

Longevity in Asia: Longevity risk transfer opportunities and Mortality Improvements

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8th September 2025



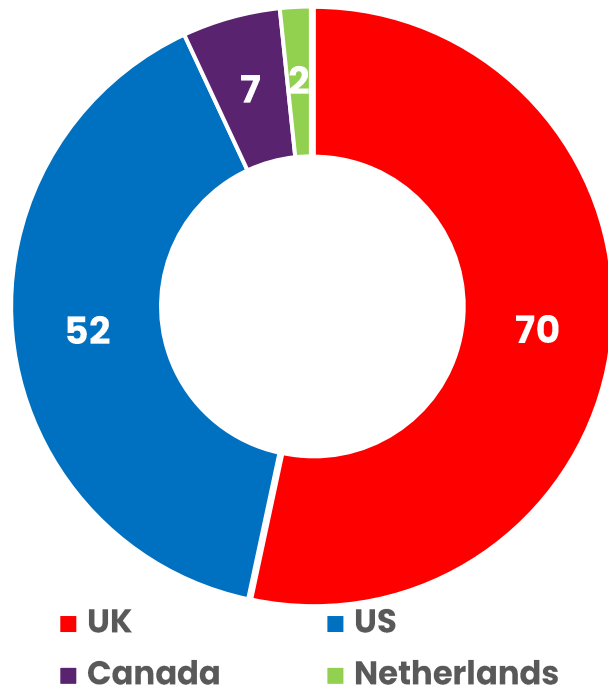
Longevity Opportunities



A Global Perspective - PRT Volumes

\$130b

Total Global PRT and Swaps Sales in 2024

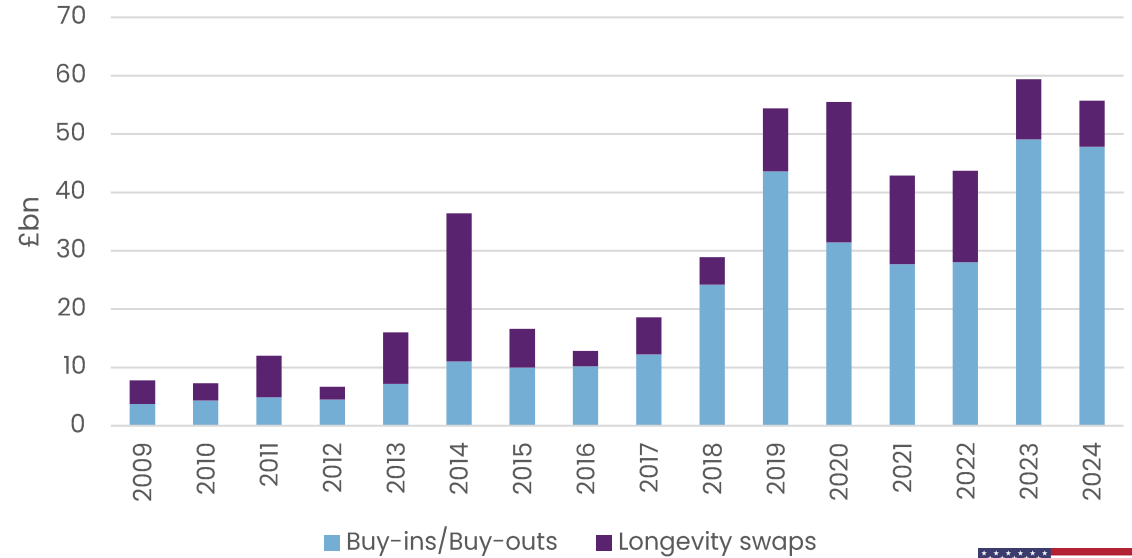


\$ in billions

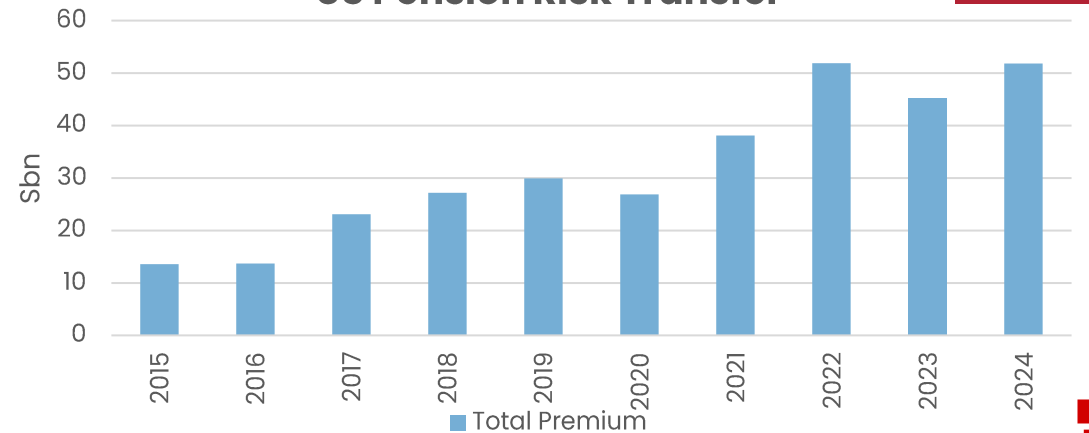
Source

1. UK - Hymans Robertson 2024 reports
2. US and Canada - Legal & General 2025 reports
3. Netherlands - RGA estimates based on disclosed deals

UK Pension Risk Transfer (Buy-in, Buy-out & Longevity Swaps)



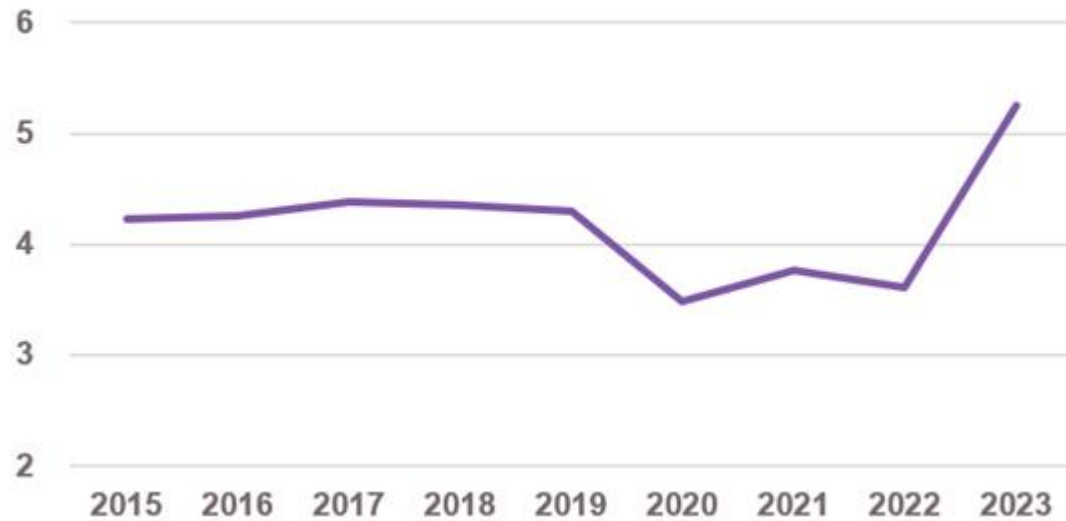
US Pension Risk Transfer



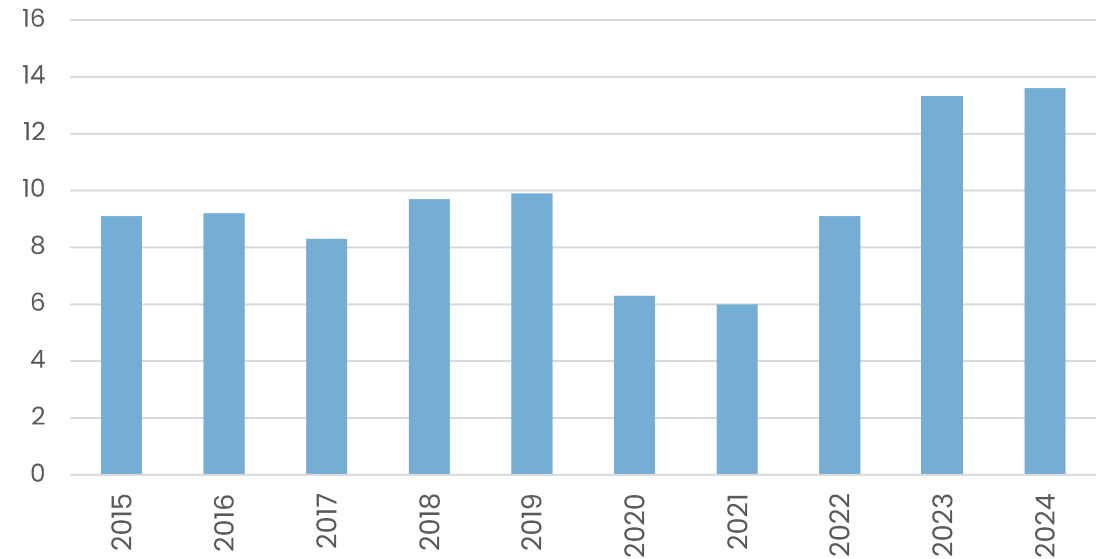
...And Individual Annuities (\$20bn)



Annual Premiums for Individual Pension Annuities (£bn)



Single Premium Immediate Annuity Sales (\$bn)



Source:
1. The Association of British Insurers (ABI)
2. LIMRA and LOMA

Scale of Opportunity



£1.2 Trn



\$3 Trn



\$ 1.0 Trn



\$ 2.9 Trn

Source:
The Pensioners Regulator (UK)
Federal Bank of St. Louis
RGA's estimates for UK individual annuity inforce size.
American Council of Life Insurers

Opportunities in Asia

Country	Defined Benefit Pensions (DB)	In-Force Individual Annuities	Source
Japan	DB pensions hold ~JPY 68T (~USD 462B)	JPY 100T (~USD 660B) in force	RIETI Statista
Australia	AUD 462B (~USD 300B)	~3.5% of pension assets	Investor Strategy News Smallcaps
South Korea	KRW 205T (~USD 155B)	KRW 76T (~USD 57B)	MK News
China	>1B participants in public DB system	RMB 1.2T (~USD 165B)	CFR Mckinsey SOA
Malaysia	DB for civil servants; MYR 15.7B (~USD 3.4B)	USD 10B in 2025, growing to USD 12.4B by 2030	Actomate
Hong Kong	Occupational DB schemes exist but limited; MPF is DC	HKD 447B (~USD 57B) in individual annuities	Insurance Authority
Singapore	No public DB; CPF is DC	USD 603M growth forecast (2024–2028)	InsuranceAsia
India	Legacy public DB schemes; size undisclosed	Underpenetrated	Milliman Study

- **DB and Individual annuities:** Smaller in size (relative to UK and US)
- But a large number of those smaller blocks across the continent

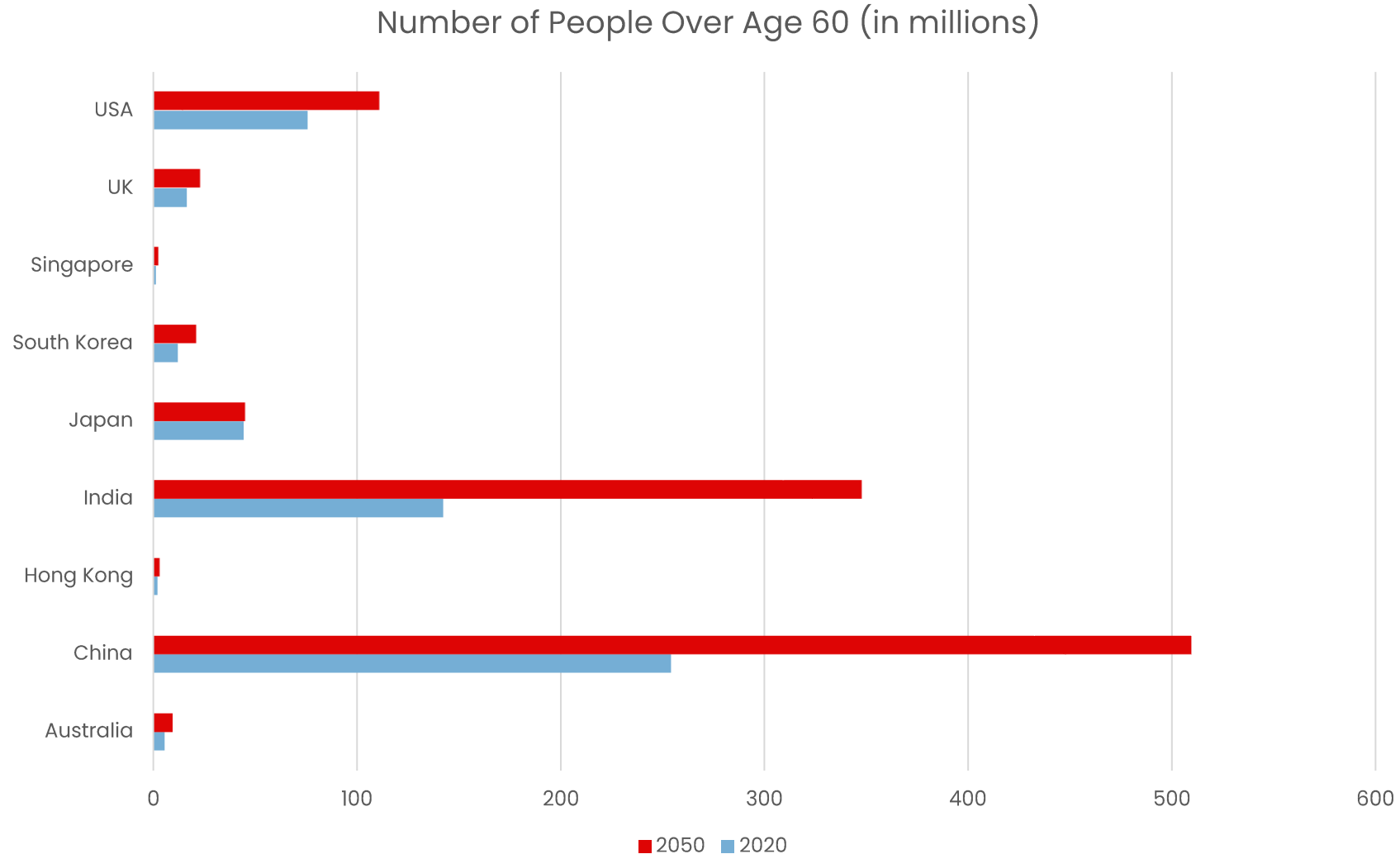
New Product Opportunities



- Defined contribution-type arrangements will prevail but there is desire for guaranteed income, which will require product innovation
- Australia's superannuation system:
 - Assets of \$4.1 trillions – 5th largest pension fund market globally
 - It stands at 140% of Australia's GDP
 - Various guaranteed income product ideas entering the market
- Expecting even more new product ideas to emerge in Asia

Source:
Australian Prudential Regulation Authority (APRA)

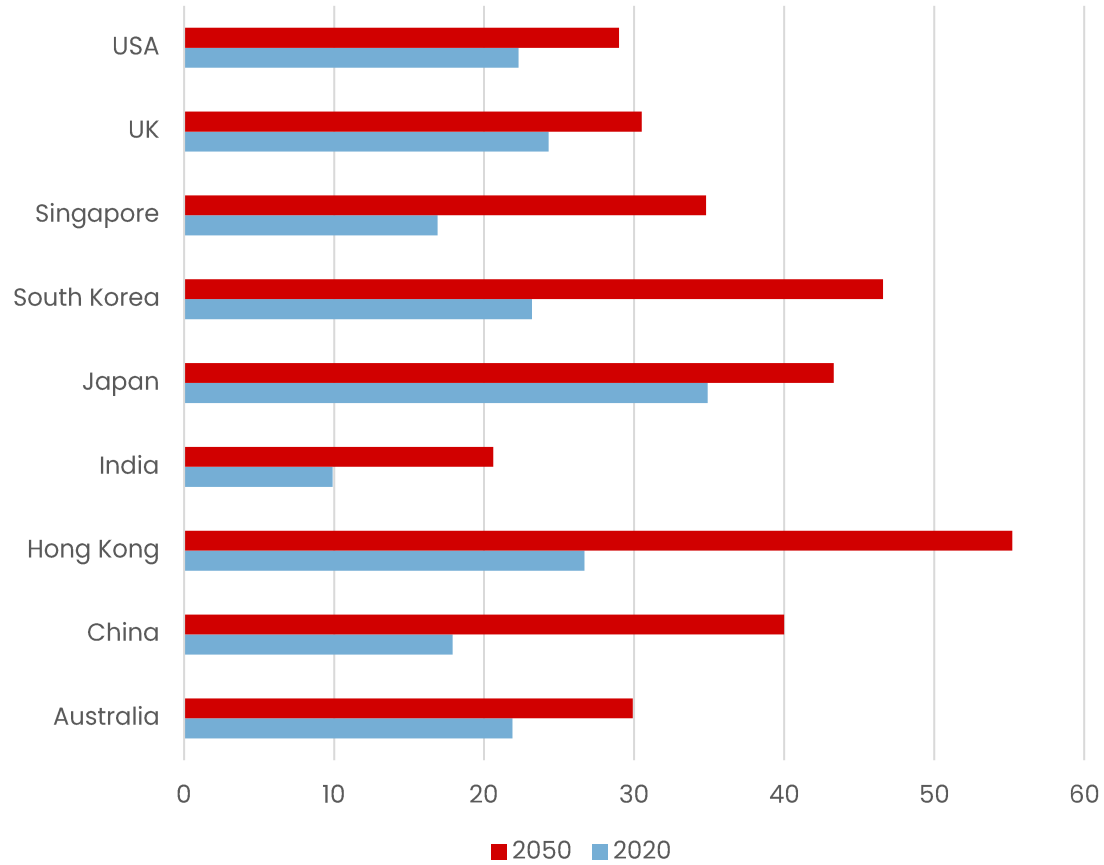
Projected Pensioner Population



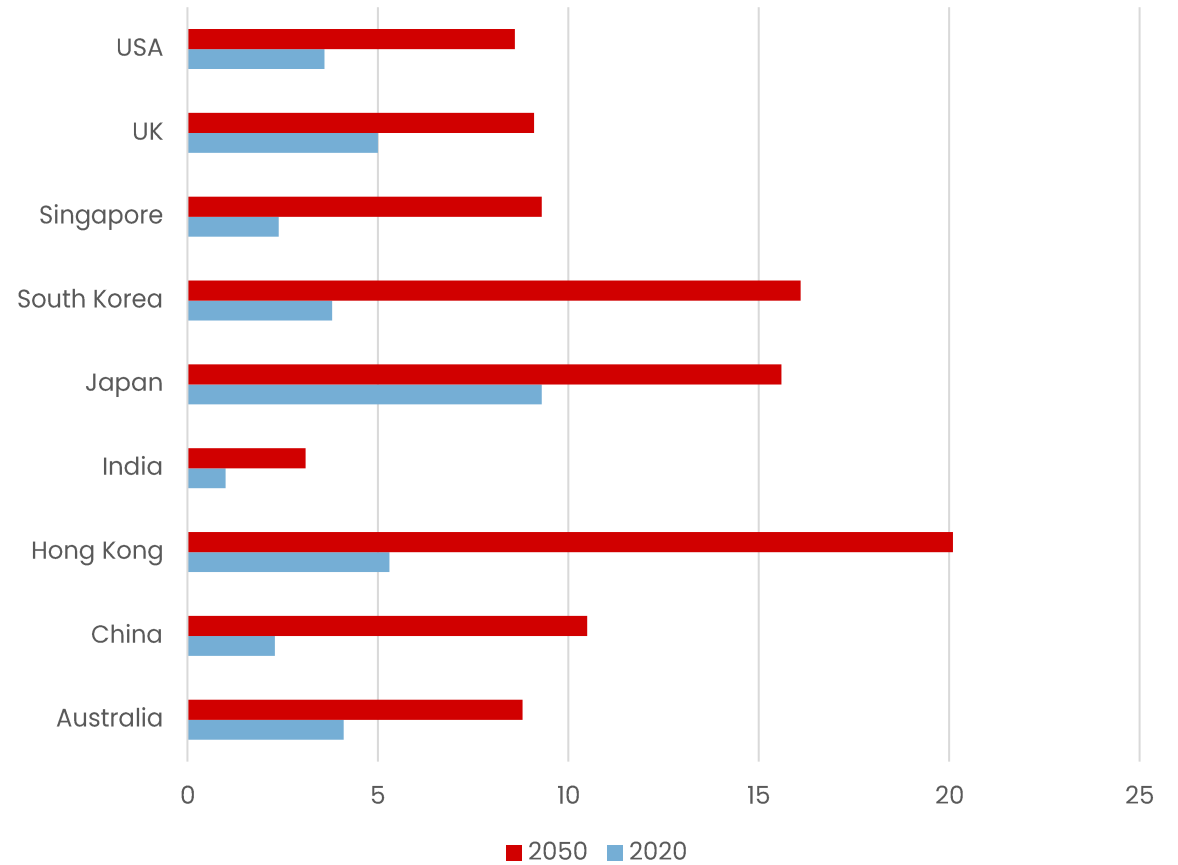
Source:
WHO

Ageing Population

% of Population Over Age 60

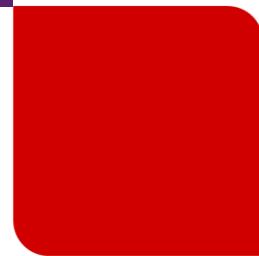


% of Population Over Age 80

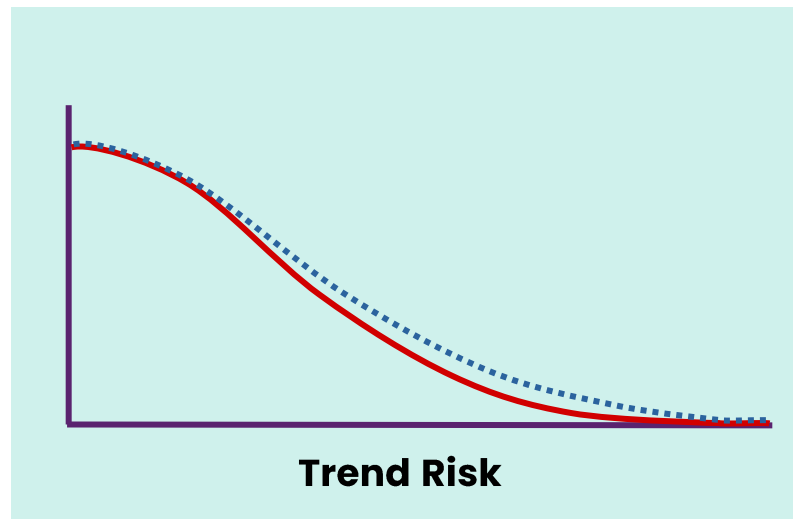
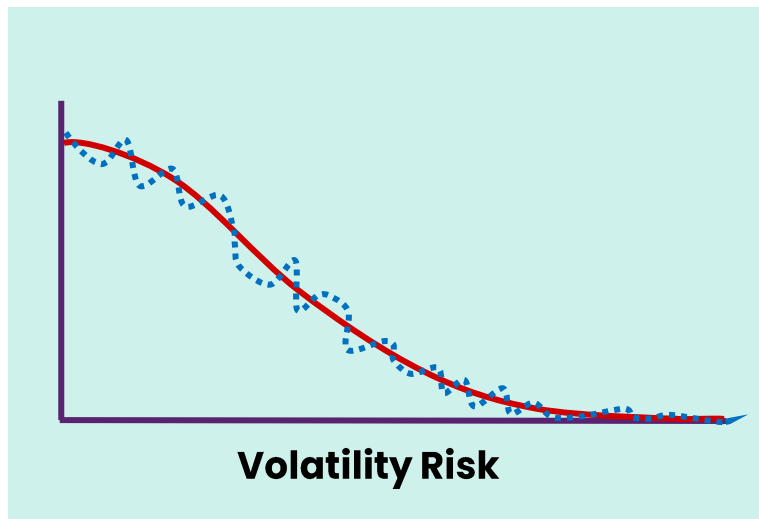
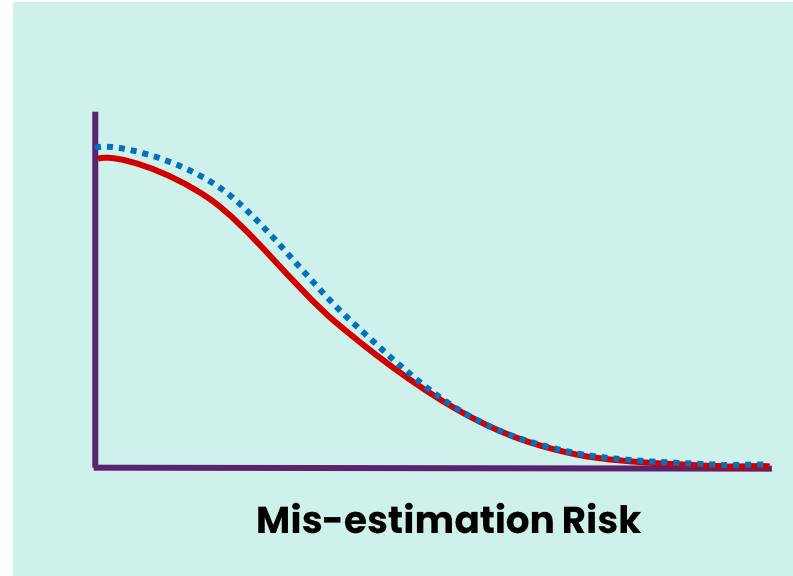
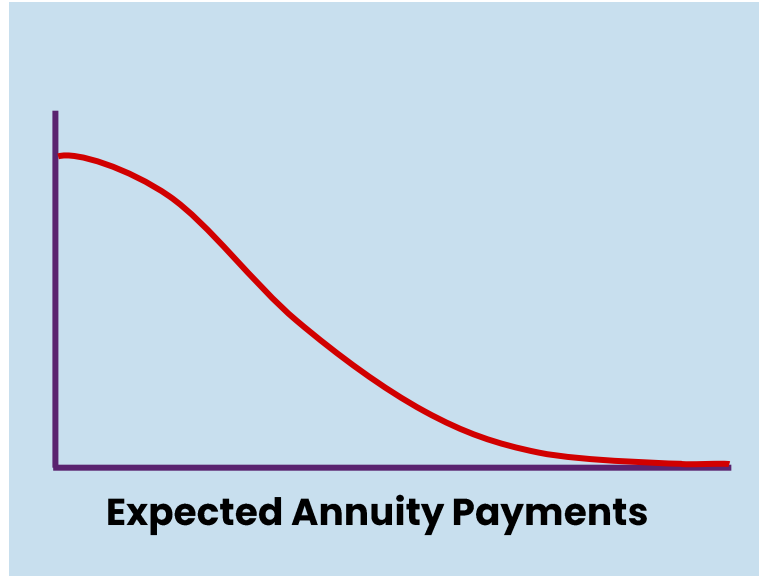


Source:
WHO

Longevity Risk



Classification of Longevity Risks



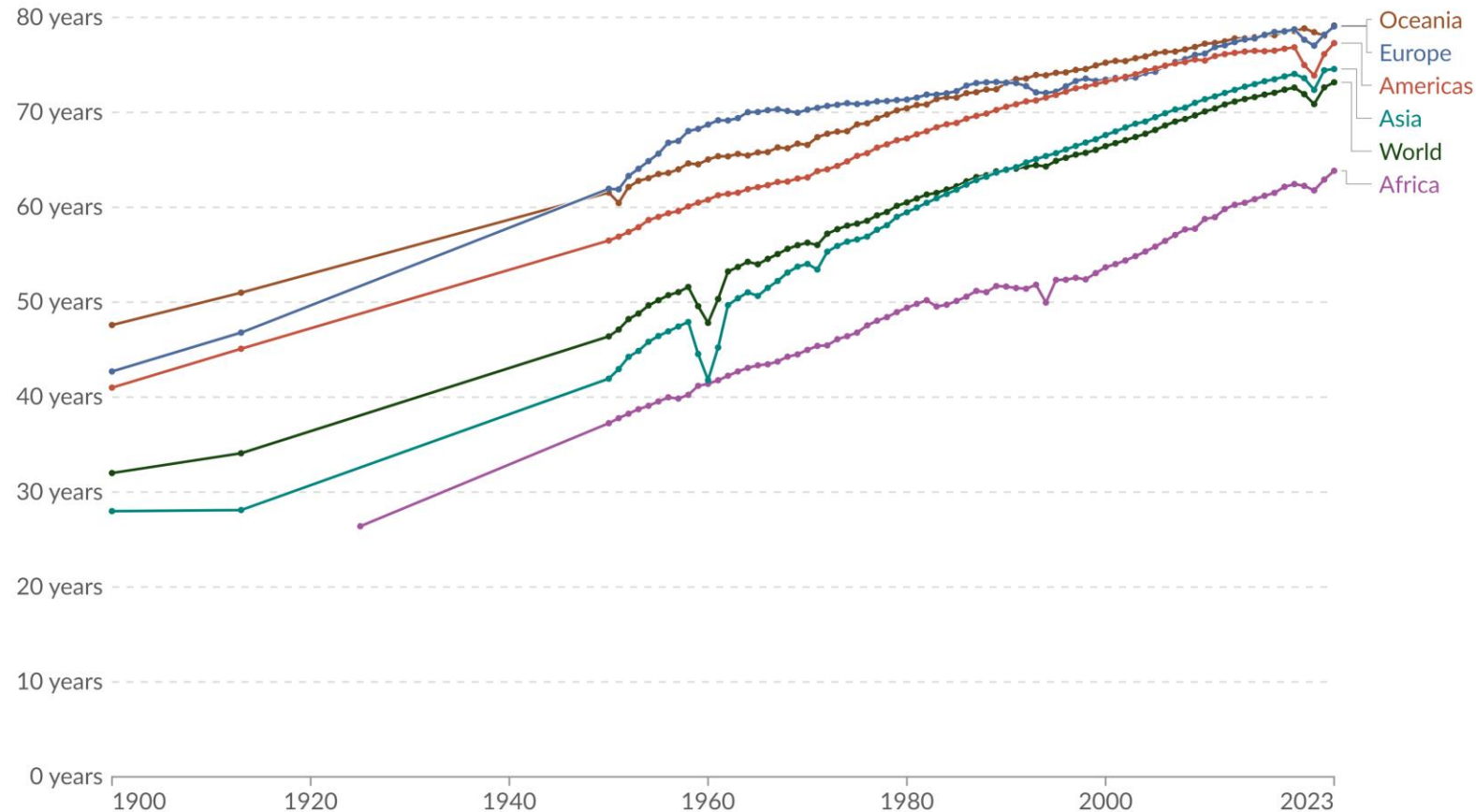
Longevity risks are more pronounced in Asia...

Life Expectancy – A Global View

Life expectancy

Period life expectancy¹ is the number of years the average person born in a certain year would live if they experienced the same chances of dying at each age as people did that year.

Our World
in Data



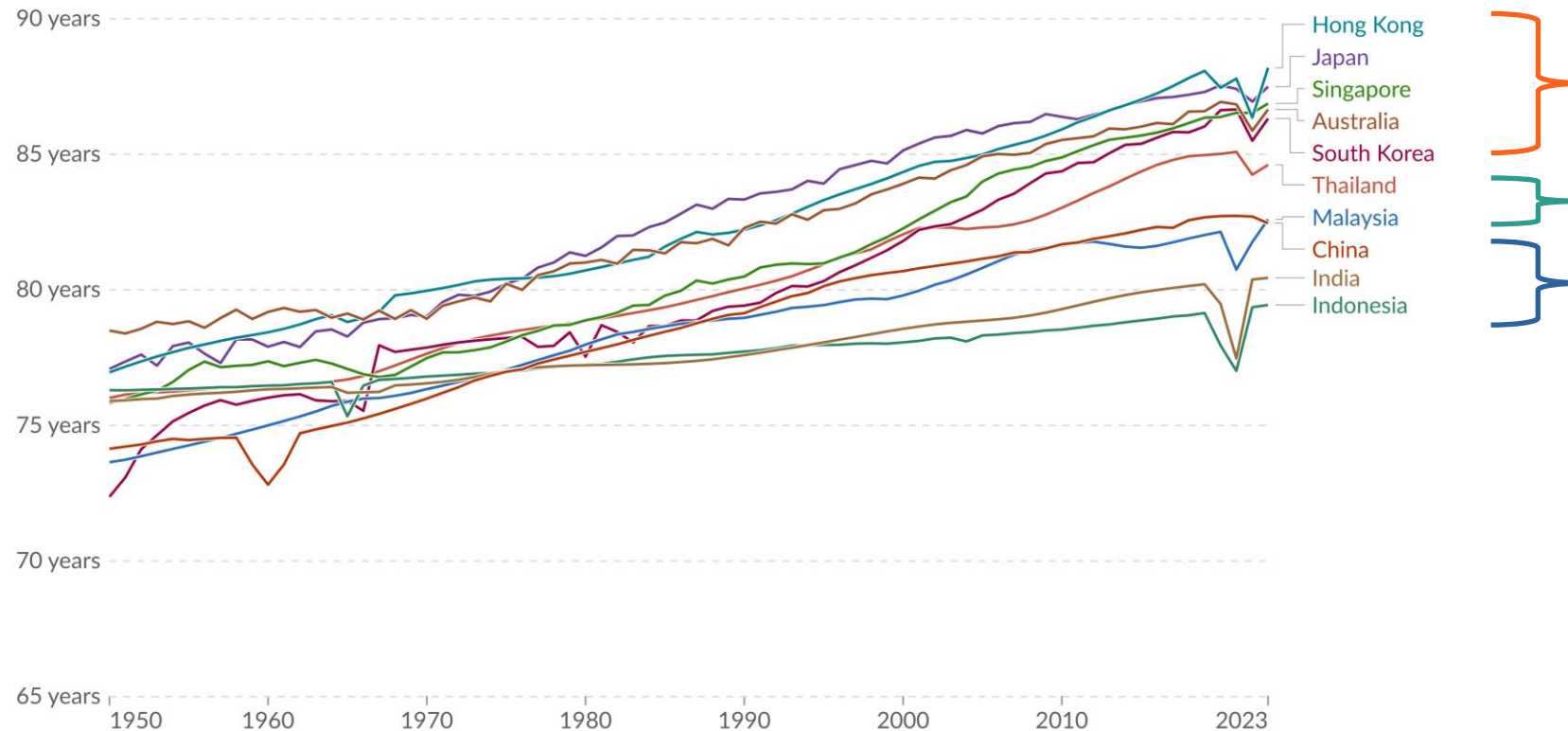
- Steep increase in life expectancy for Asia

Life Expectancy – Asian Countries

Life expectancy at age 65, 1950 to 2023

Period life expectancy for individuals who have reached age 65. Estimates are expressed as the expected age at death, not as years left to live.

Our World
in Data



Data source: UN, World Population Prospects (2024)

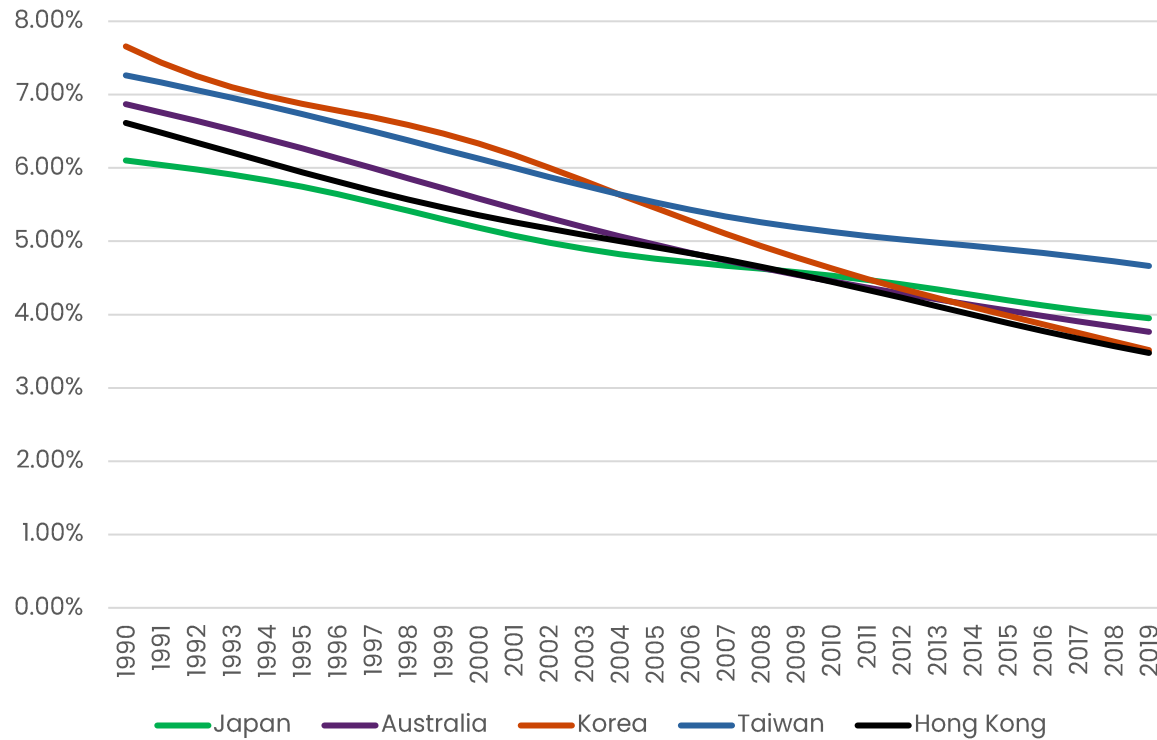
OurWorldinData.org/population-growth | CC BY

Note: Shown is the 'period life expectancy' at age 65. This is the expected age at death, if age-specific mortality rates in the current year were to stay the same throughout its life.

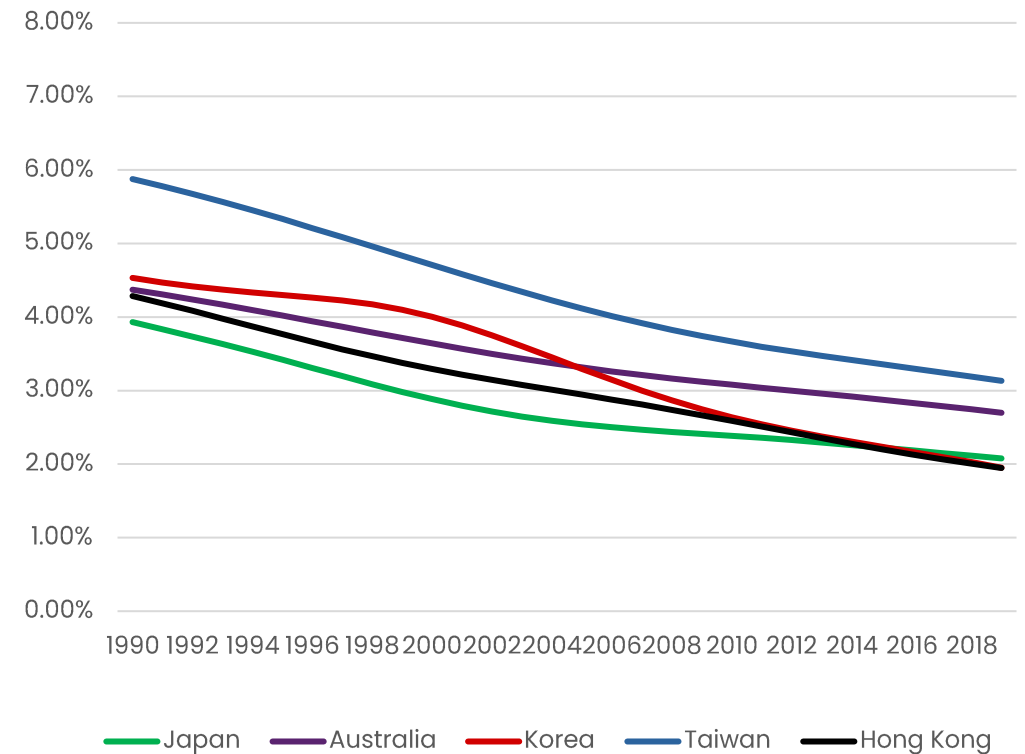
- Wide range across Asian countries
- Clustering of Asian countries?

Level of Mortality Rates

Age-Standardised Mortality Rates - Males
(Ages 65 to 95)

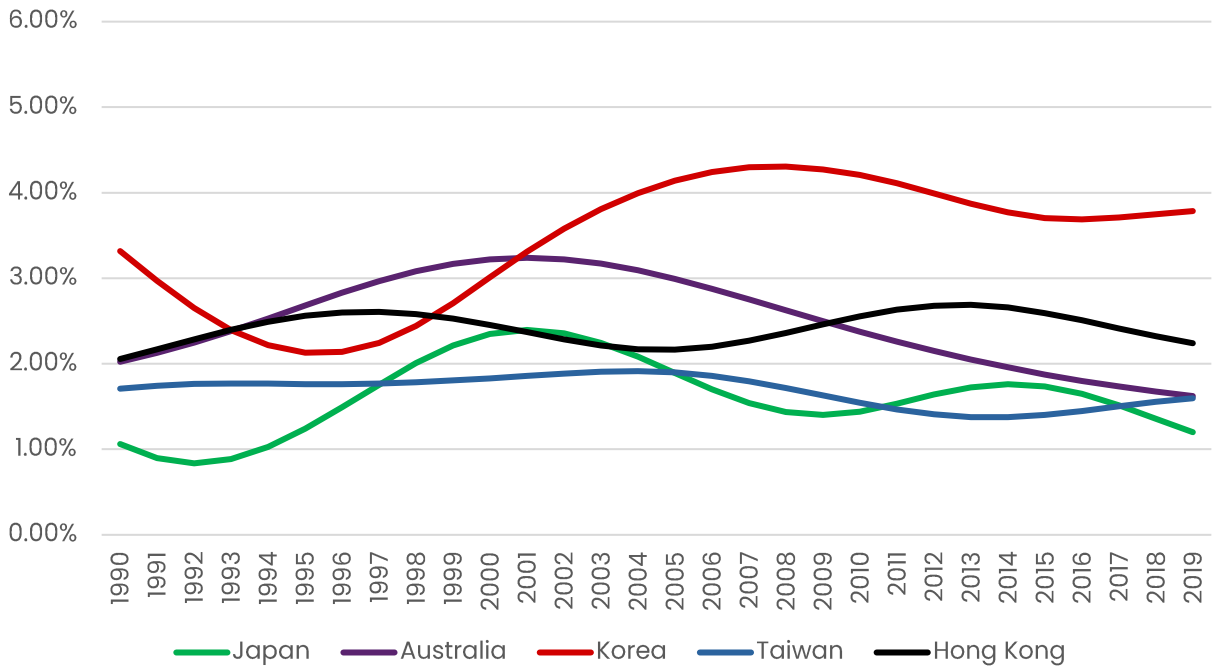


Age-Standardised Mortality Rates - Females
(Ages 65 to 95)

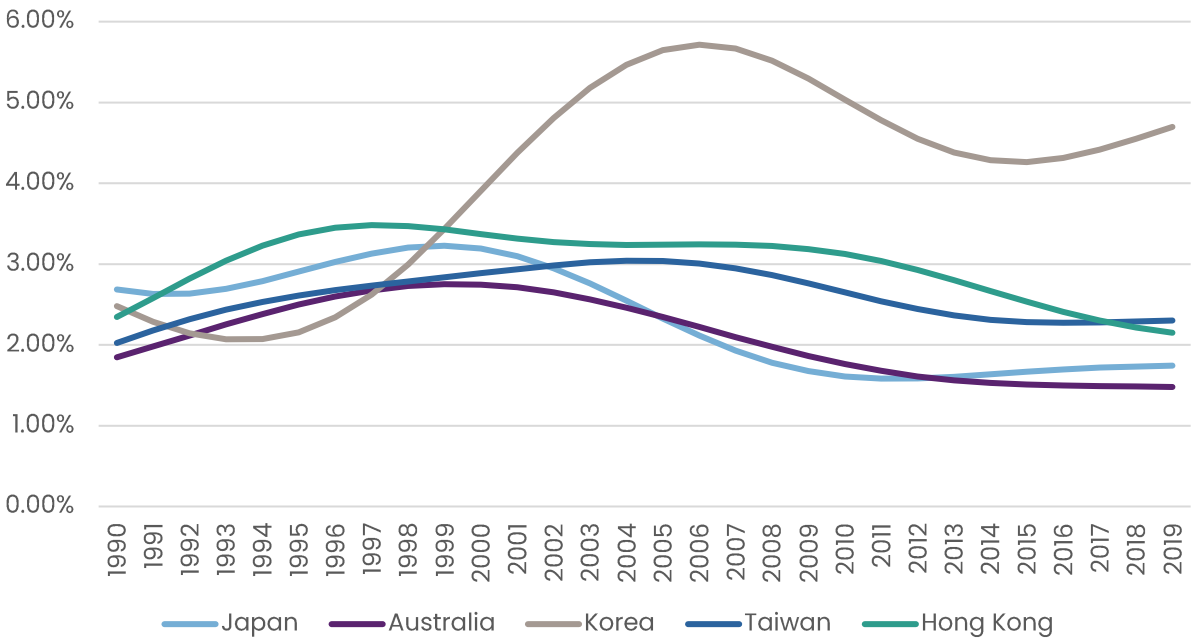


Improvement Rates

Age Standardised Improvement Rates – Males
(Ages 65 to 95)



Age Standardised Improvement Rates – Females
(Ages 65 to 95)

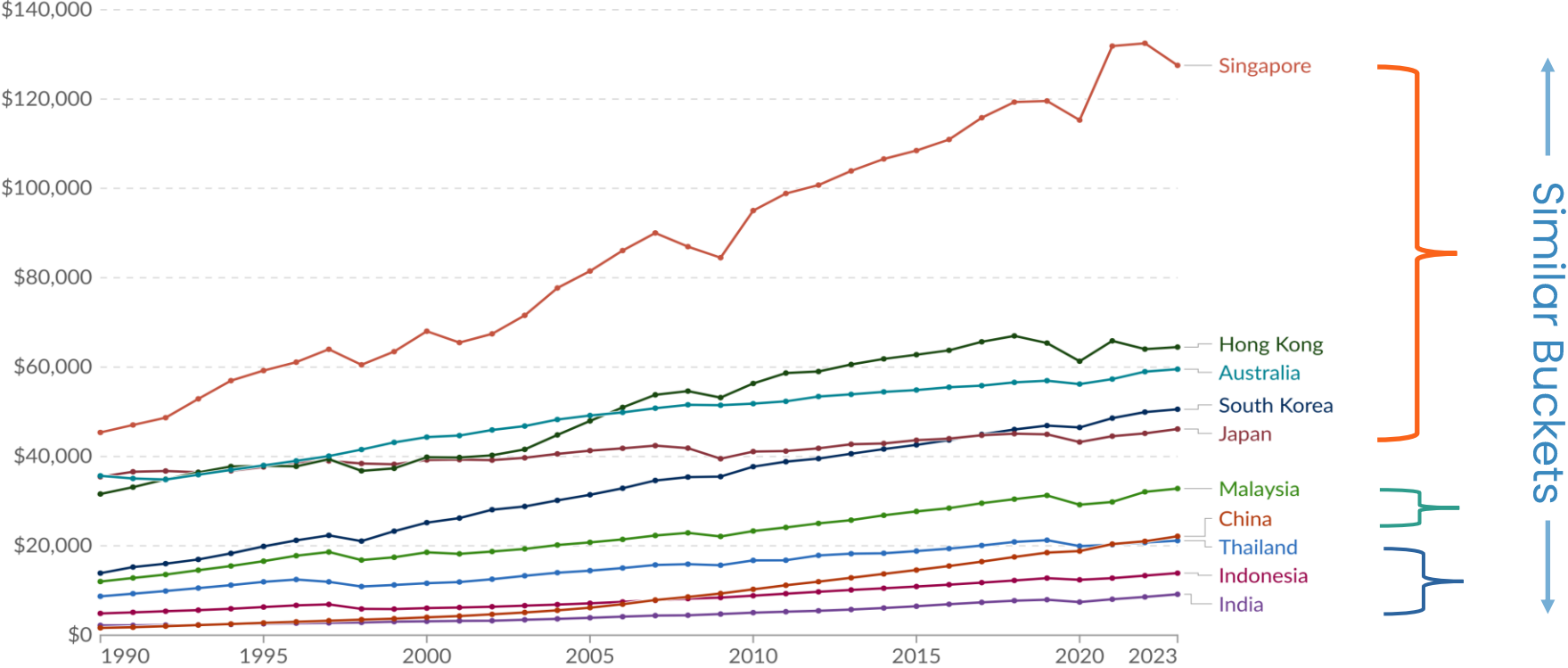


Economic Development - A Key Driver of Mortality

GDP per capita

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GDP per capita is a country's gross domestic product¹ divided by its population. This data is adjusted for inflation and for differences in living costs between countries.



Data source: Eurostat, OECD, and World Bank (2025)
 Note: This data is expressed in international-\$² at 2021 prices.

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To what extent will economic development remain a key driver of future life expectancy?

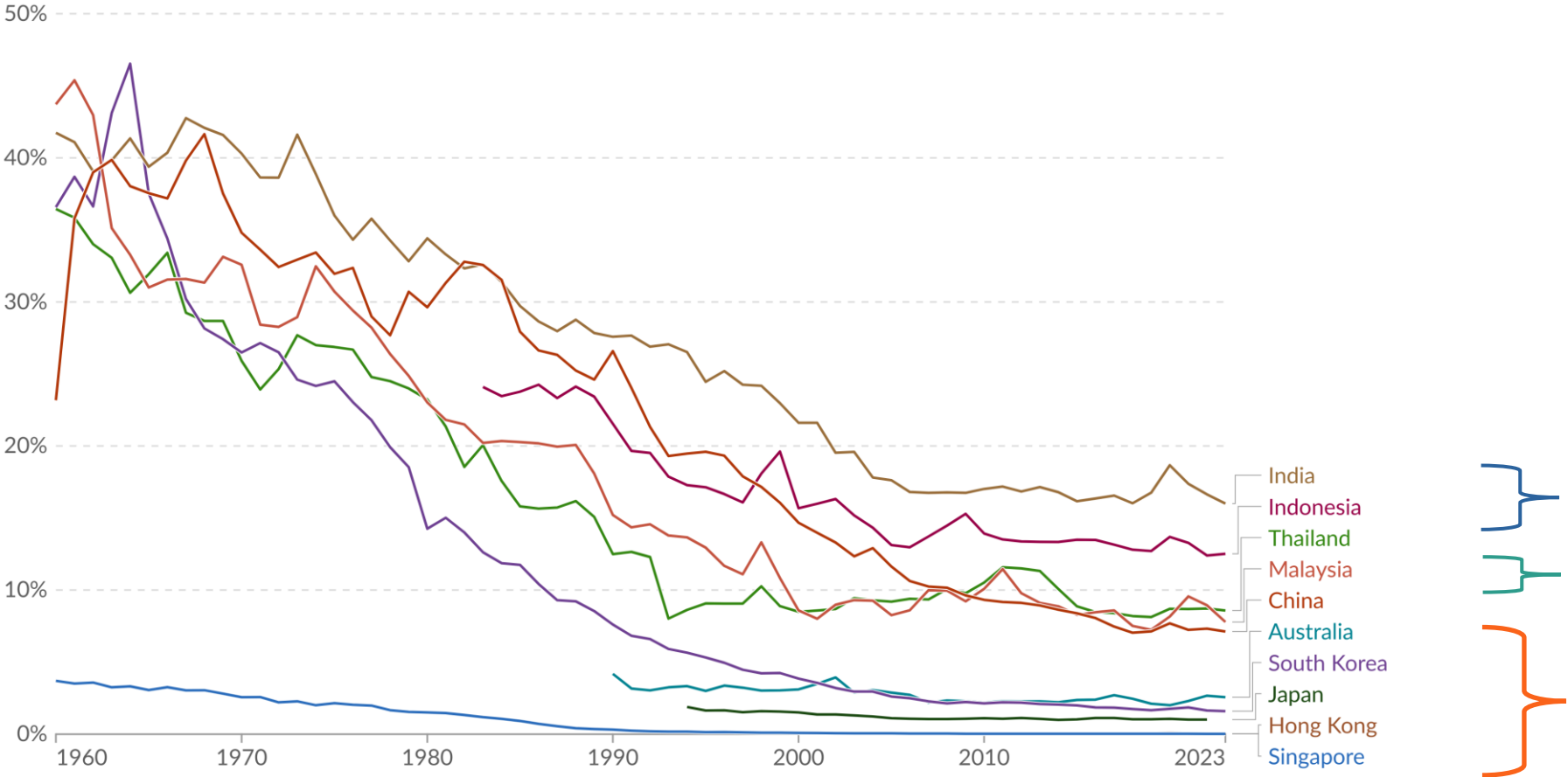


Economic Transition - Industrialisation /Service Sector

Share of GDP from agriculture, 1960 to 2023



This is measured as the value added from agriculture, forestry and fishing products as a share of gross domestic product (GDP).



Data source: World Bank and OECD national accounts (2025)

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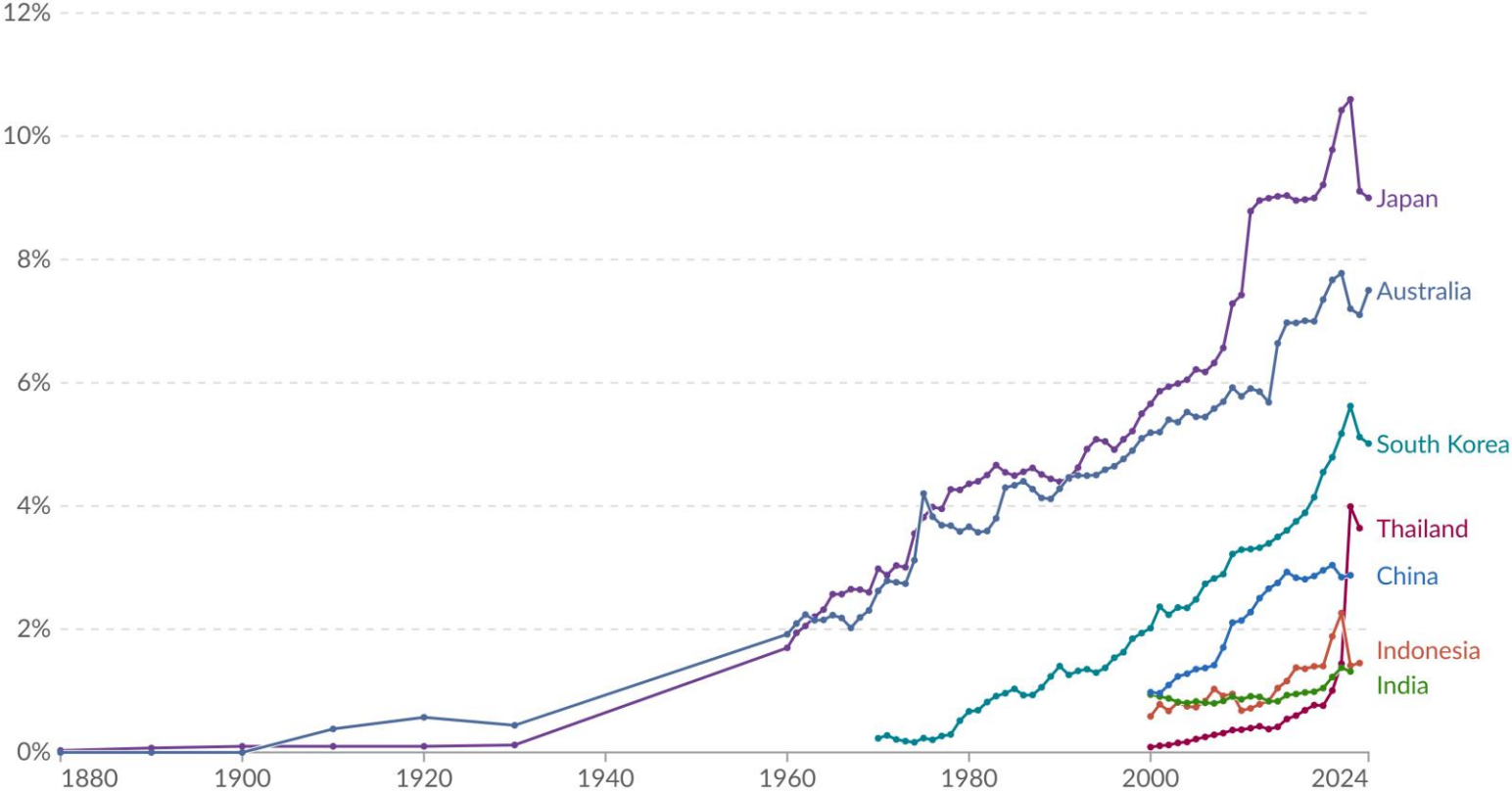


Healthcare Spending

Government health spending as a share of GDP, 1880 to 2024



This metric captures spending on government funded health care systems and social health insurance, as well as compulsory health insurance.



Data source: OECD (2025); OECD (1993); Lindert (1994)

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Note: Health spending includes final consumption of health care goods and services (i.e. current health expenditure). This excludes spending on capital investments.

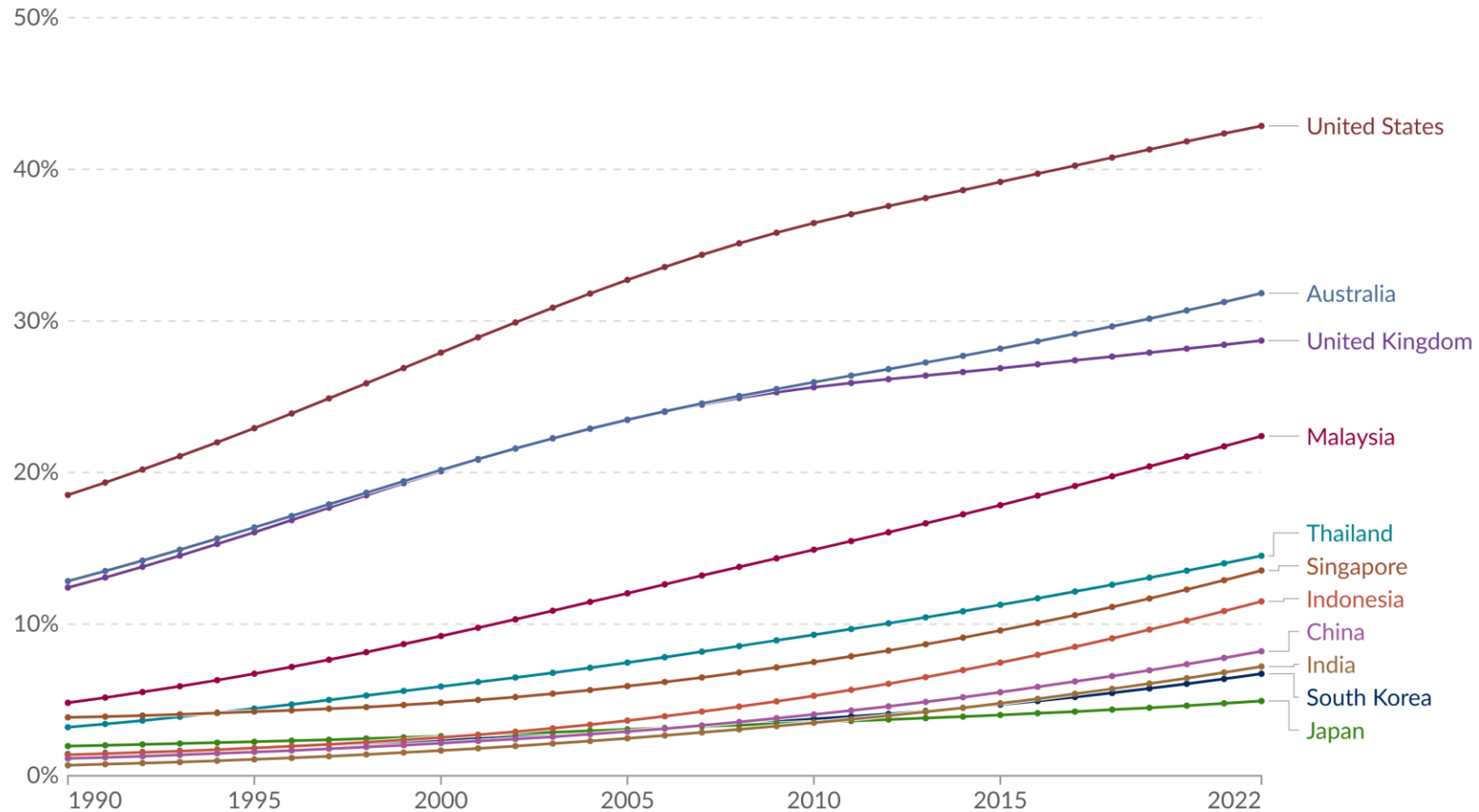


Obesity Levels

Obesity in adults, 1990 to 2022

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Estimated prevalence of obesity¹, based on general population surveys and statistical modeling. Obesity is a risk factor² for chronic complications, including cardiovascular disease, and premature death.



Data source: World Health Organization - Global Health Observatory (2025)

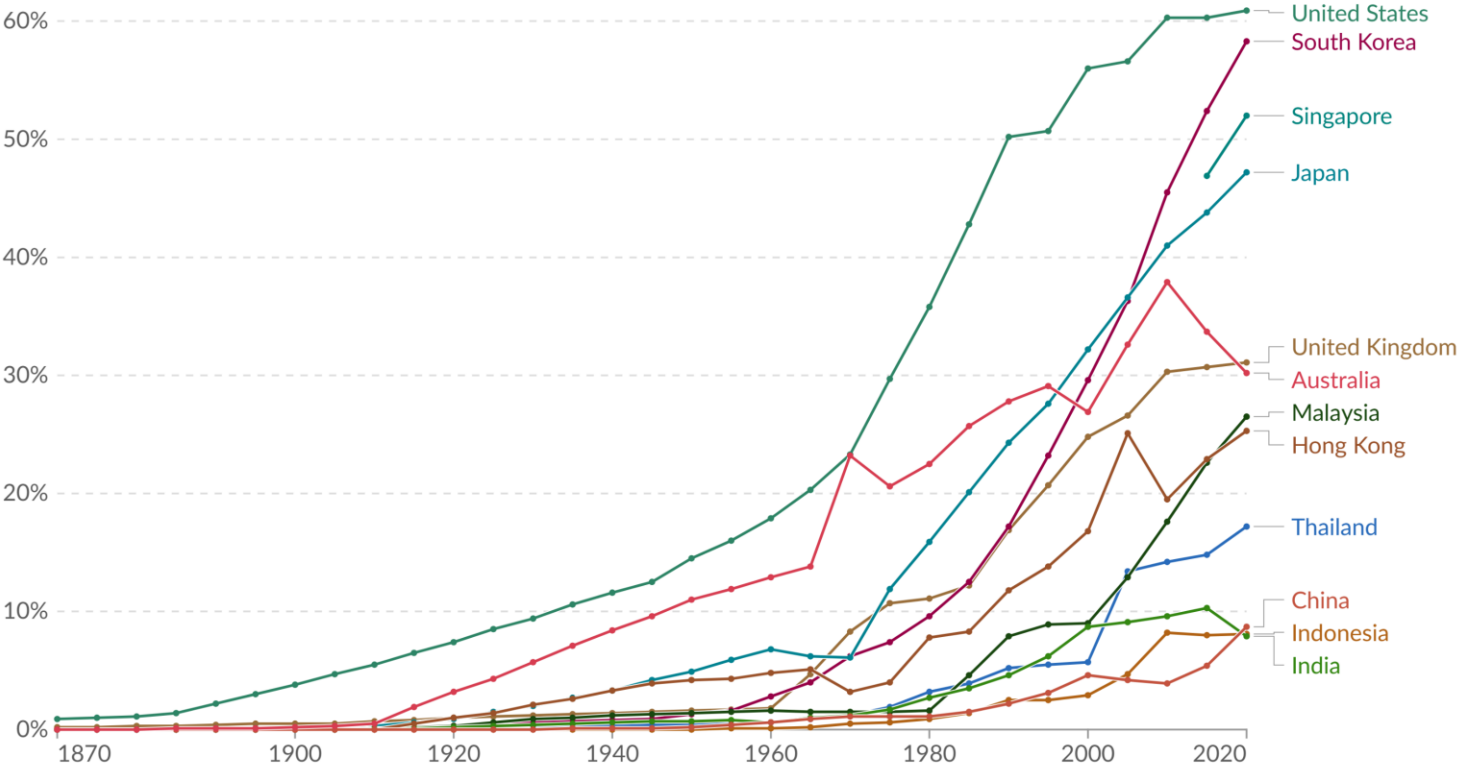
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Educational Levels

Share of the population with tertiary education, 1870 to 2020



Percentage of the population aged 25 to 65 years who have either completed or partially completed tertiary¹ education.



Data source: Barro and Lee (2015); Lee and Lee (2016)

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Note: Data for the years before 2015 are estimates, while data from 2015 onwards are projections.

1. **Tertiary education** Tertiary education includes all formal post-secondary learning. It ranges from short-cycle vocational programs to bachelor's, master's, and doctoral degrees. These programs offer advanced theoretical and practical knowledge in specialized fields such as medicine, law, engineering, and the arts.

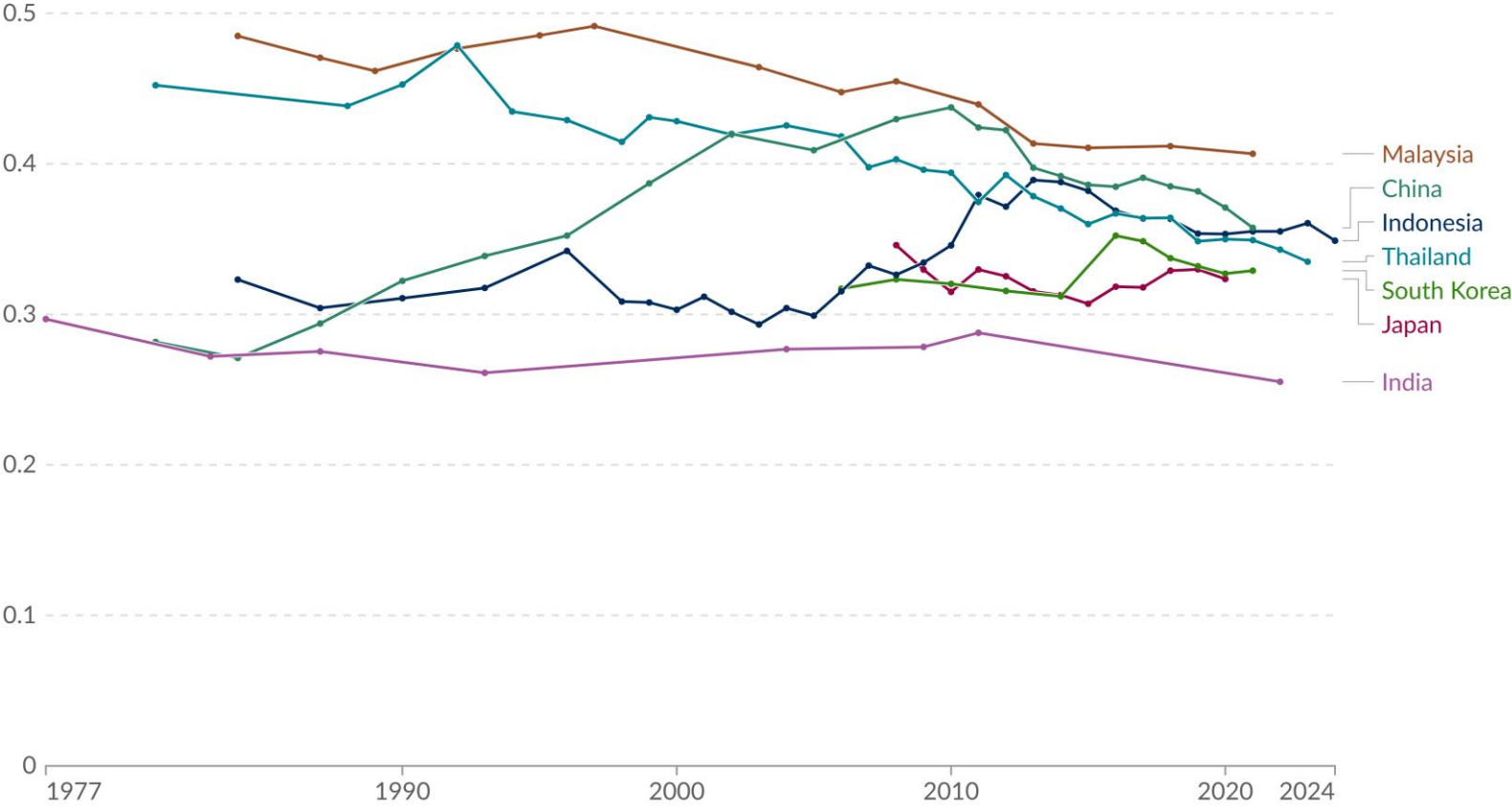


Inequality Within Countries

Income inequality: Gini coefficient, 1977 to 2024



The Gini coefficient¹ measures inequality on a scale from 0 to 1. Higher values indicate higher inequality. Depending on the country and year, the data relates to income (measured after taxes and benefits) or to consumption, per capita².



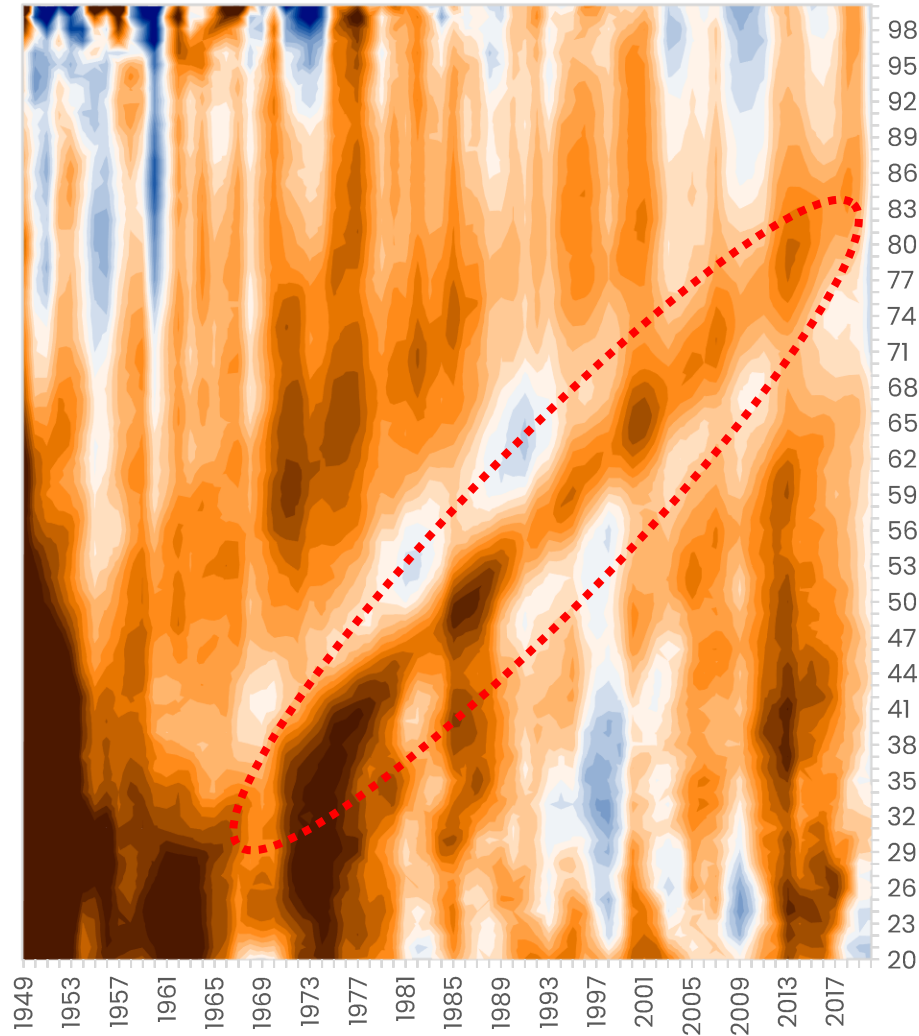
Data source: World Bank Poverty and Inequality Platform (2025)

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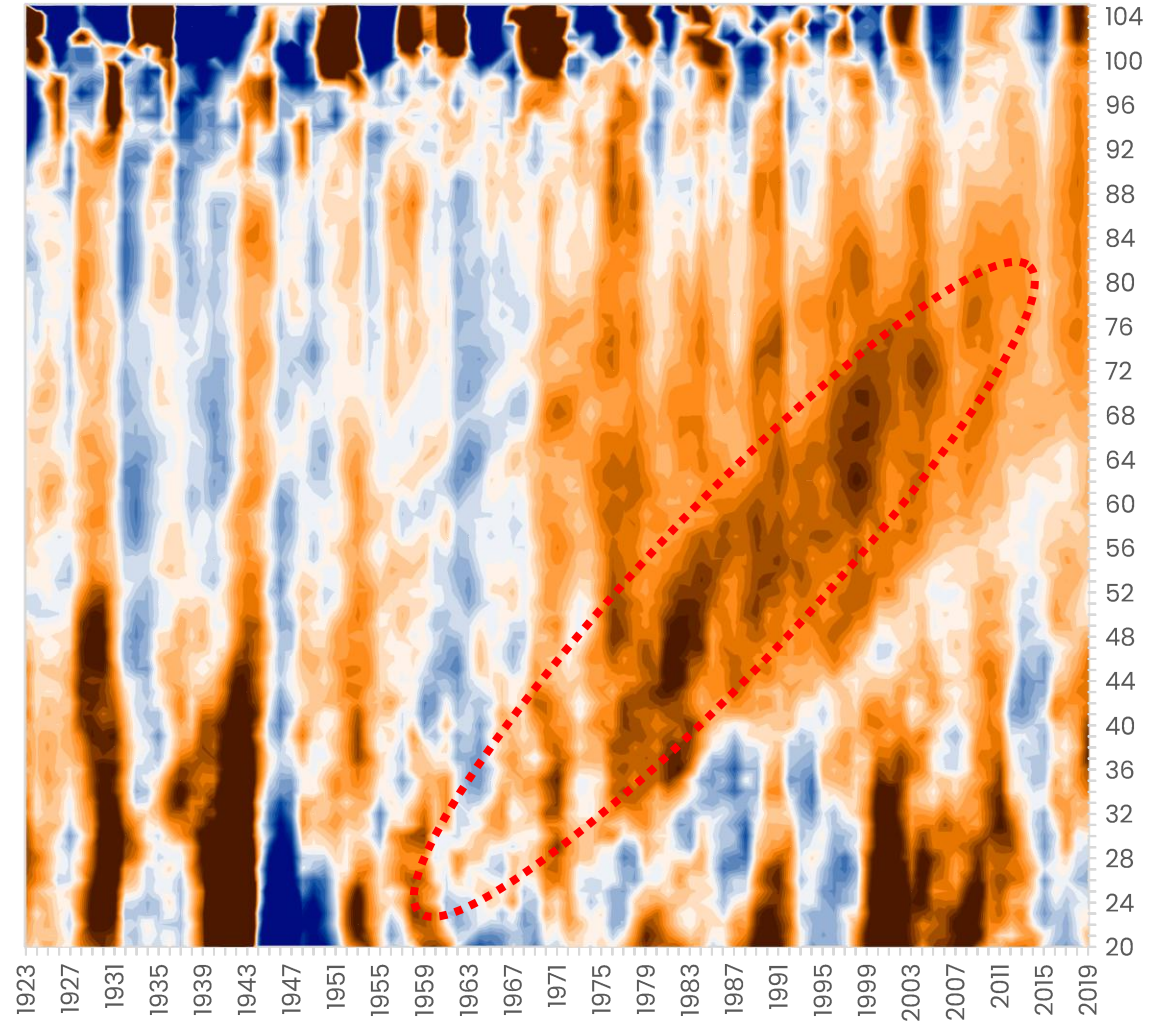


Inequality within Countries: Potential Cohort Effects

Japan (Males)




Australia (Males)



Other Drivers of Mortality



Smoking prevalence over time



Population density



Access to healthcare

Existence of private healthcare

Summary



Summary

- There are existing and emerging opportunities in the longevity risk area in Asia
- A multifaceted approach to analyse longevity risk and predict future mortality improvements is needed
- Some Asian countries share similar attributes
- But country specific factors are important