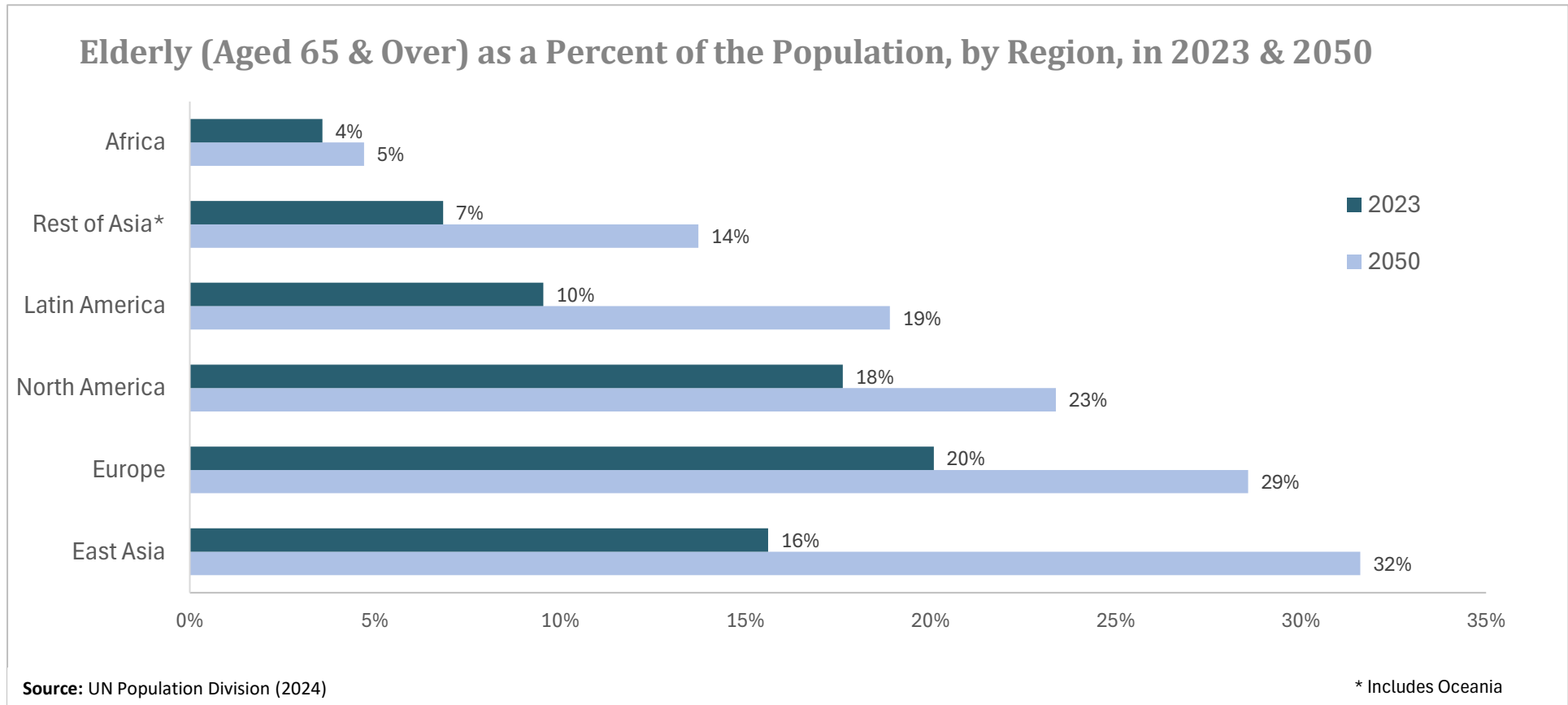
The Demographic Transformation: POPULATION STAGNATION AND DECLINE



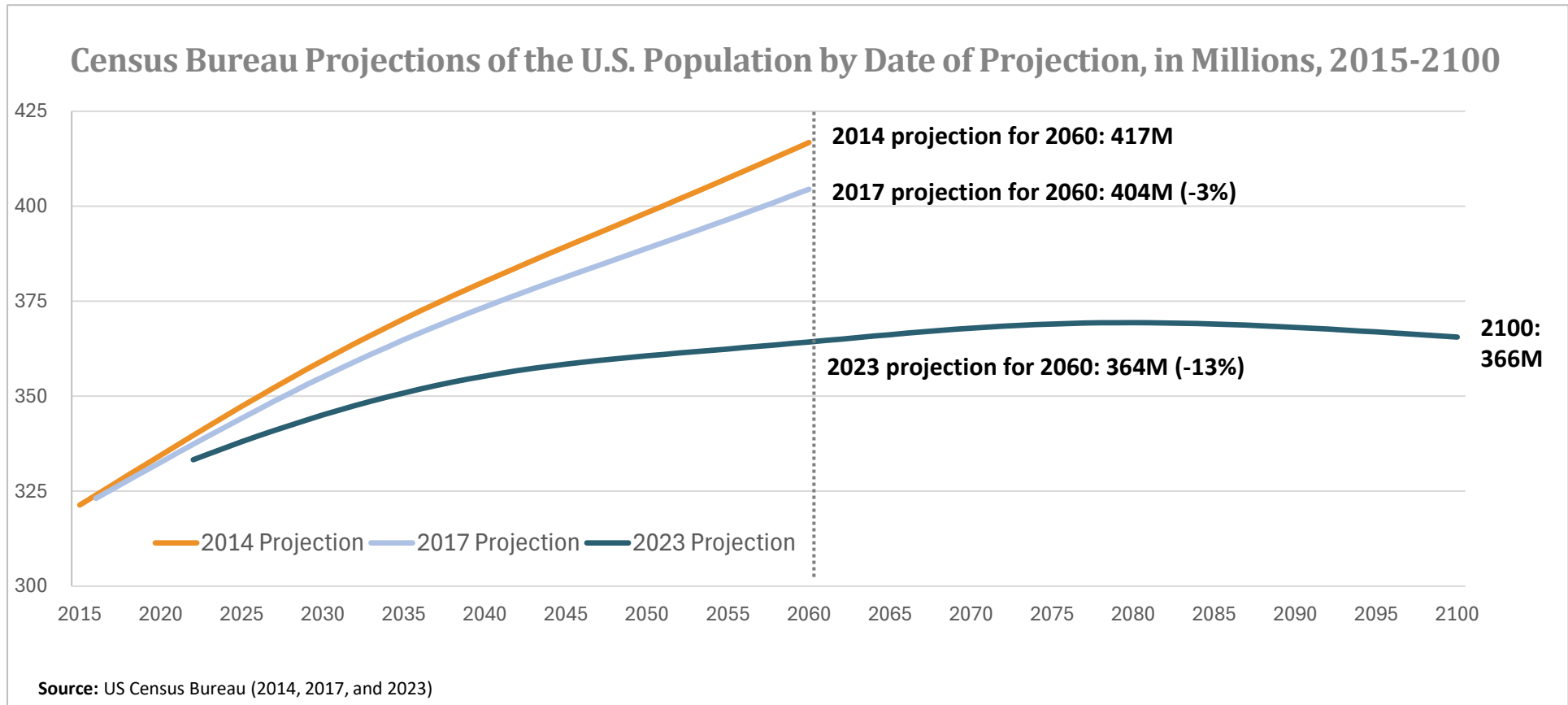
The Demographic Transformation: MASSIVE SHIFT IN GLOBAL POPULATION DISTRIBUTION



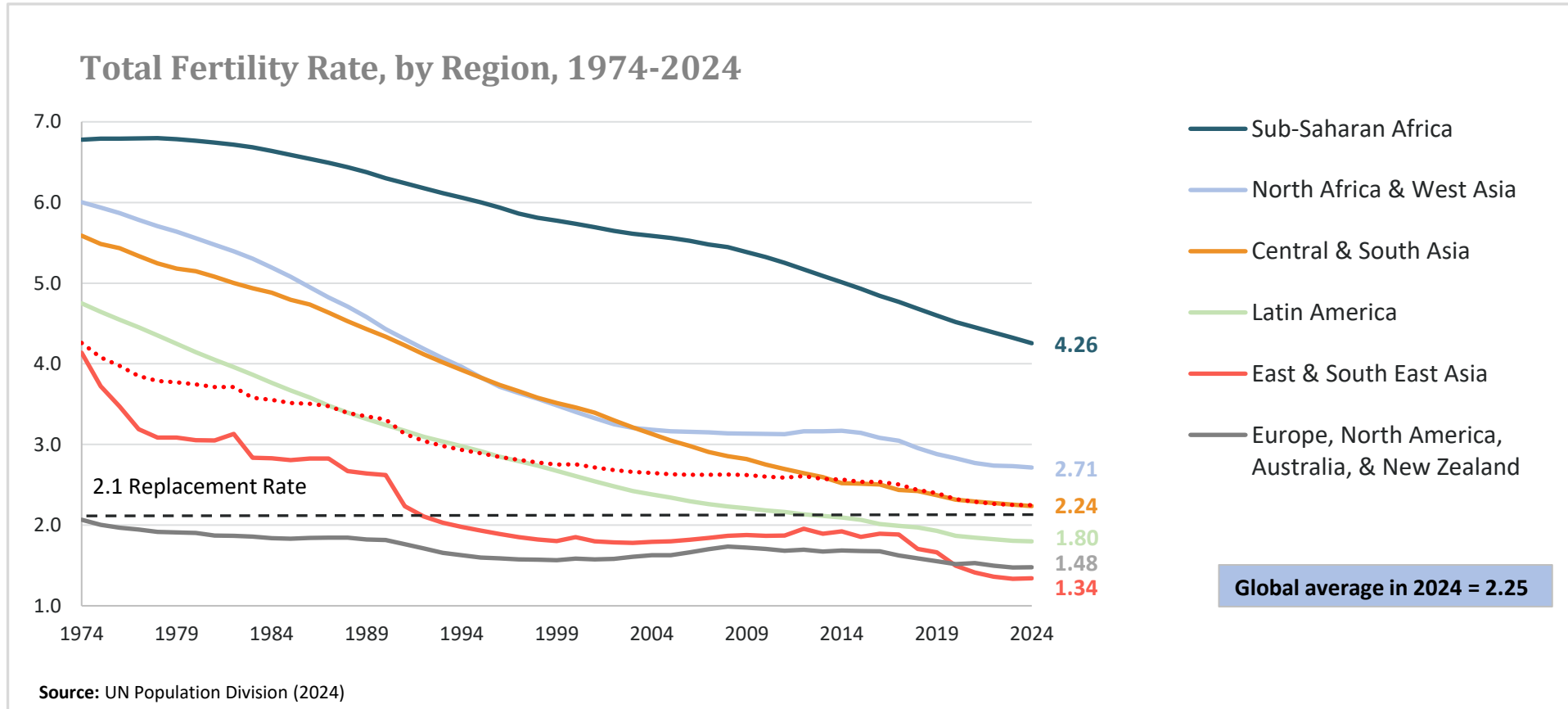
The Demographic Transformation: RAPID POPULATION AGING



The scale of the demographic transformation has only recently become apparent.

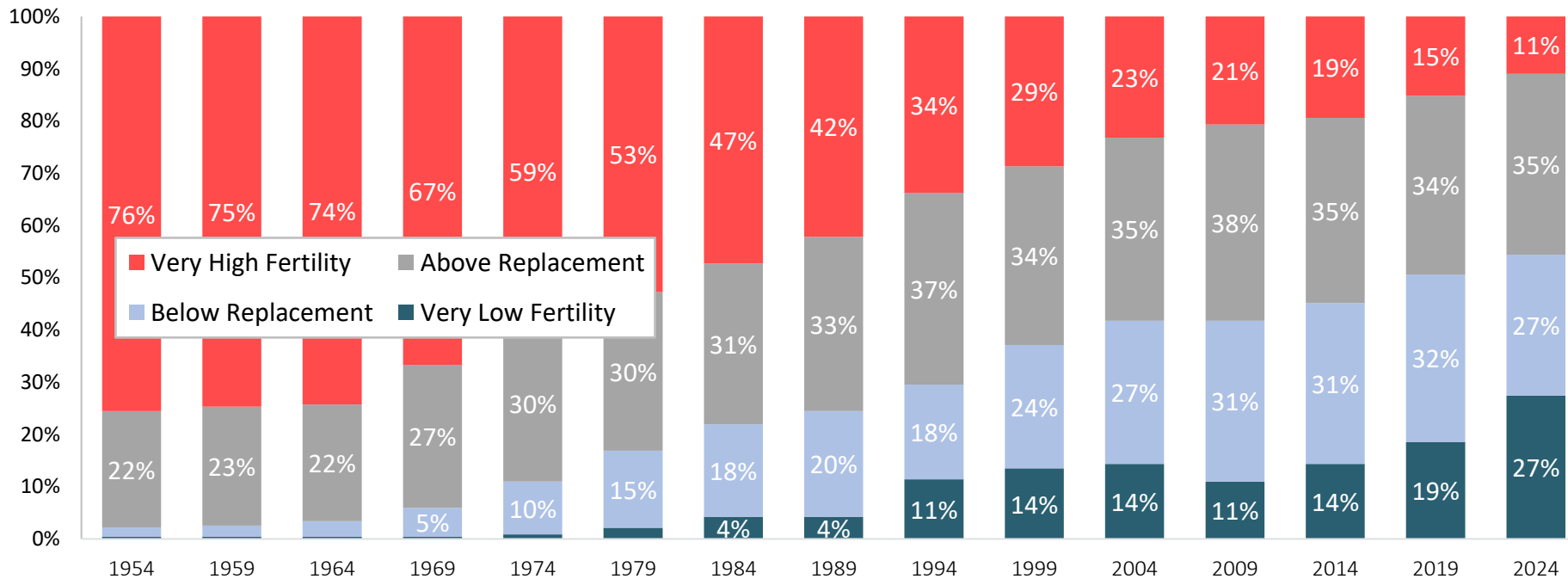


The Main Driver: FALLING FERTILITY



A growing share of countries have below-replacement fertility.

Distribution of the World's Countries and Territories, by Level of TFR, 1954-2024



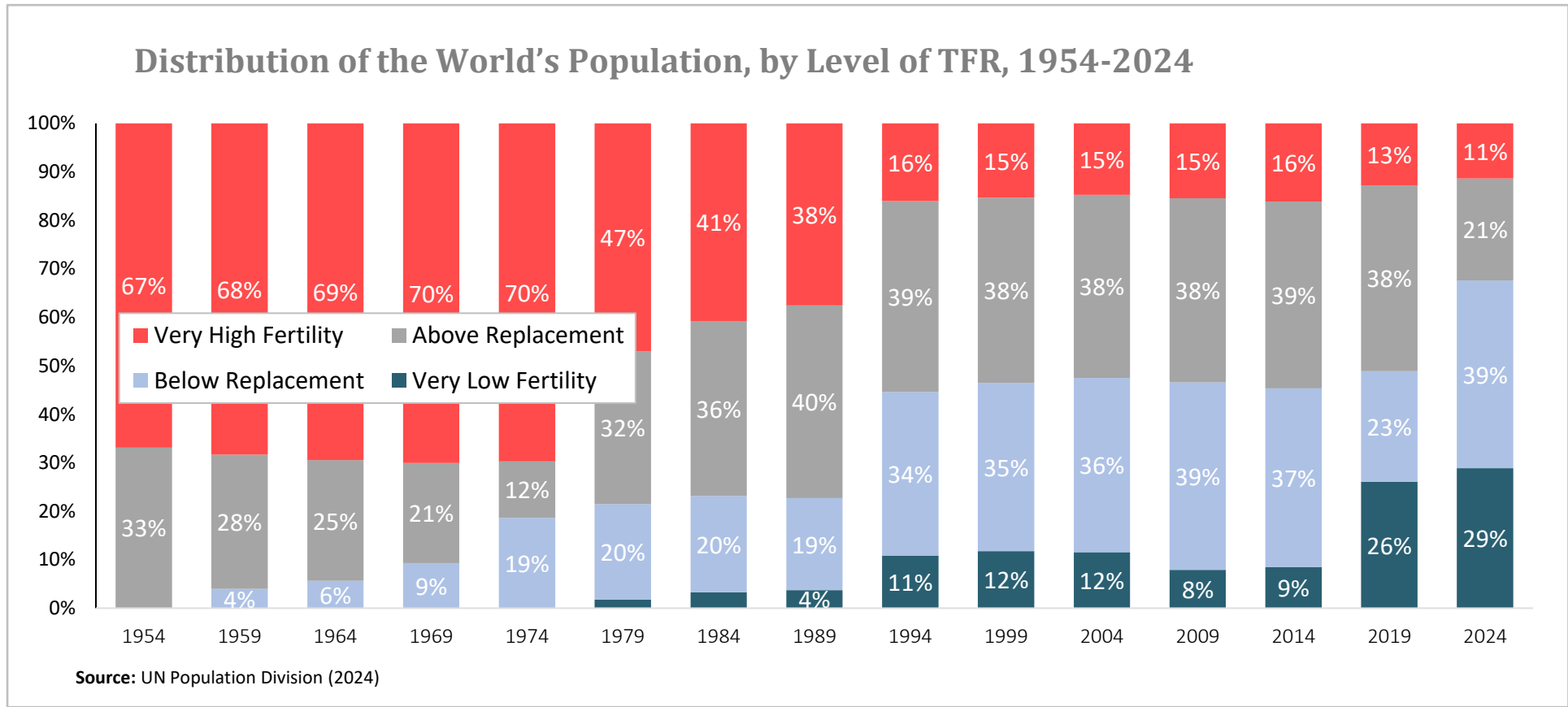
Source: UN Population Division (2024)

KEY:

- Very High Fertility** = a TFR of greater than 4.0
- Above Replacement** = a TFR of 2.1 to 4.0
- Below Replacement** = a TFR of 1.5 to 2.1
- Very Low Fertility** = a TFR of less than 1.5.



An even larger share of the world's population lives in countries with below-replacement fertility.

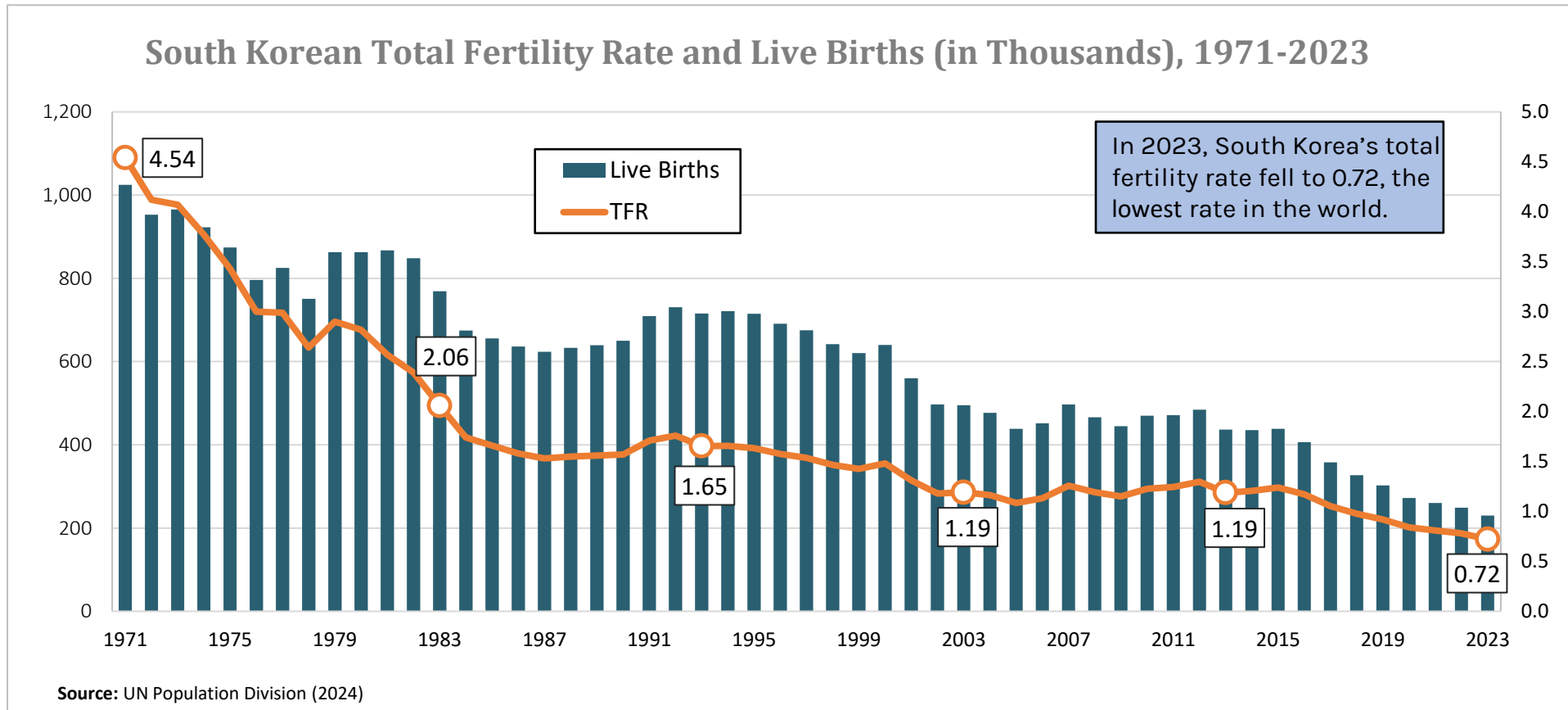


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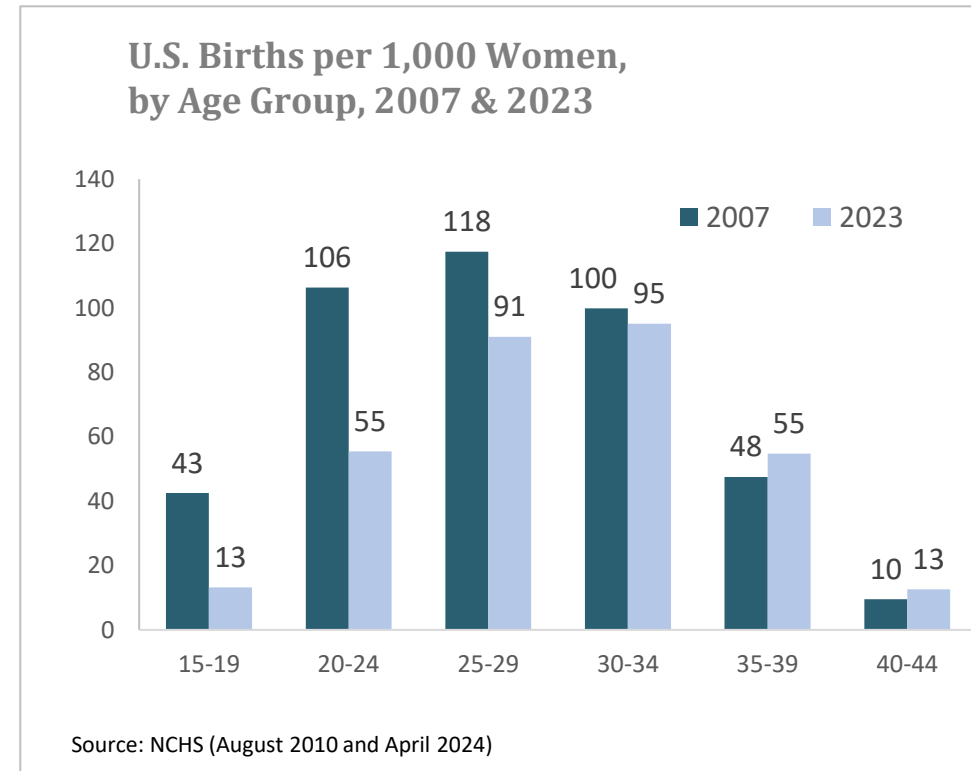
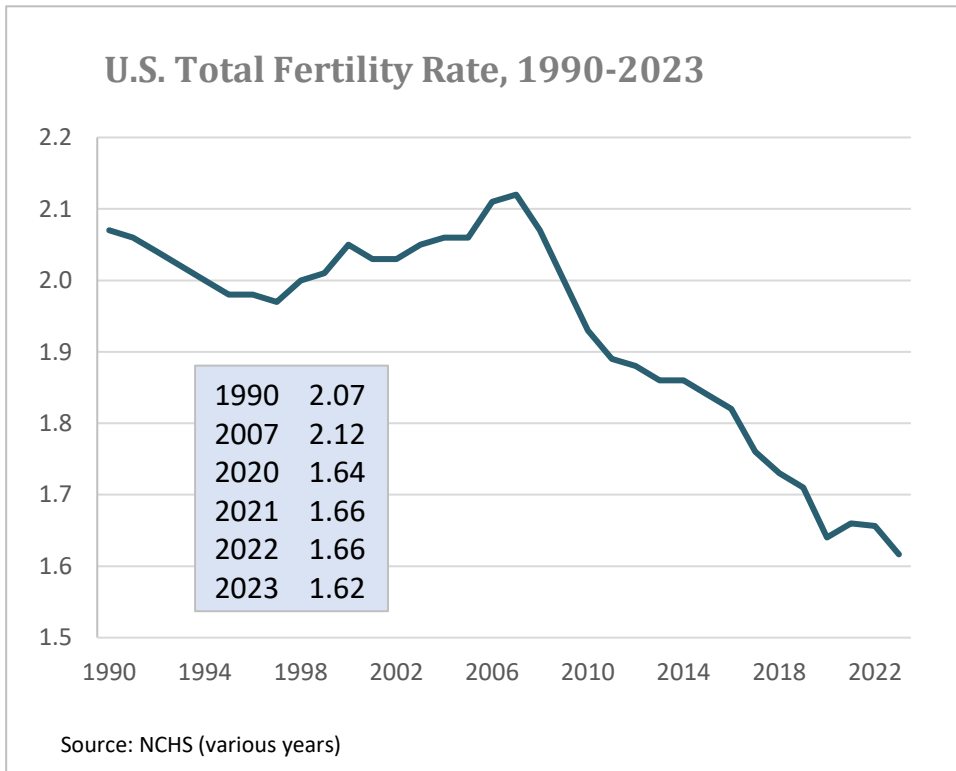
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- Very Low Fertility** = a TFR of less than 1.5.



How far can fertility fall?



The U.S. Fertility Rate: No Longer Exceptional

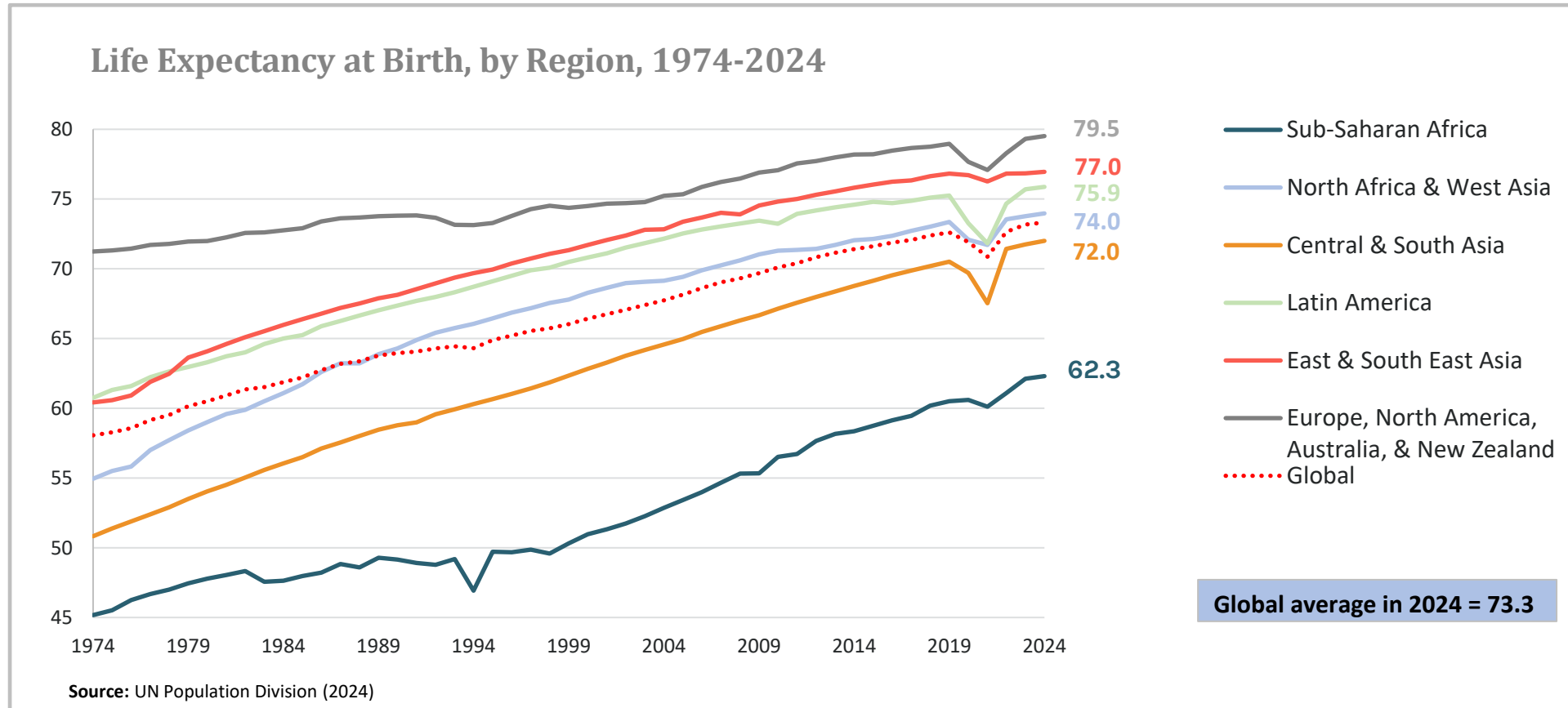


What's causing the global baby bust?

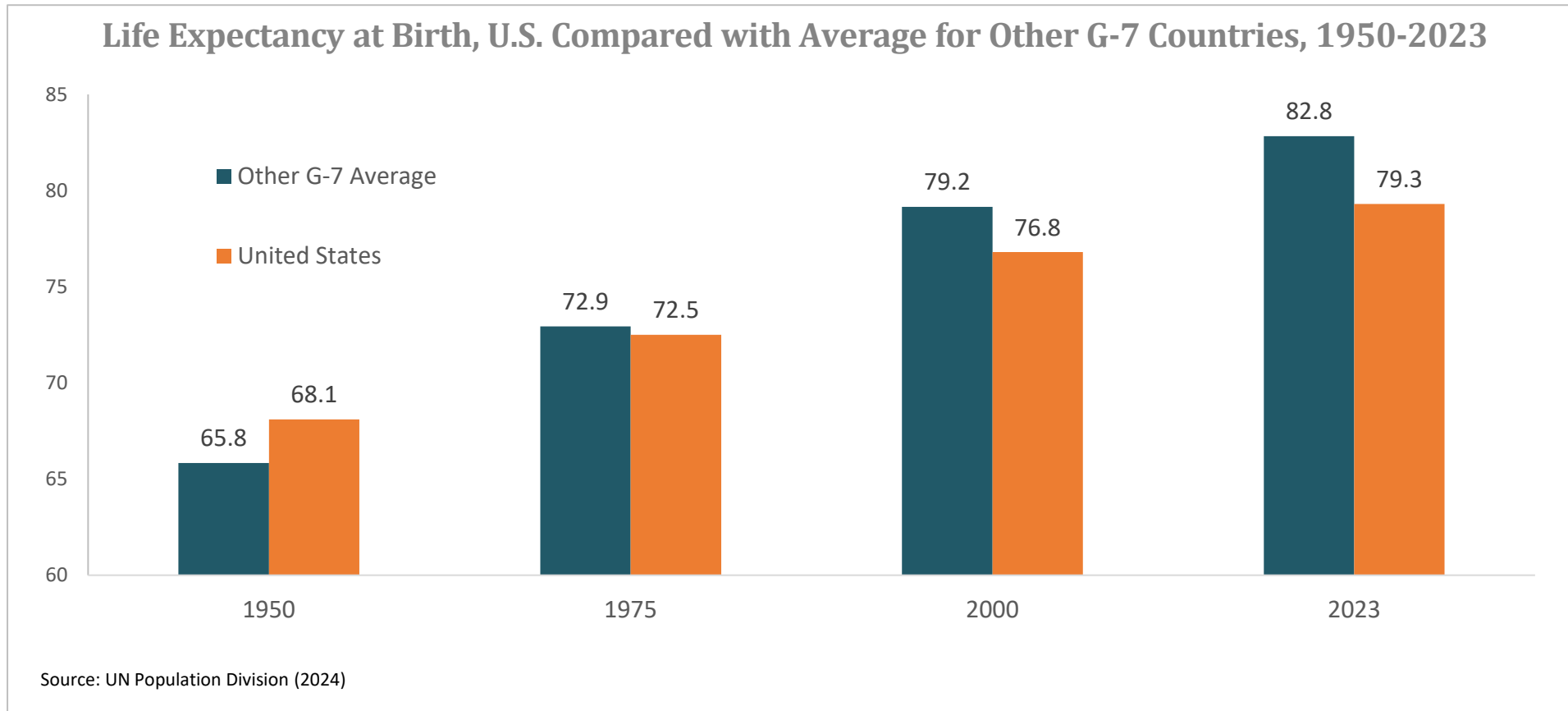
- ❑ **The forces of modernization**, including rising incomes, rising educational attainment (especially of women), urbanization, and the widespread availability of effective contraception
- ❑ **Changing gender roles**, including the mass entry of women into the labor market and the difficulties they face in balancing work and family responsibilities
- ❑ **Economic developments**, including the introduction of pay-as-you-go social insurance, the high cost of childrearing (especially education), and the difficulties young adults face in launching careers and establishing independent households
- ❑ **Social & cultural developments**, including the decline of religiosity, the rise of “individualism,” and evolving ideas about what constitutes the “good life”



The other driver: RISING LIFE EXPECTANCY



U.S. Life Expectancy: Exceptional in the Wrong Way

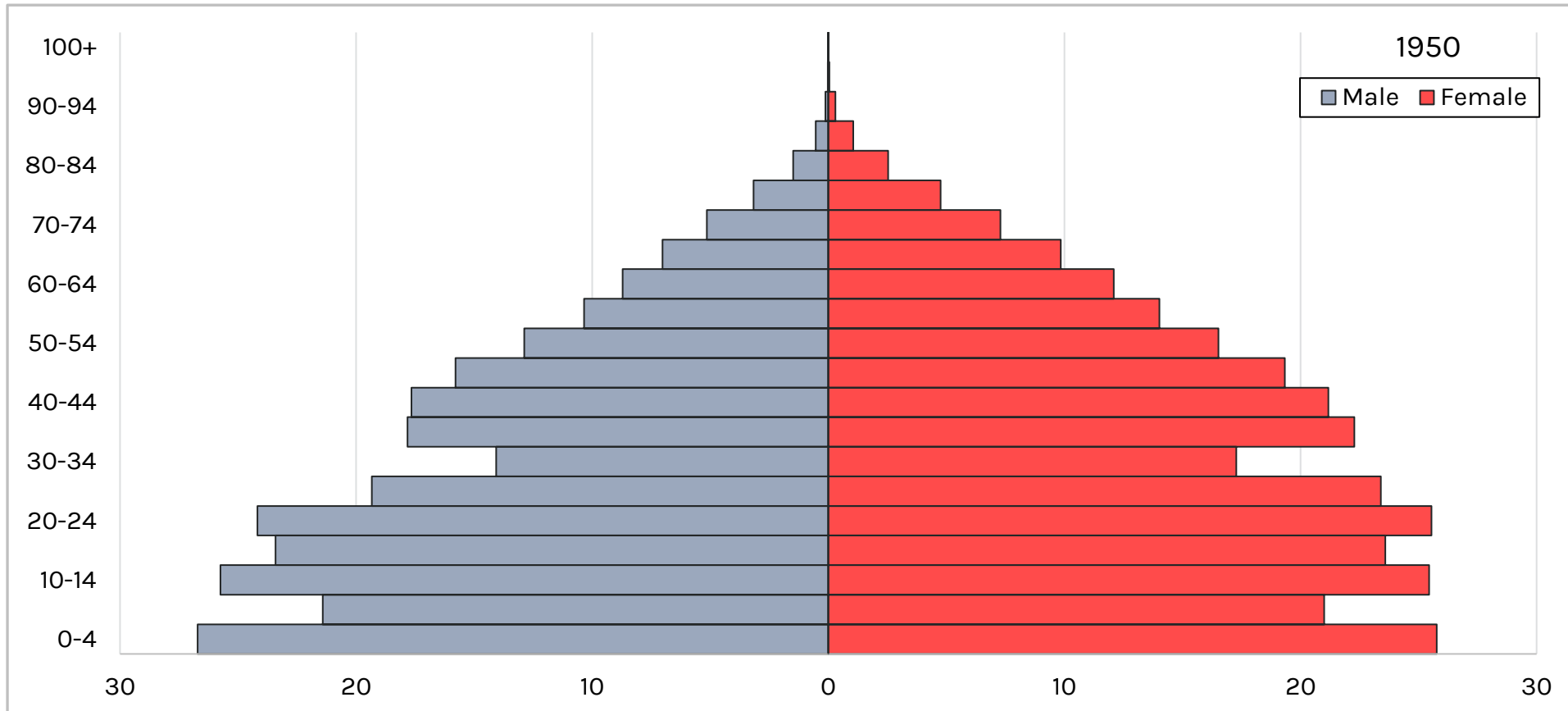


How high can life expectancy rise?

- ❑ **The case for pessimism.** There is a natural limit to the human lifespan. As life expectancy begins to approach that limit, further improvements will become more and more difficult and eventually cease.
- ❑ **The case for optimism.** The limit to the human lifespan is not fixed. Advances in bio-medicine will progressively push it out, allowing improvements in life expectancy to continue almost indefinitely.



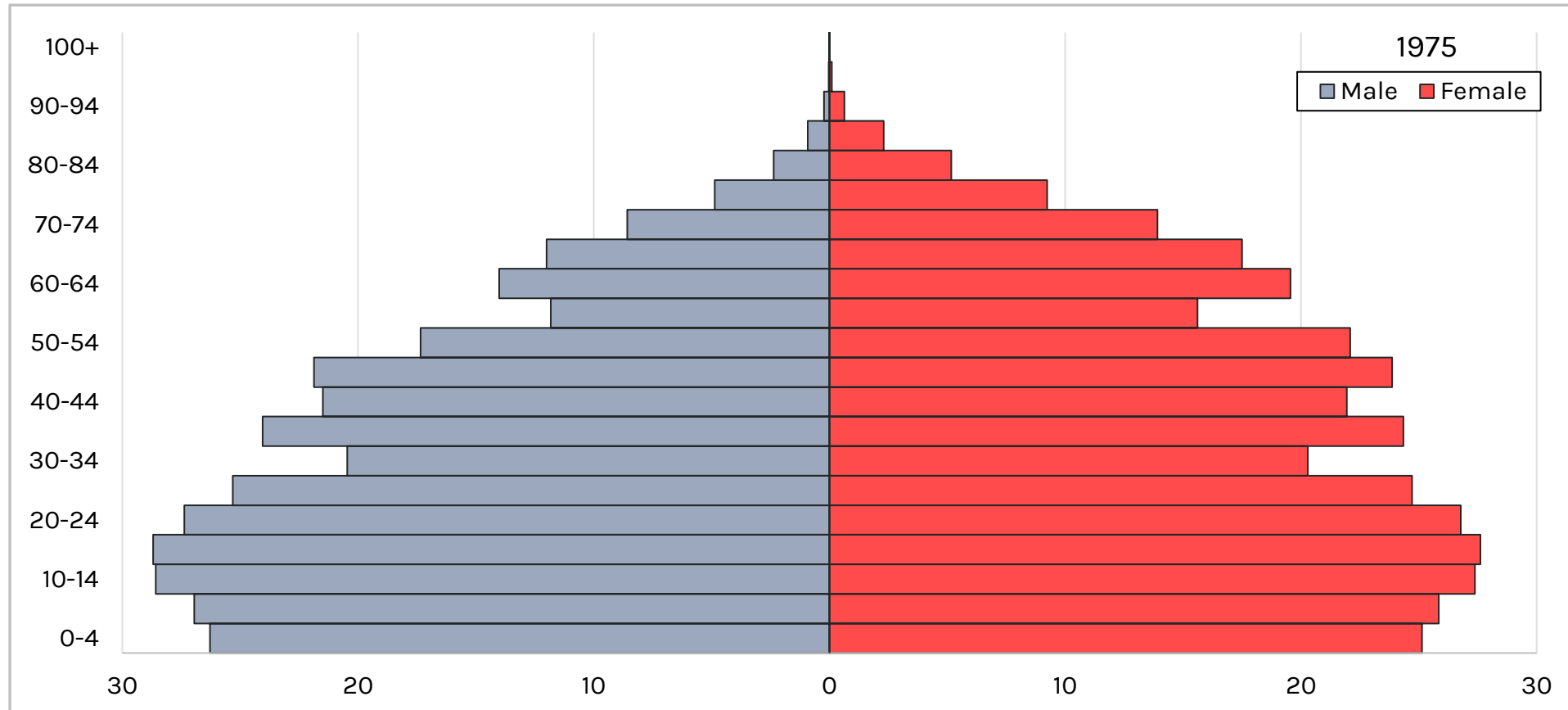
Population Pyramid for Europe (in Millions): 1950



Source: UN Population Division (2024)



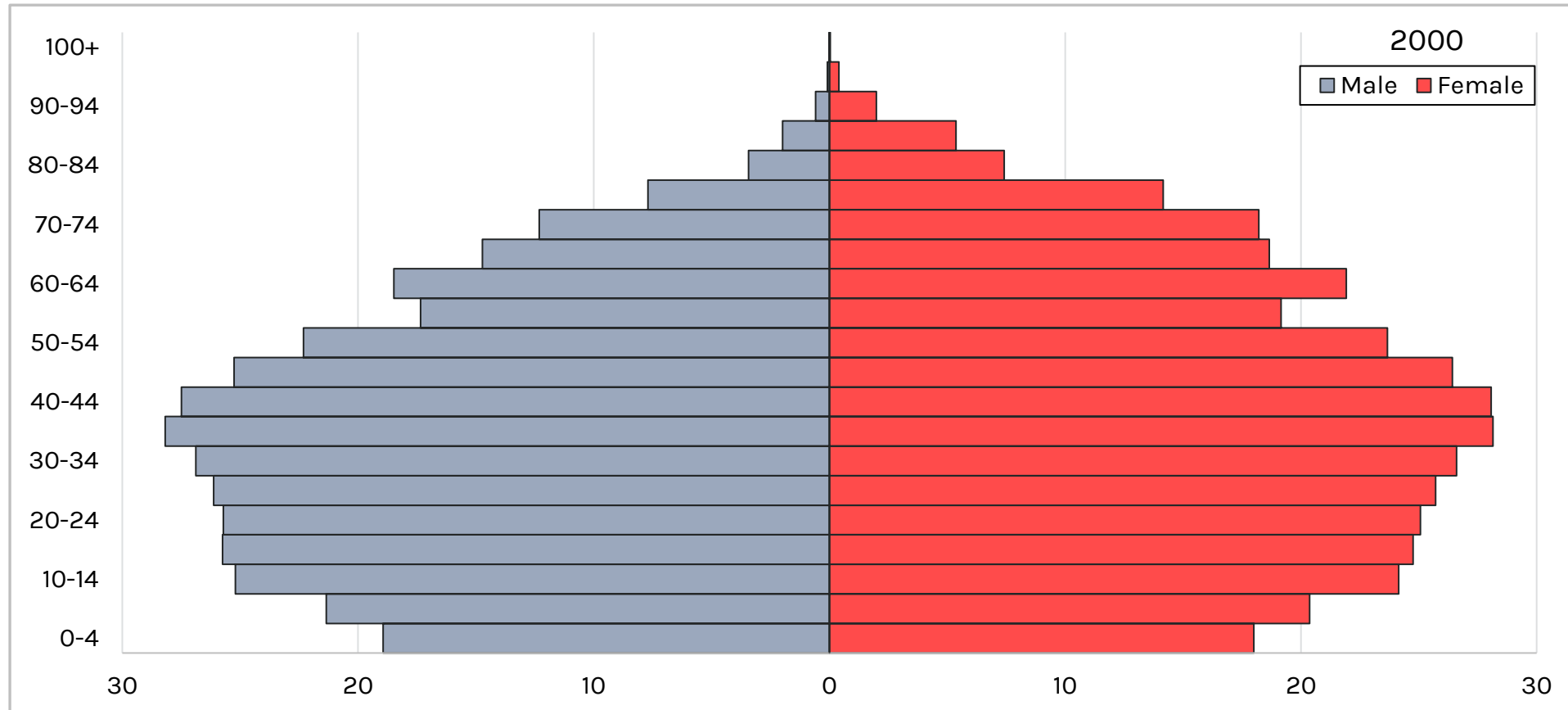
Population Pyramid for Europe (in Millions): 1975



Source: UN Population Division (2024)



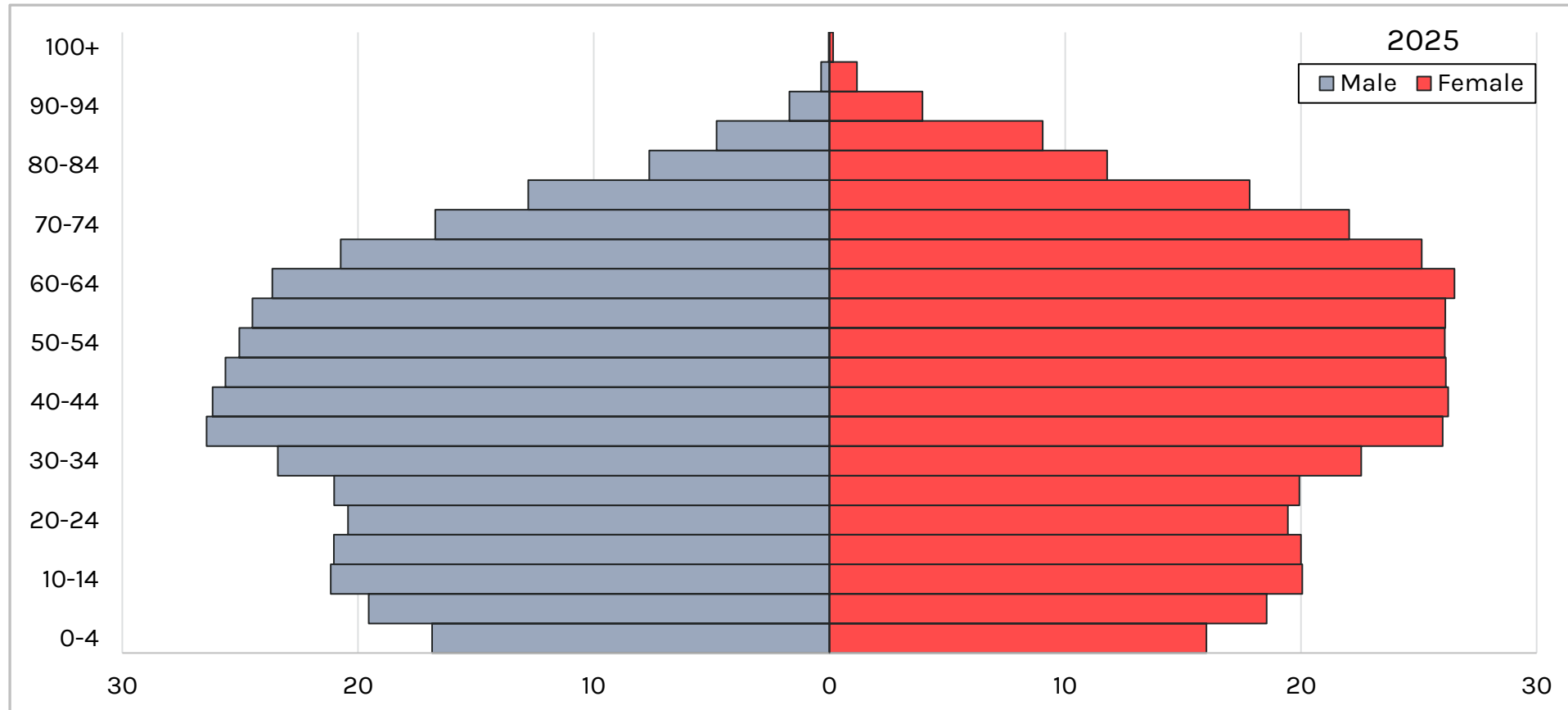
Population Pyramid for Europe (in Millions): 2000



Source: UN Population Division (2024)



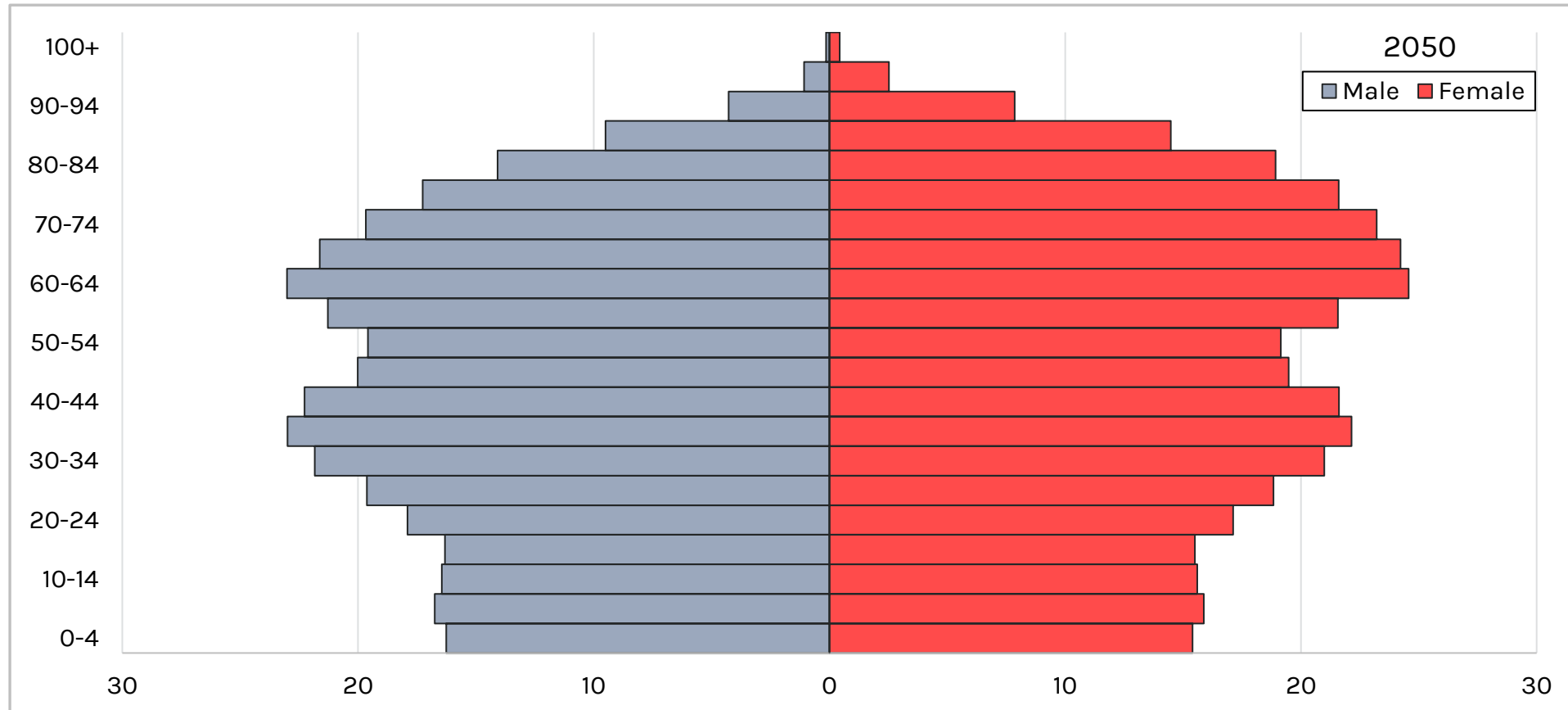
Population Pyramid for Europe (in Millions): 2025



Source: UN Population Division (2024)



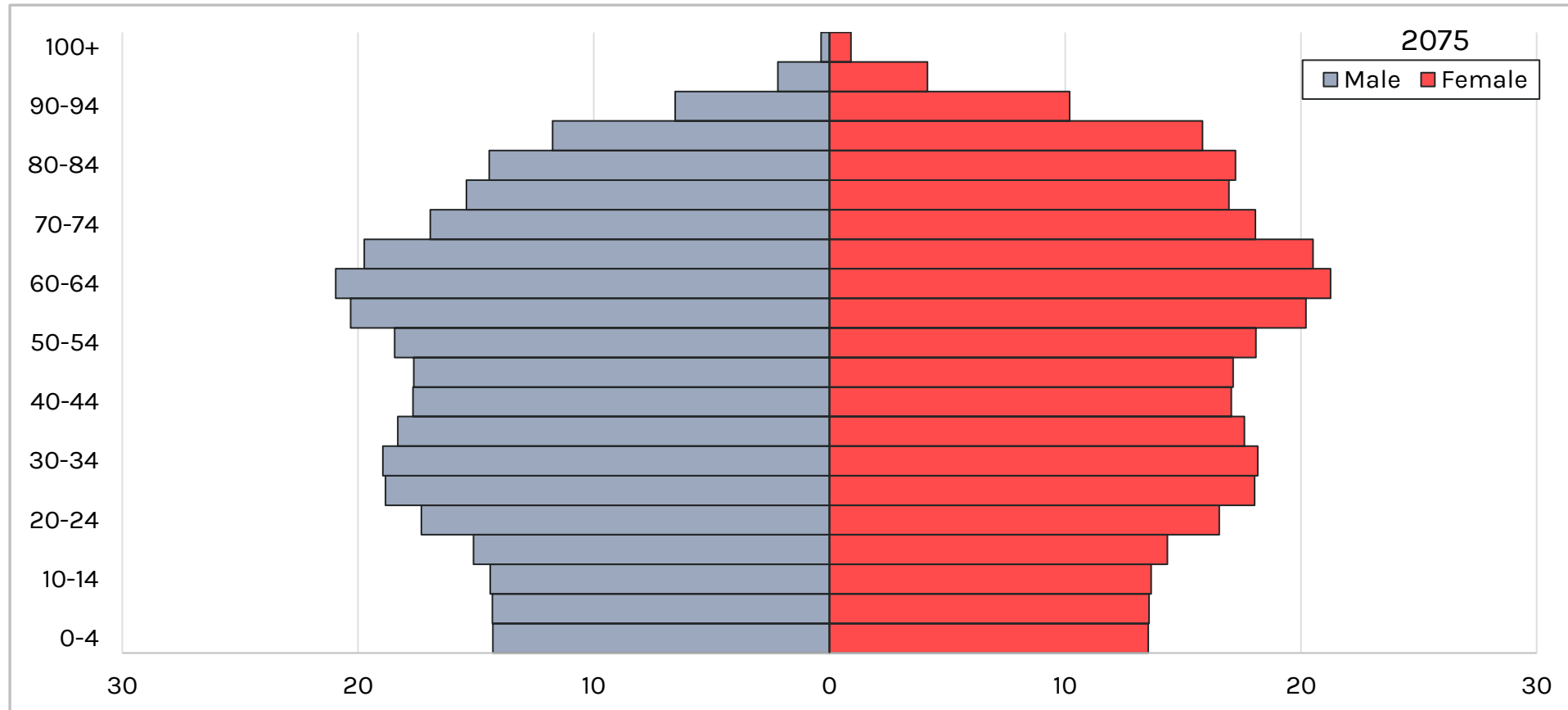
Population Pyramid for Europe (in Millions): 2050



Source: UN Population Division (2024)



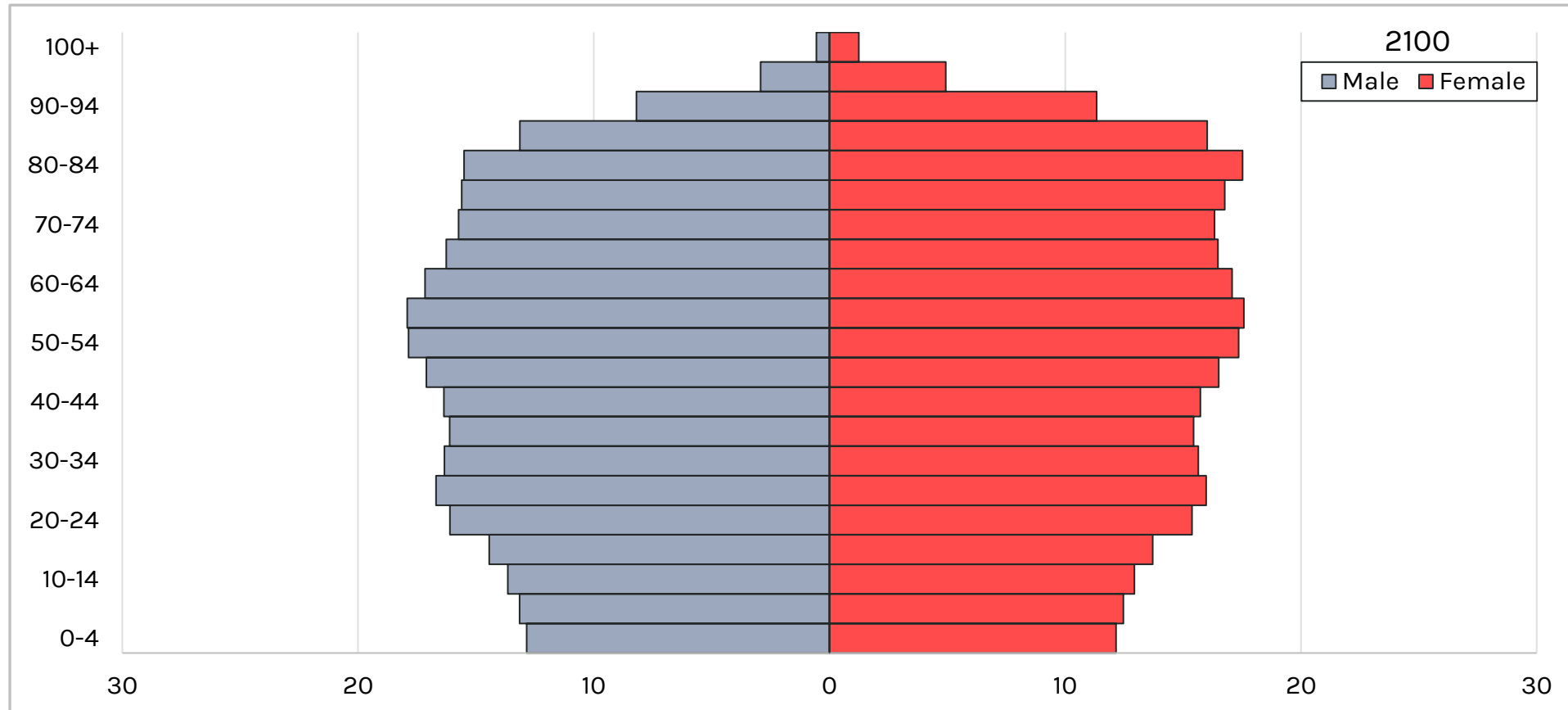
Population Pyramid for Europe (in Millions): 2075



Source: UN Population Division (2024)



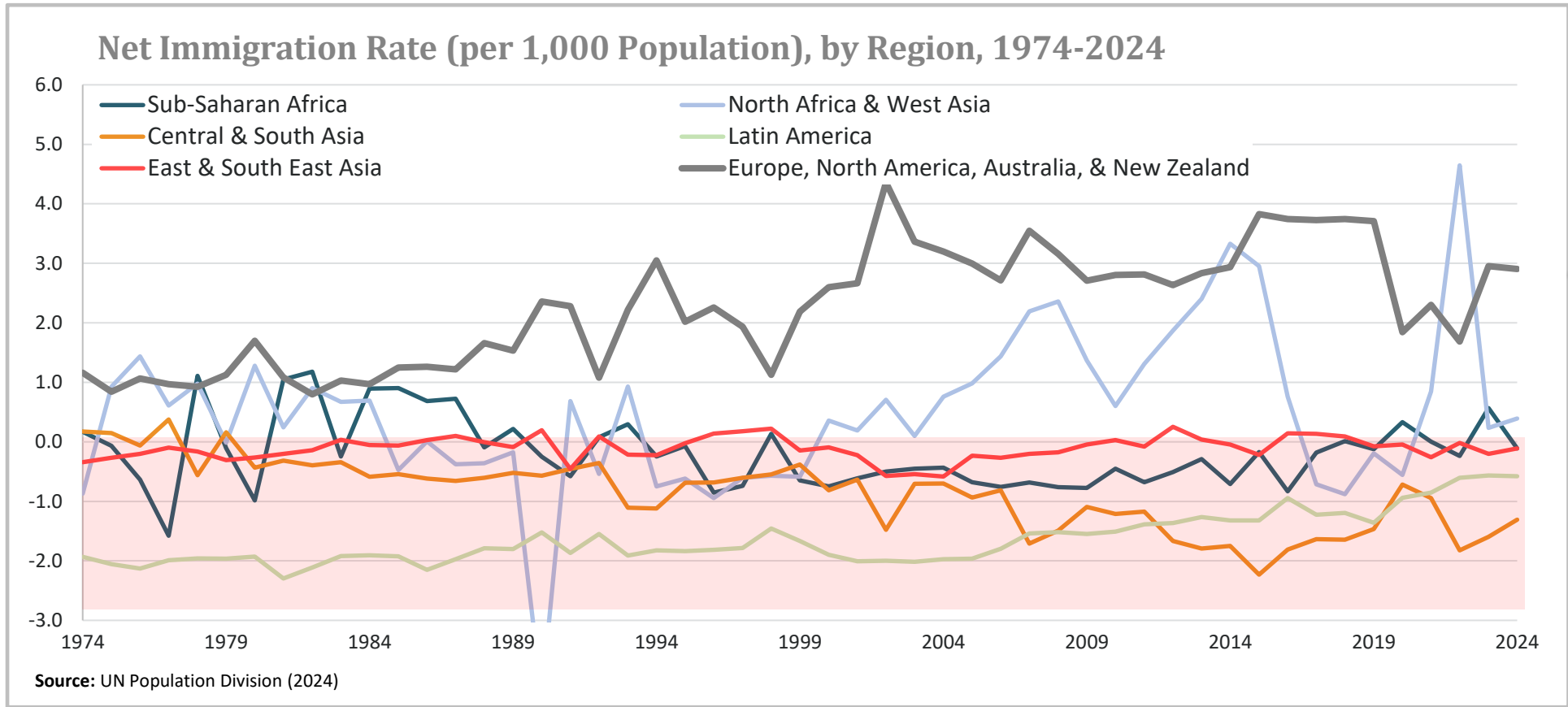
Population Pyramid for Europe (in Millions): 2100



Source: UN Population Division (2024)



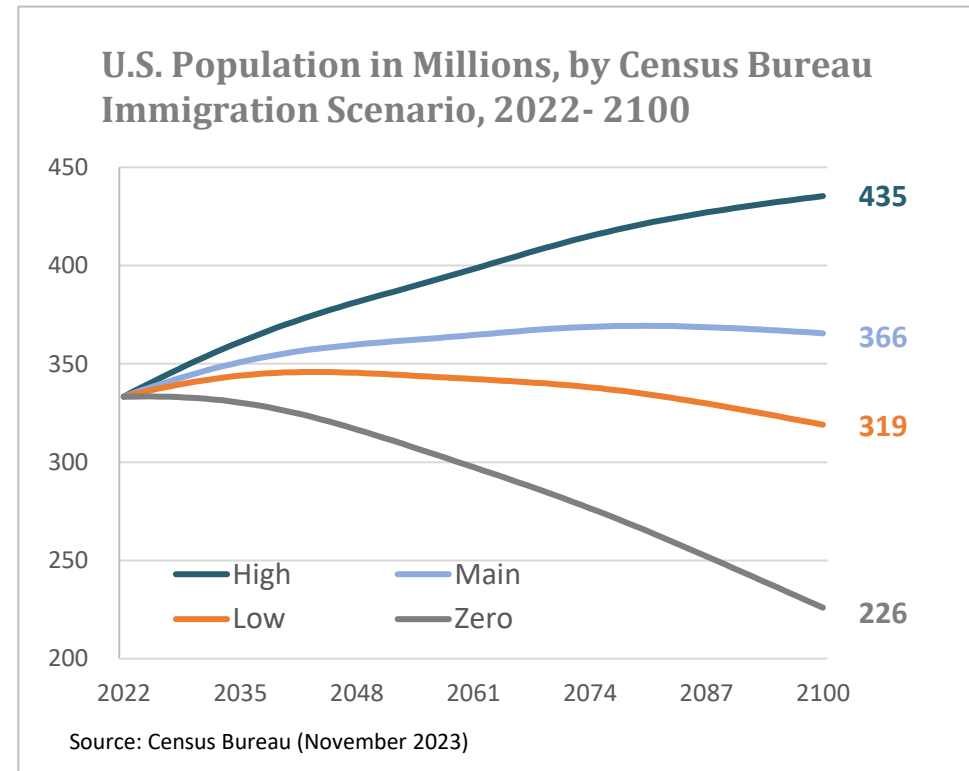
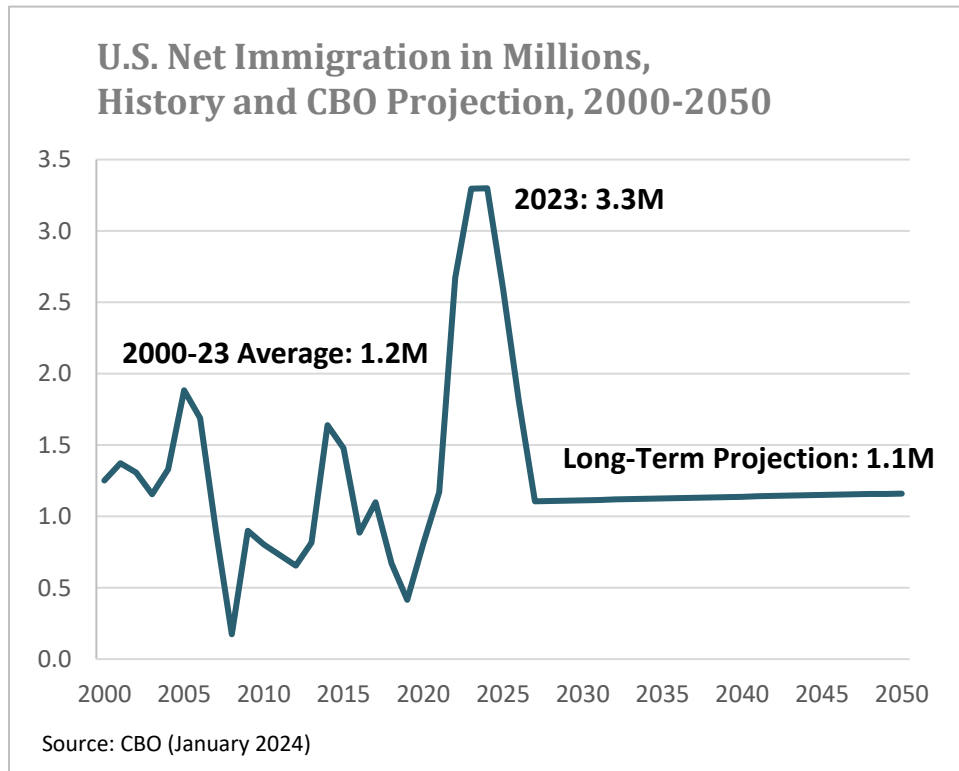
Immigration mostly flows from the poor to the rich world.



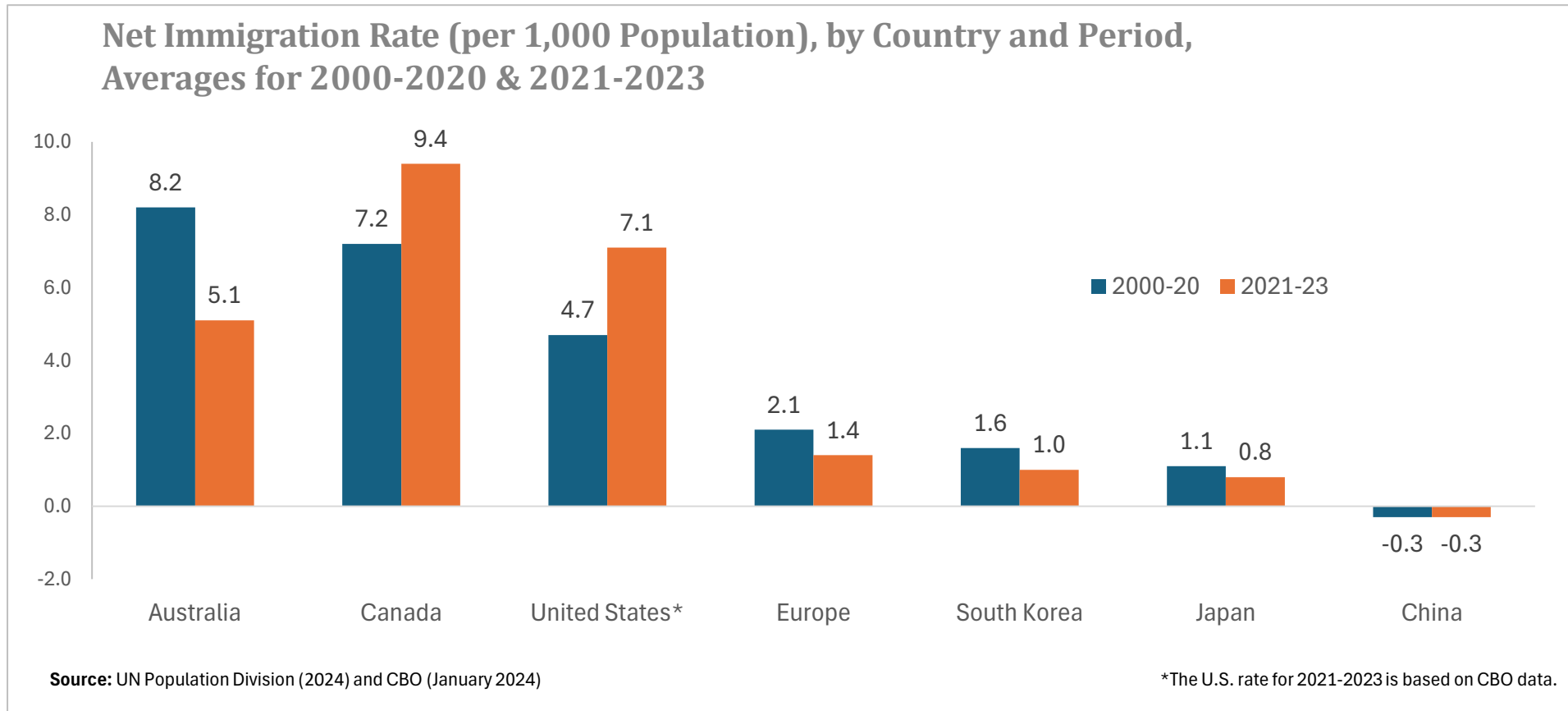
Europe, North America, Australia, & New Zealand



Immigration can be the decisive variable in a low fertility environment.



The U.S. has always been among the highest immigration countries.

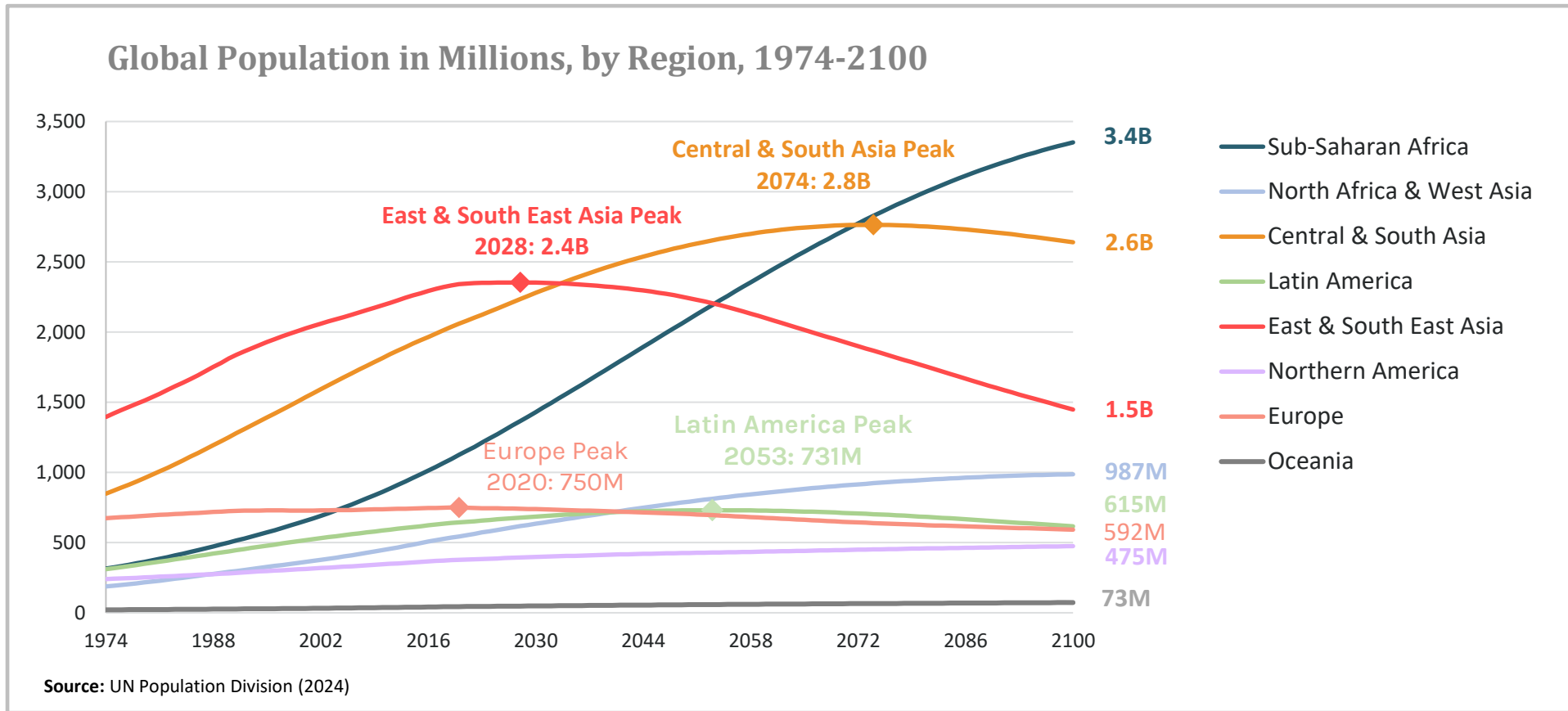


What drives immigration?

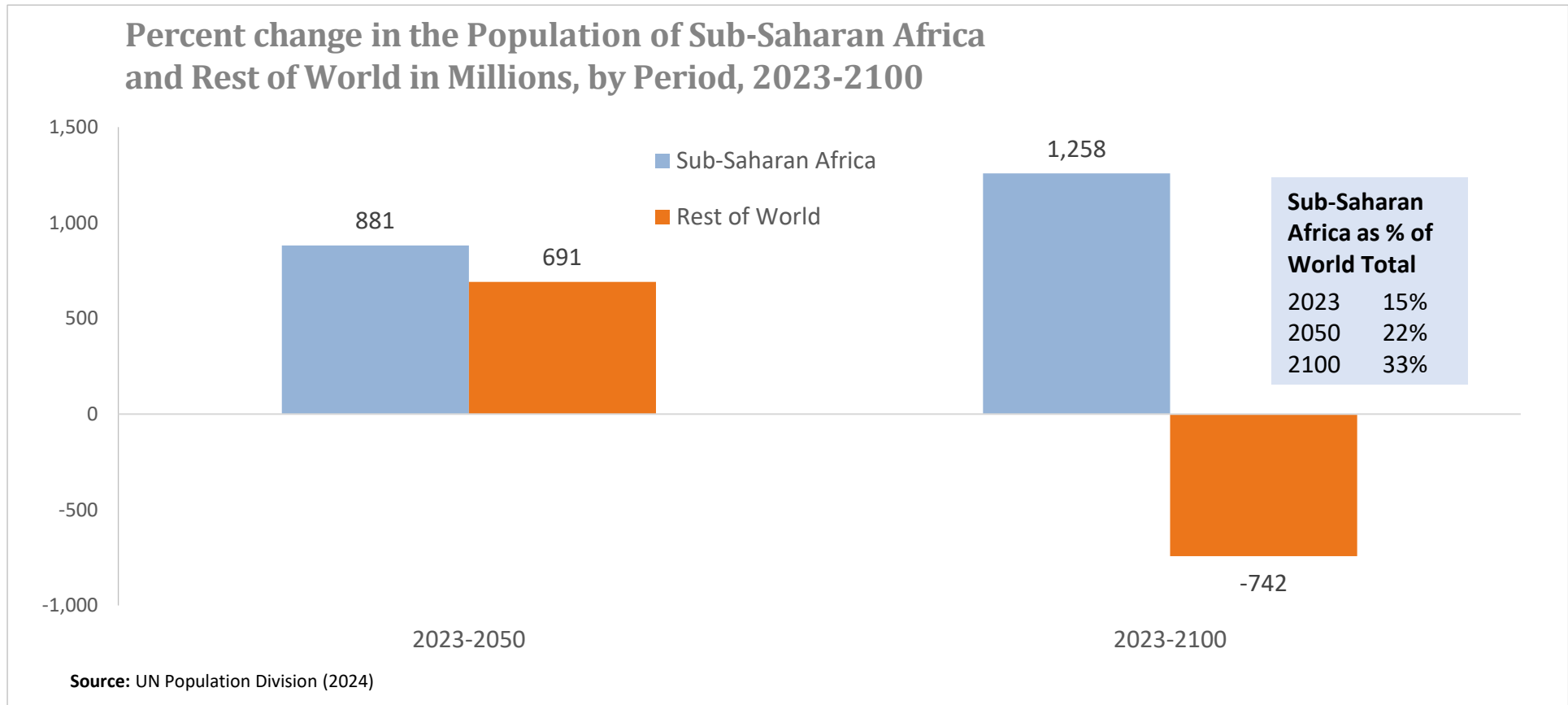
- ❑ **Push factors**, such as poverty, war, and social and political instability, set immigration flows in motion.
- ❑ **Pull factors**, especially economic and social opportunity, give direction to immigration flows.
- ❑ **Network effects** can reinforce pull factors. Immigration is a path-driven phenomenon.
- ❑ **Immigration policy** can lean with or against the underlying drivers. At least in advanced economies, immigration policy typically goes through a recurring cycle of more and less restrictive phases.



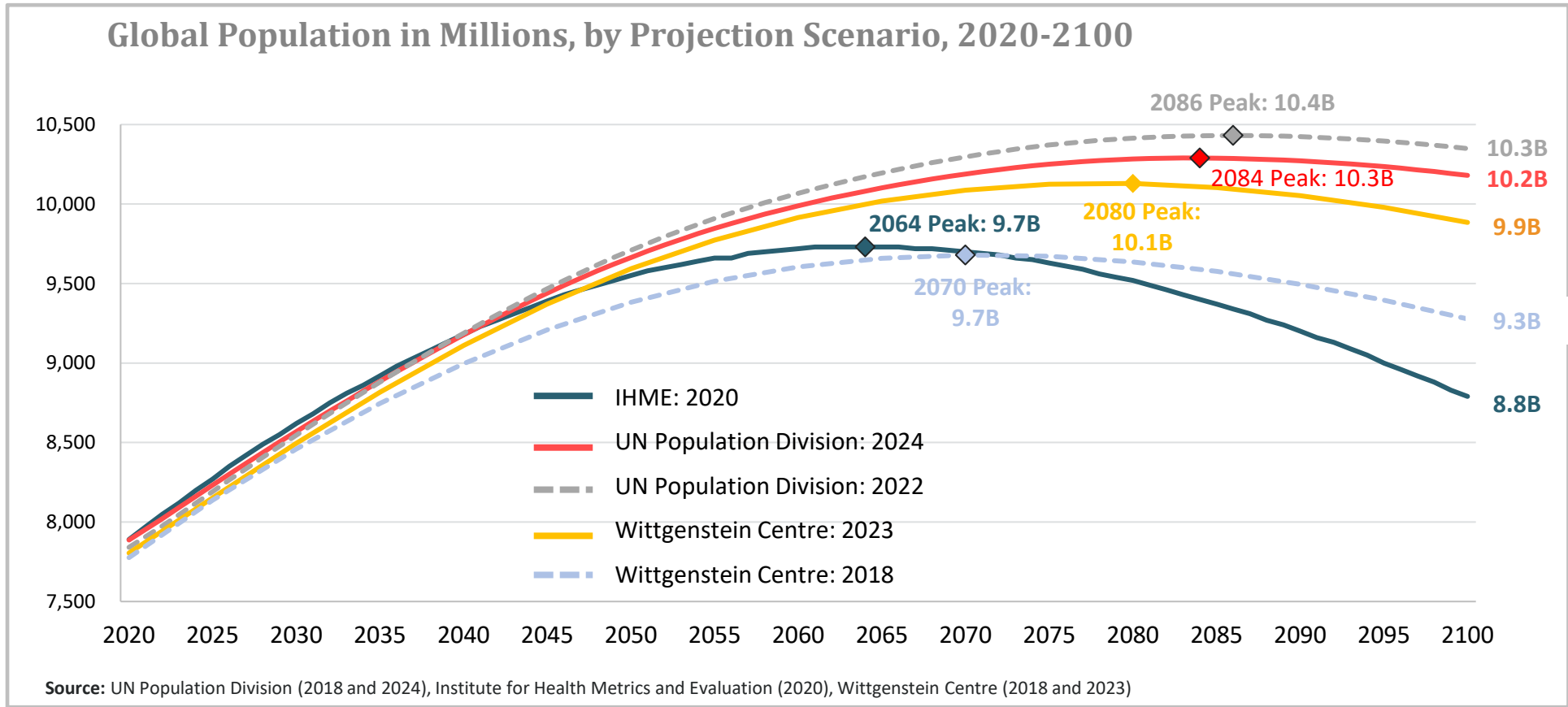
Populations in much of the world will soon be contracting.



Sub-Saharan Africa will account for more than all growth in the global population over the rest of the century.



The global population will peak later in the century and begin to decline.



The World's 10 Most Populous Countries in 1950, 2000, 2050 & 2100

1950		2000		2050		2100	
1.	China (539M)	1.	China (1.3B)	1.	India (1.7B)	1.	India (1.5B)
2.	India (343M)	2.	India (1.0B)	2.	China (1.3B)	2.	China (637M)
3.	United States (153M)	3.	United States (280M)	3.	United States (380M)	3.	Pakistan (511M)
4.	Russia (103M)	4.	Indonesia (215M)	4.	Pakistan (370M)	4.	Nigeria (477M)
5.	Japan (86M)	5.	Brazil (173M)	5.	Nigeria (357M)	5.	D.R.C. (429M)
6.	Germany (70M)	6.	Pakistan (153M)	6.	Indonesia (320M)	6.	United States (421M)
7.	Indonesia (68M)	7.	Russia (147M)	7.	Ethiopia (223M)	7.	Ethiopia (366M)
8.	Brazil (53M)	8.	Bangladesh (133M)	8.	Brazil (218M)	8.	Indonesia (296M)
9.	UK (50M)	9.	Japan (130M)	9.	D.R.C. (216M)	9.	Tanzania (262M)
10.	Italy (46M)	10.	Nigeria (125M)	10.	Bangladesh (214M)	10.	Bangladesh (209M)

- Europe
- Western Hemisphere
- East Asia
- South Asia
- Africa

Source: UN Population Division (2024)

12. Germany (82M)
 21. UK (59M)
 22. Italy (57M)

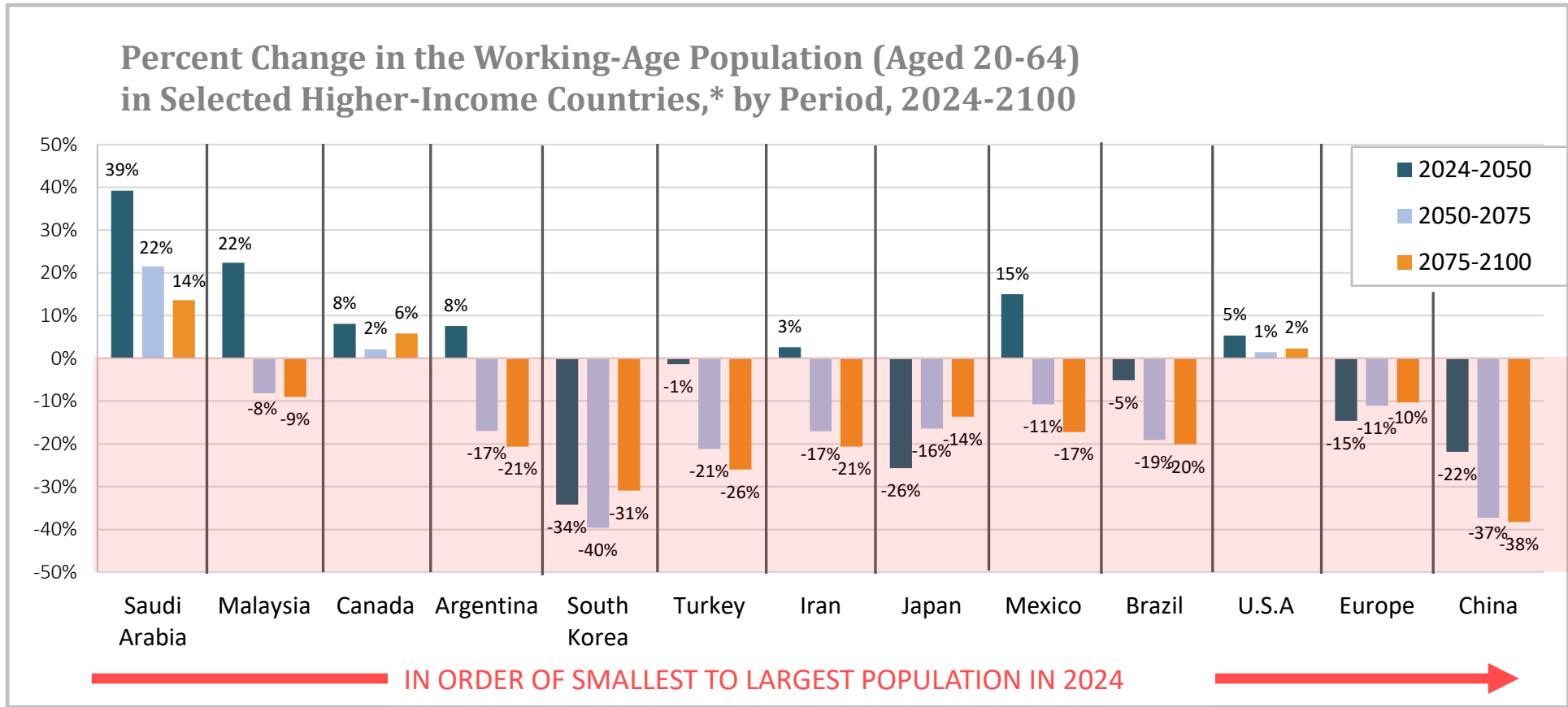
13. Russia (136M)
 17. Japan (105M)
 24. Germany (78M)
 26. UK (75M)
 38. Italy (52M)

12. Brazil (164M)
 17. Russia (126M)
 32. Japan (77M)
 33. UK (74M)
 35. Germany (71M)
 60. Italy (35M)

Consequences for the Developed Countries



Working-age populations will peak sooner and decline more than total populations.



Source: UN Population Division (2024) and IMF (2024)

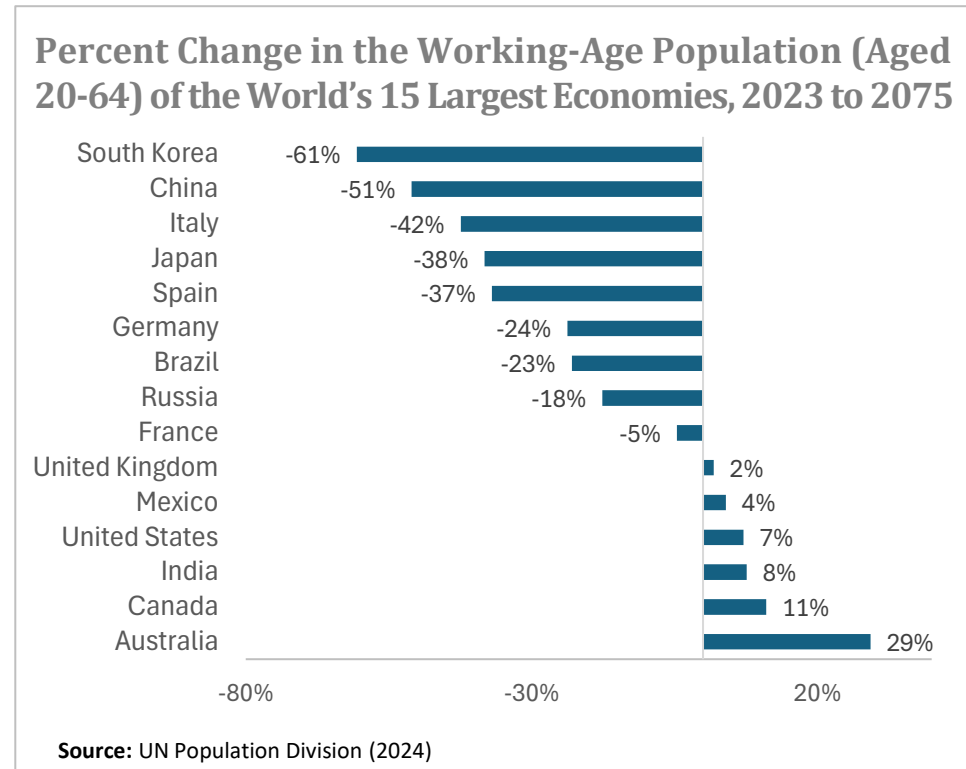
*Countries with a GDP per capita of more than \$25,000 in PPP dollars and a population of more than 30 million.



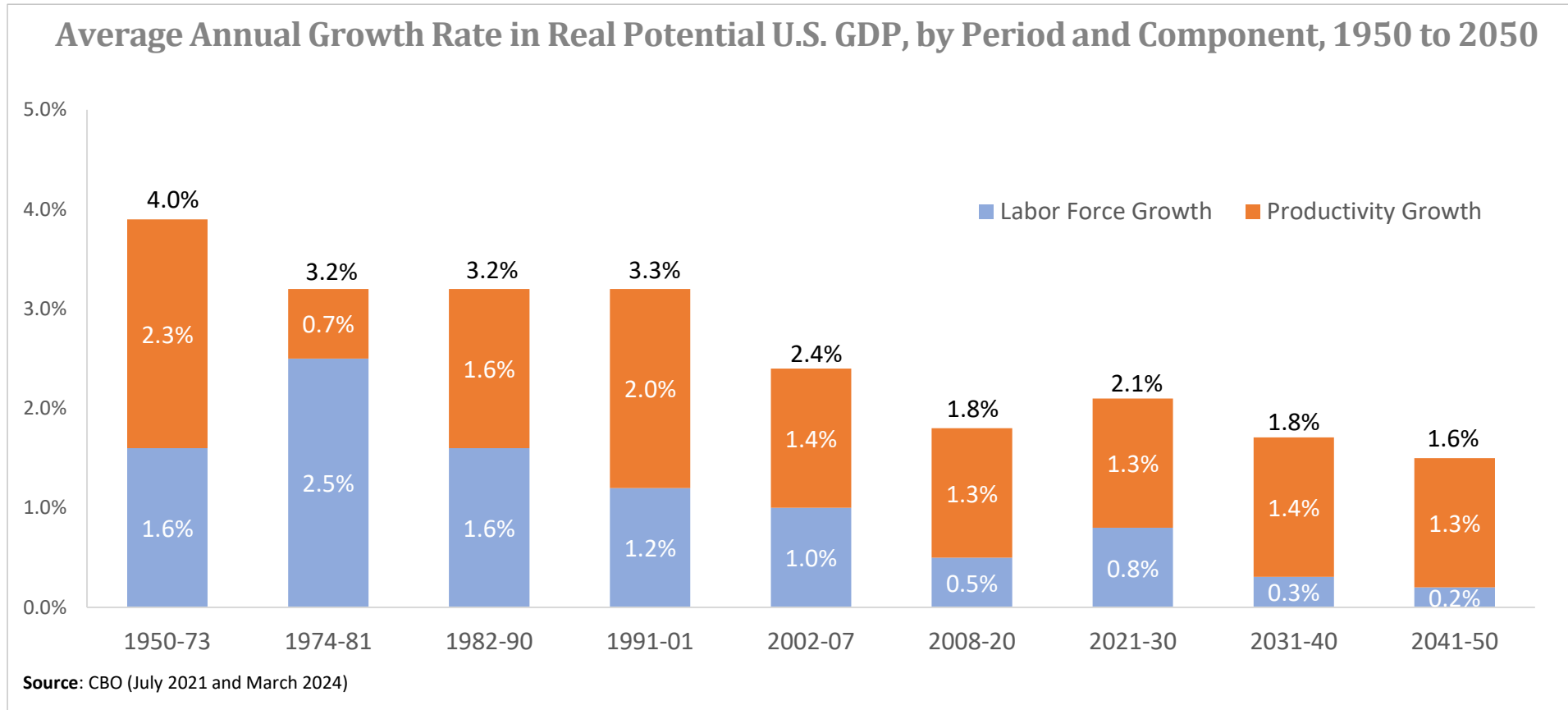
Almost all of the world's major economies will soon have stagnant or contracting working-age populations.

	Average Annual Growth Rate in the Working-Age Population (Aged 20-64) of the G-7 Countries, by Decade, 1980s-2040s						
	1980s	1990s	2000s	2010s	2020s	2030s	2040s
Canada	1.7%	1.1%	1.3%	0.7%	0.4%	0.4%	0.2%
France	1.0%	0.4%	0.6%	-0.3%	0.0%	-0.2%	-0.2%
Germany	1.1%	0.3%	-0.5%	0.1%	-0.9%	-0.7%	-0.4%
Italy	0.9%	0.2%	0.2%	-0.3%	-0.7%	-1.4%	-1.2%
Japan	0.7%	0.4%	-0.4%	-1.0%	-0.6%	-1.3%	-1.3%
UK	0.7%	0.4%	0.7%	0.4%	0.4%	0.3%	0.0%
U.S.	1.3%	1.2%	1.1%	0.6%	0.2%	0.3%	0.1%

Source: UN Population Division (2024)



Unless productivity growth accelerates, GDP growth will slow.

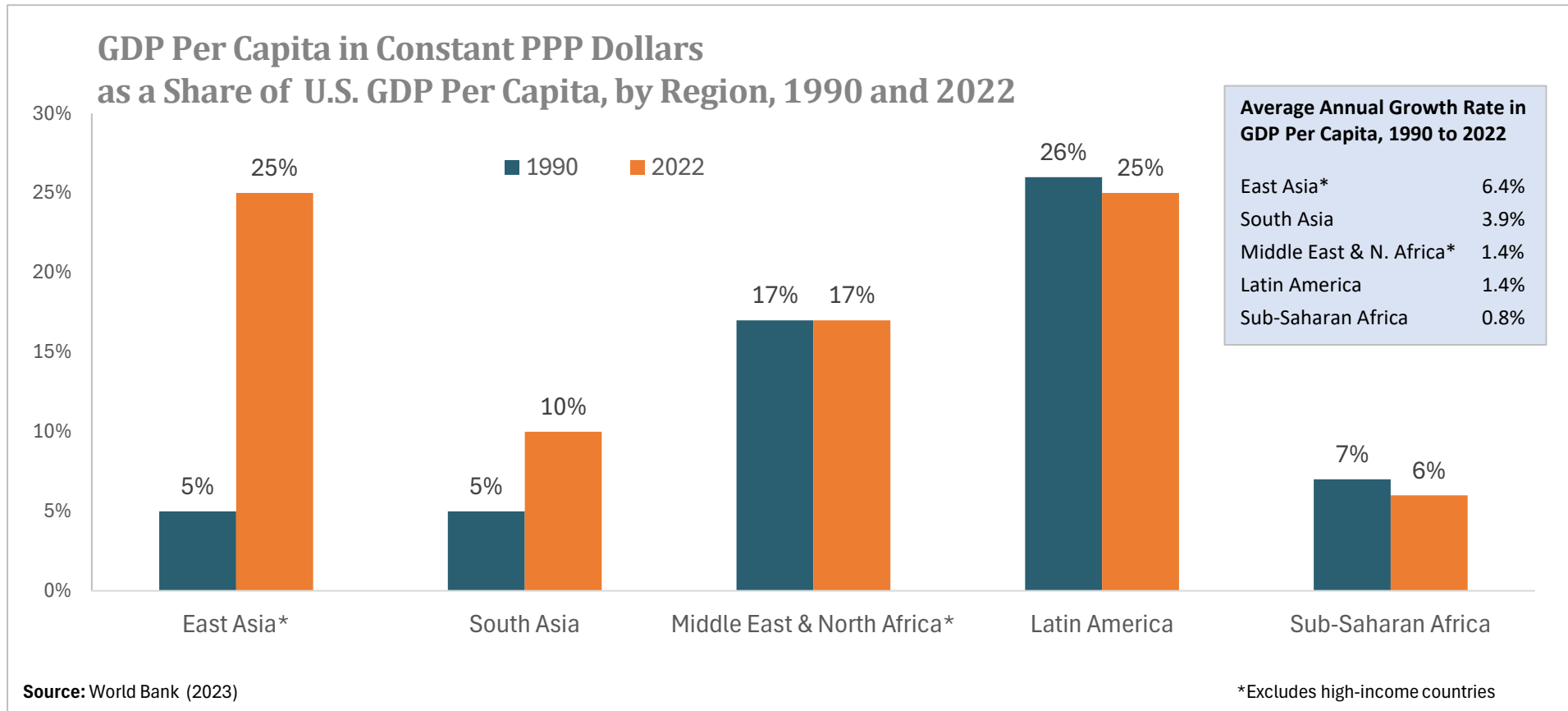


Productivity is more likely to fall than to rise in aging societies.

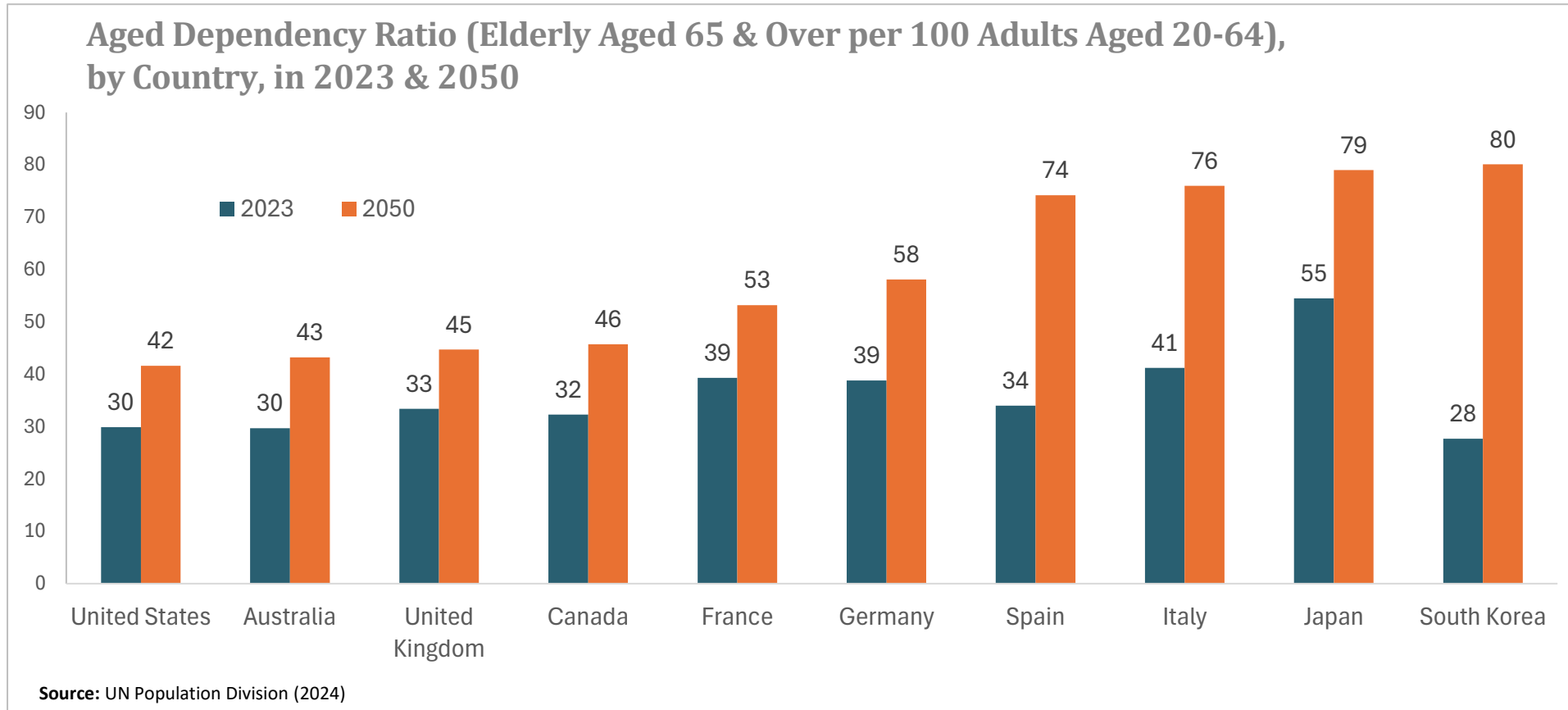
- Less capital broadening investment and slower turnover in the capital stock
- Graying workforces, which may be less flexible, less mobile, and less entrepreneurial
- Crowding out of private investment from capital markets and public investment from government budgets
- “Baumol’s cost disease”
- Anticompetitive business psychology
- Beggar-thy-neighbor protectionism



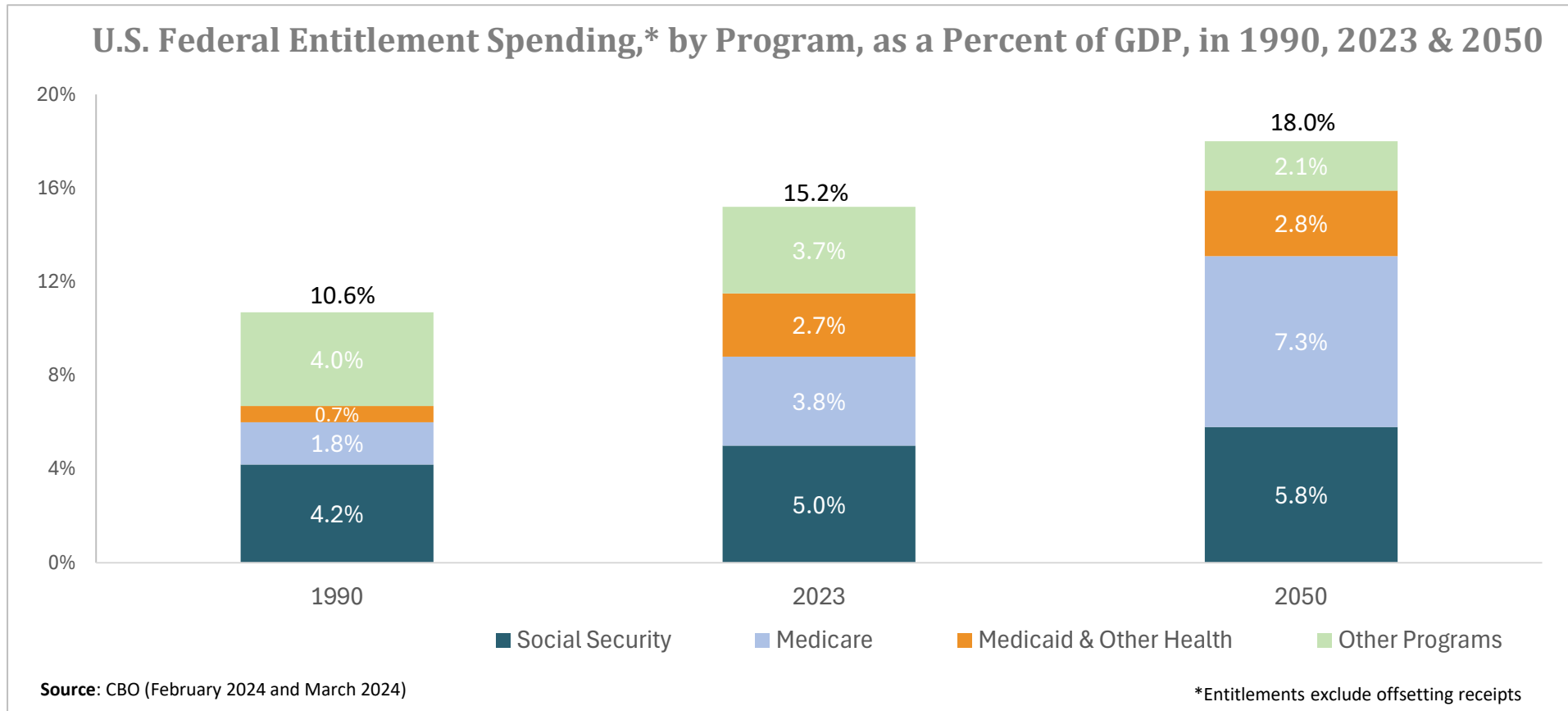
Middle Income Trap: Not many new countries seem to be joining the developed world club.



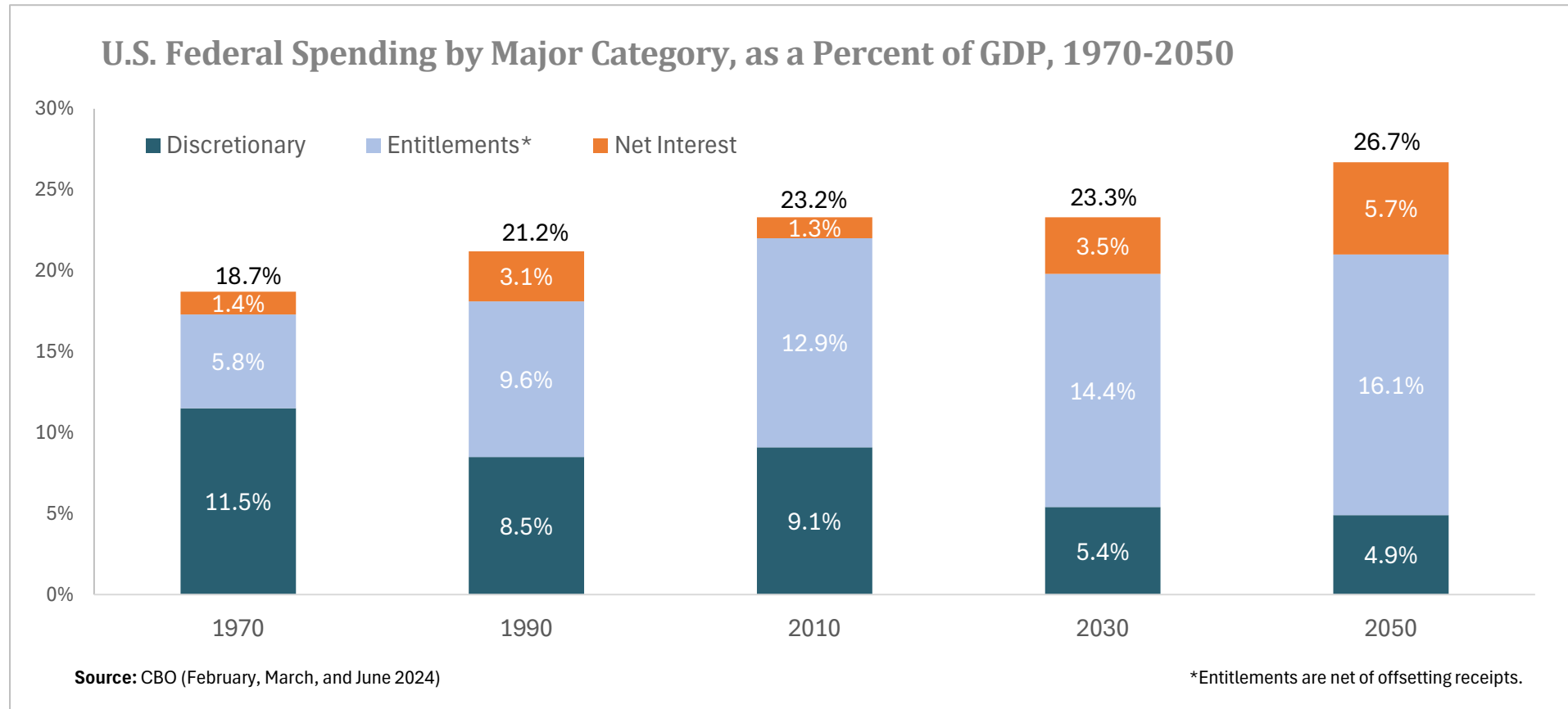
Aged dependency ratios will rise steeply in coming decades.



One Consequence: Growing Fiscal Burdens



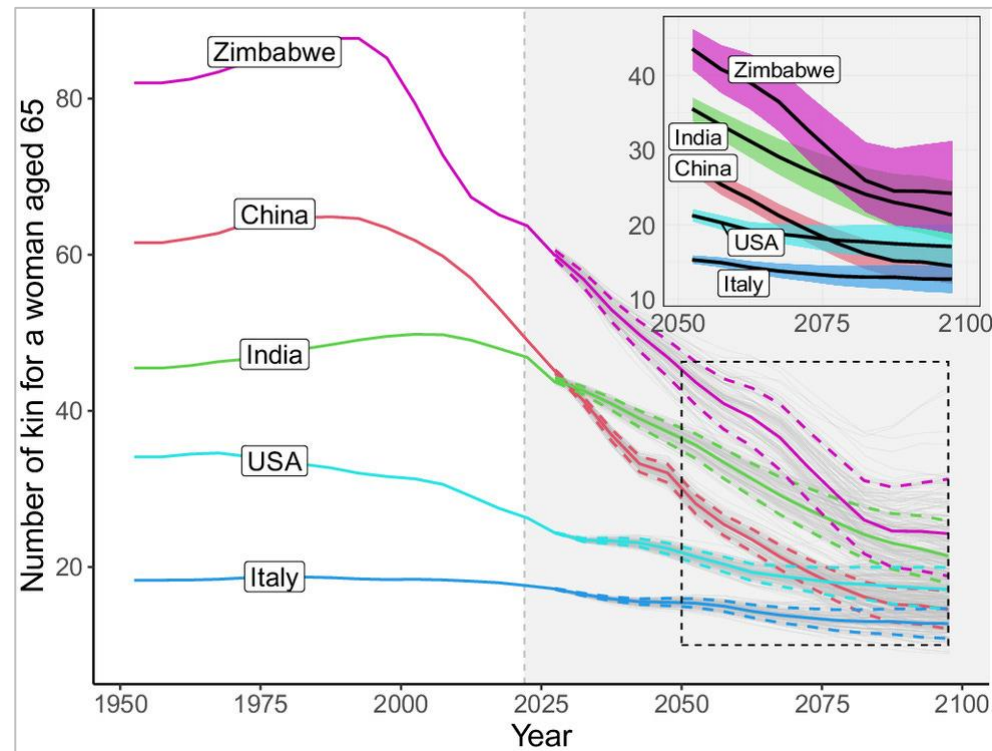
Another Consequence: Fiscal Crowding Out



Family support networks will come under intense demographic pressure.

- ❑ What can substitute for the extended family in providing childcare?
- ❑ What can substitute for the extended family in helping young adults successfully “launch”?
- ❑ What can substitute for the extended family in providing care for the frail elderly?
- ❑ “Little Emperor” syndrome in peacetime
- ❑ Growing casualty aversion in wartime

Size of the Extended Family of Women Aged 65,
by Country, 1950-2100

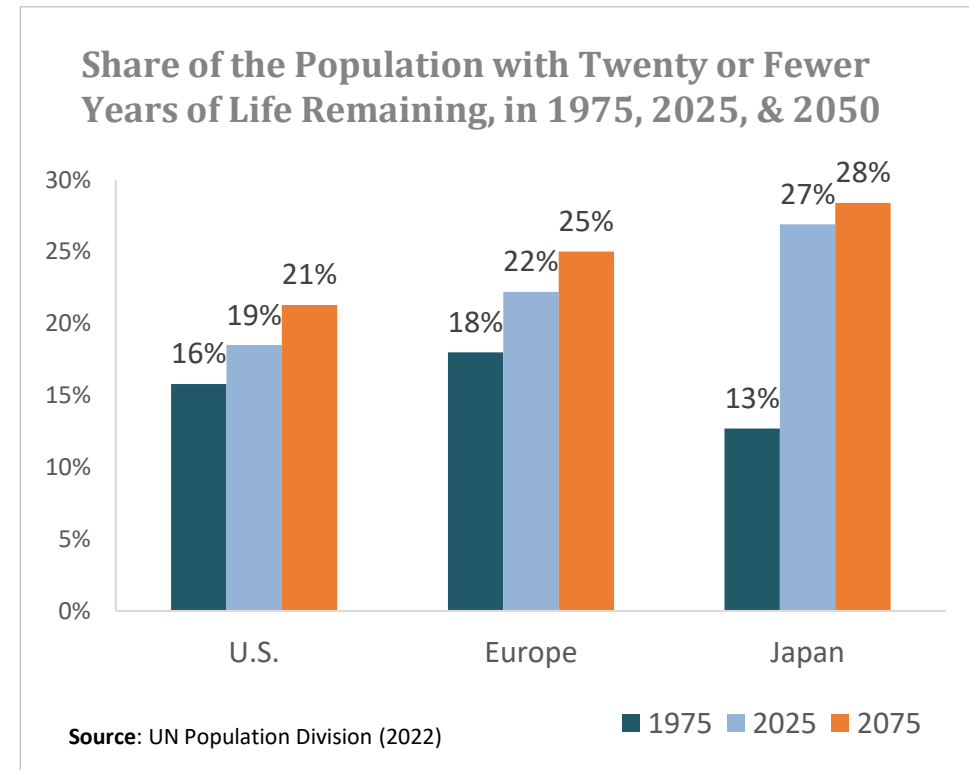


Source: PNAS (December 2023)



Slow-growth, aging societies may be characterized by shorter time horizons and a more risk averse social mood.

- ❑ At home, aging societies may favor current consumption over investment in the future.
- ❑ Abroad, aging societies may favor ad hoc settlements over decisive confrontations.
- ❑ Youthful societies are often dysfunctional, prone to violence, social unrest, and civil strife.
- ❑ Aged societies may also prove dysfunctional, favoring the past over the future and the old over the young



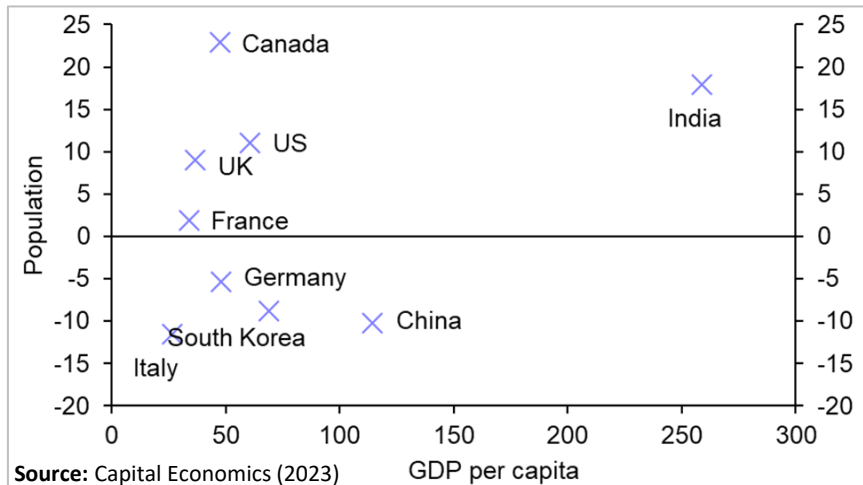
Geopolitical Risks



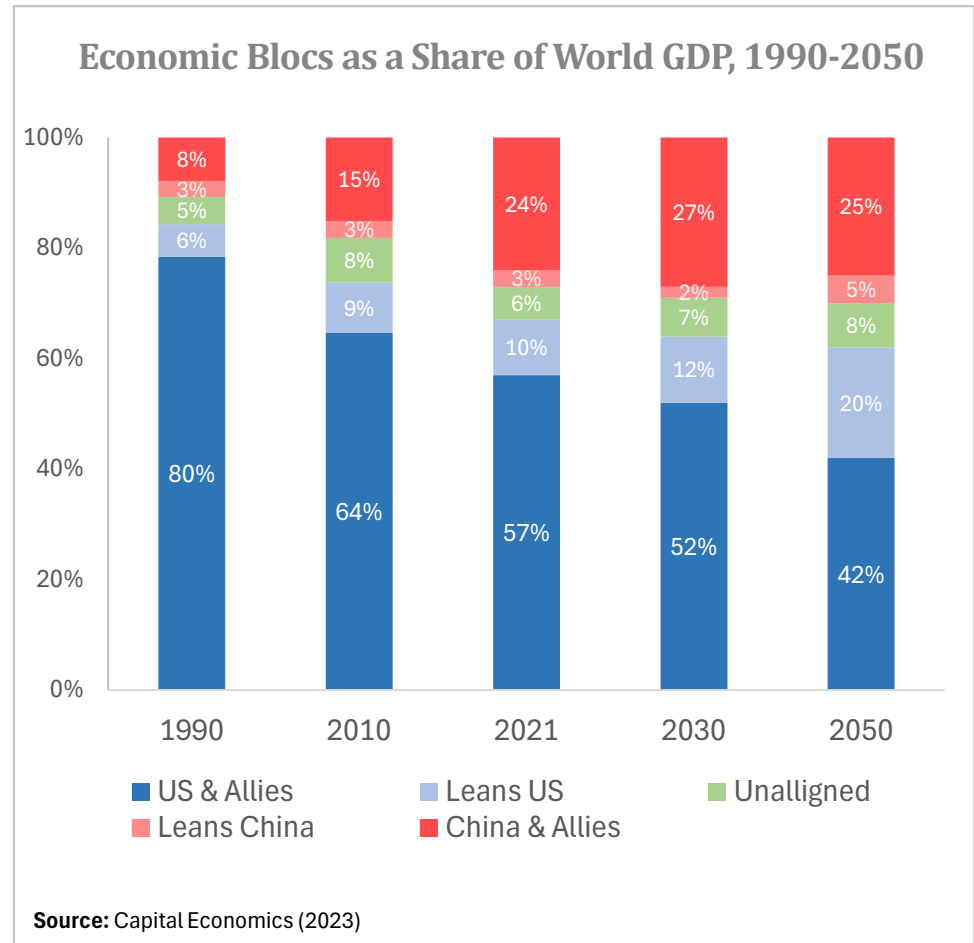
How Population and Wealth Affect Geopolitical Stature

- ❑ The hard power of national defense
- ❑ The semi hard power of foreign assistance
- ❑ The soft power of global influence

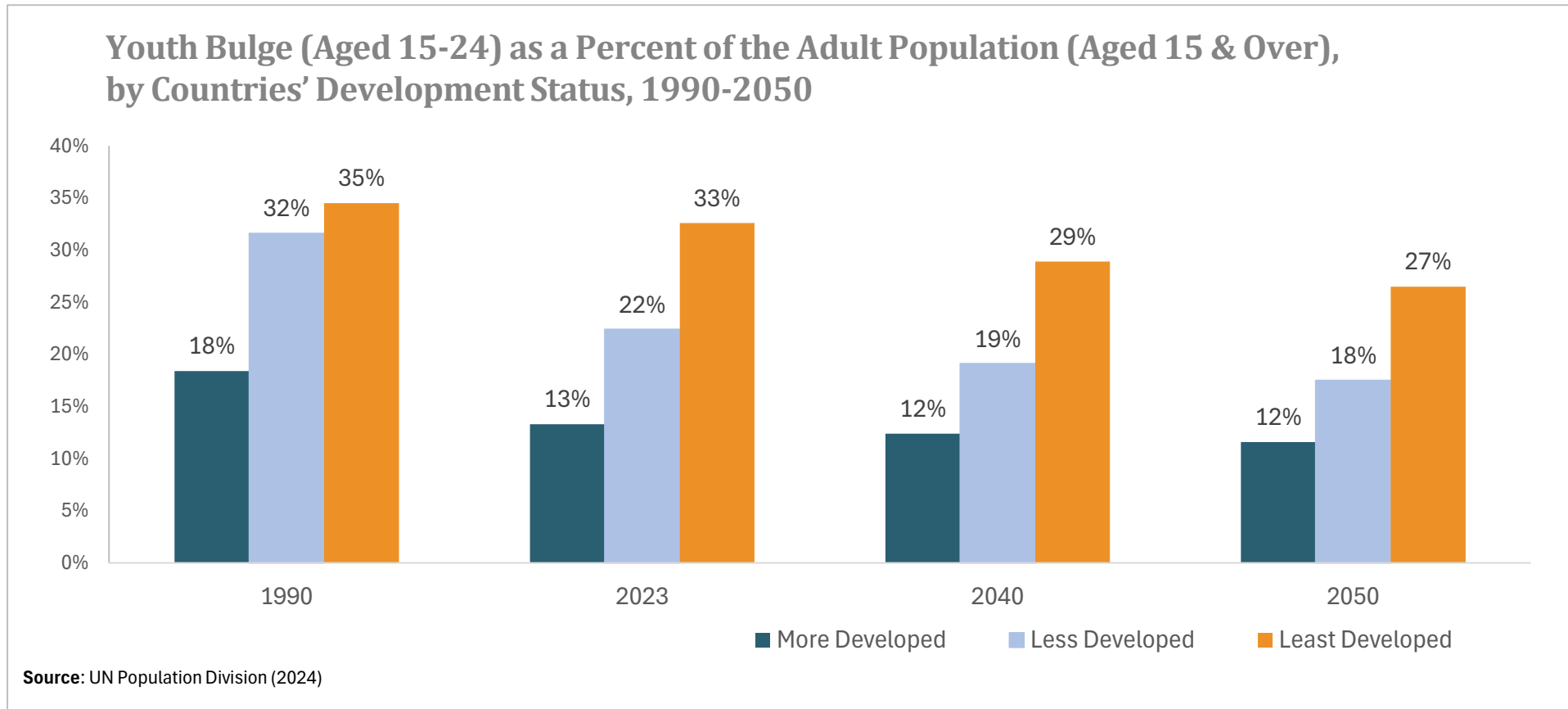
Percent Change in Per Capita GDP and Population in the World's 10 Largest Economies, 2022 to 2050



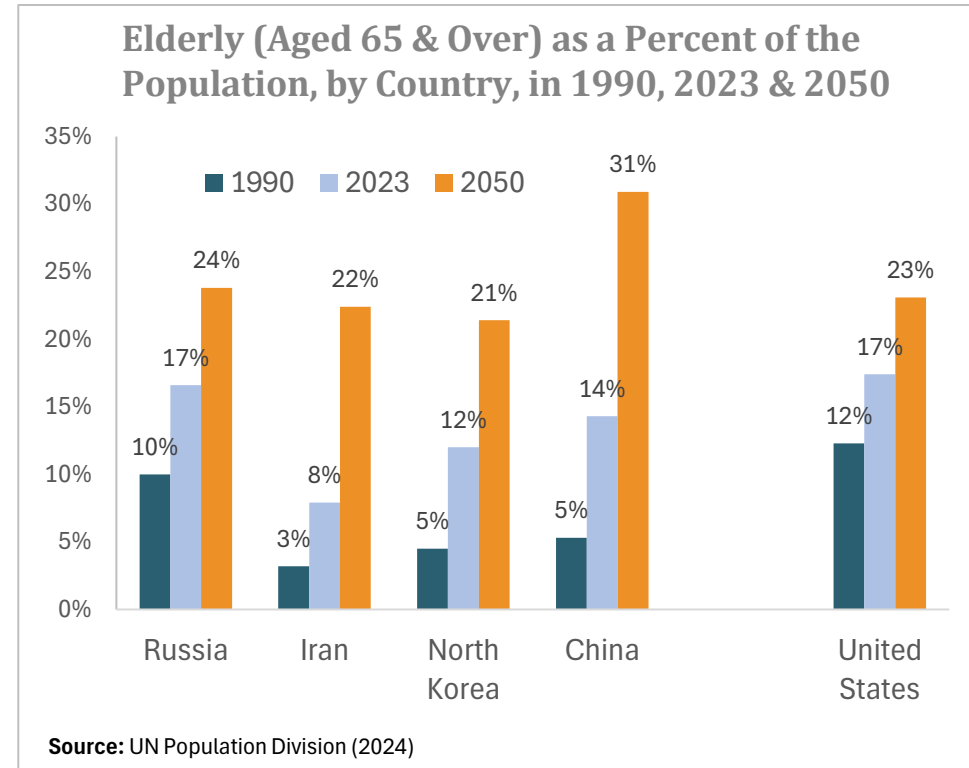
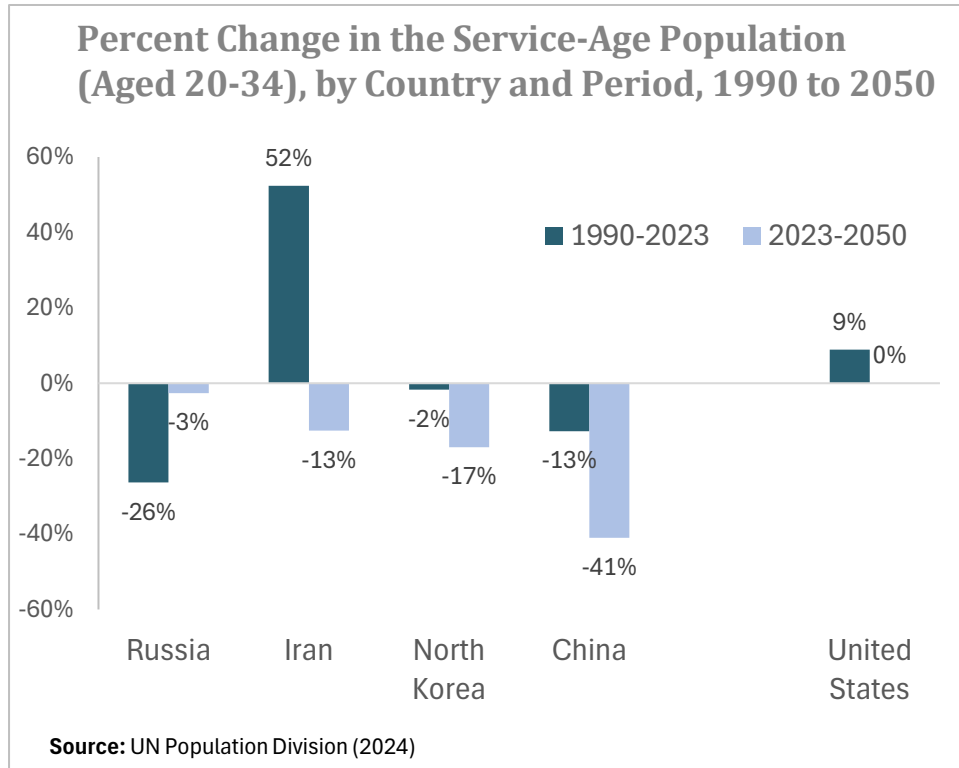
Economic Blocs as a Share of World GDP, 1990-2050



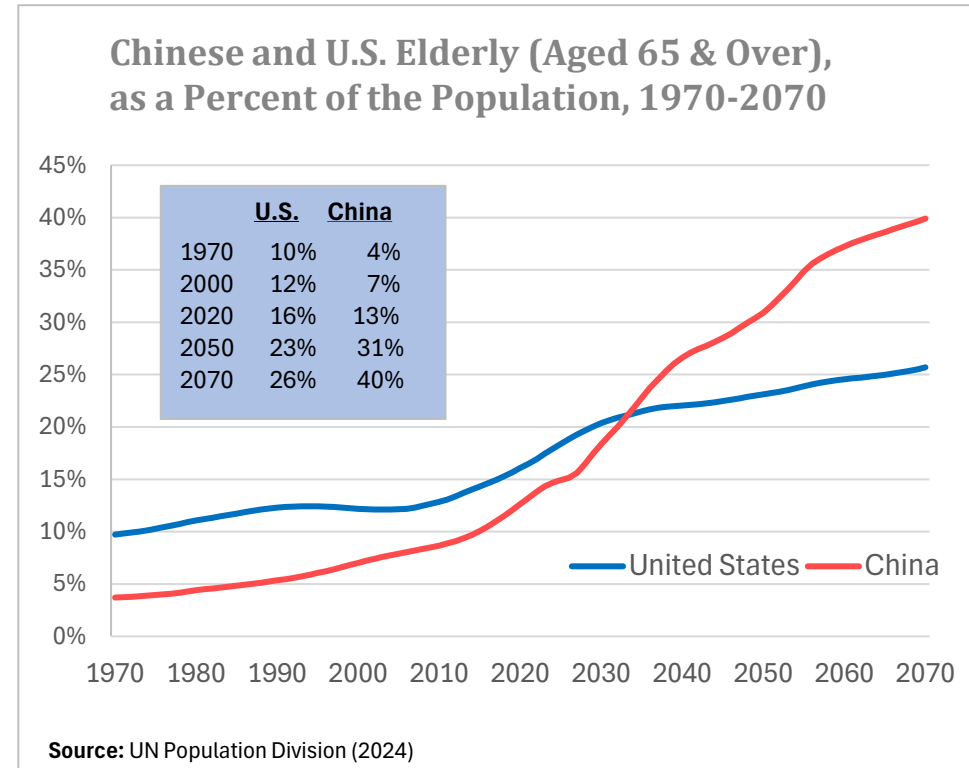
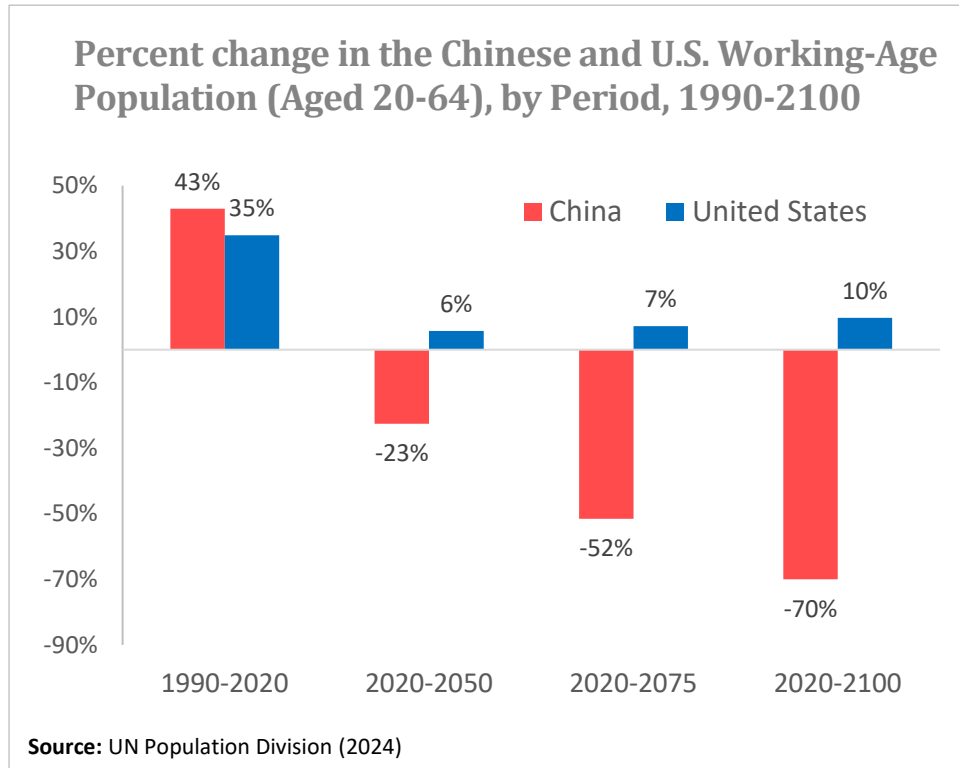
The Developing World: Still More Youth-Driven Instability



Great Power Competition: The Geriatric Peace Thesis



Great Power Competition: The Thucydides Trap



Possible Responses



Five Big Questions for the Developed Countries

- PRONATALISM:** Should we try to encourage larger families—and which types of policies (if any) work?
- IMMIGRATION:** Is higher immigration a viable long-term solution?
- RETIREMENT:** Can longer work lives rebalance the demographic books?
- ENTITLEMENTS:** What are the fairest and most efficient ways to control rising retirement and health-care spending?
- NATIONAL SECURITY:** What size and configuration of forces and what new strategies and alliances are needed to successfully navigate the coming global demographic transformation?

