The Impacts of Population Aging on Macroeconomic Performance: Daunting Yes, Insurmountable No

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Population Aging

- Population aging has replaced rapid population growth as the world's dominant demographic phenomenon

- Population shares aged 65+ and 85+ are rapidly growing in every country in the world due to
  - declining fertility, increasing longevity, and the progression of large-sized cohorts to the older ages, and
  - in the case of Japan, also low net immigration

- Japan is a frontrunner in population aging:
  - 2nd in population share 65+ (29.6%) in 2020; rank 1st in 2040 (35.2%)
  - 2nd in population share 85+ (5.4%) in 2020; rank 1st in 2040 (9.1%)

Population Aging in Selected Countries
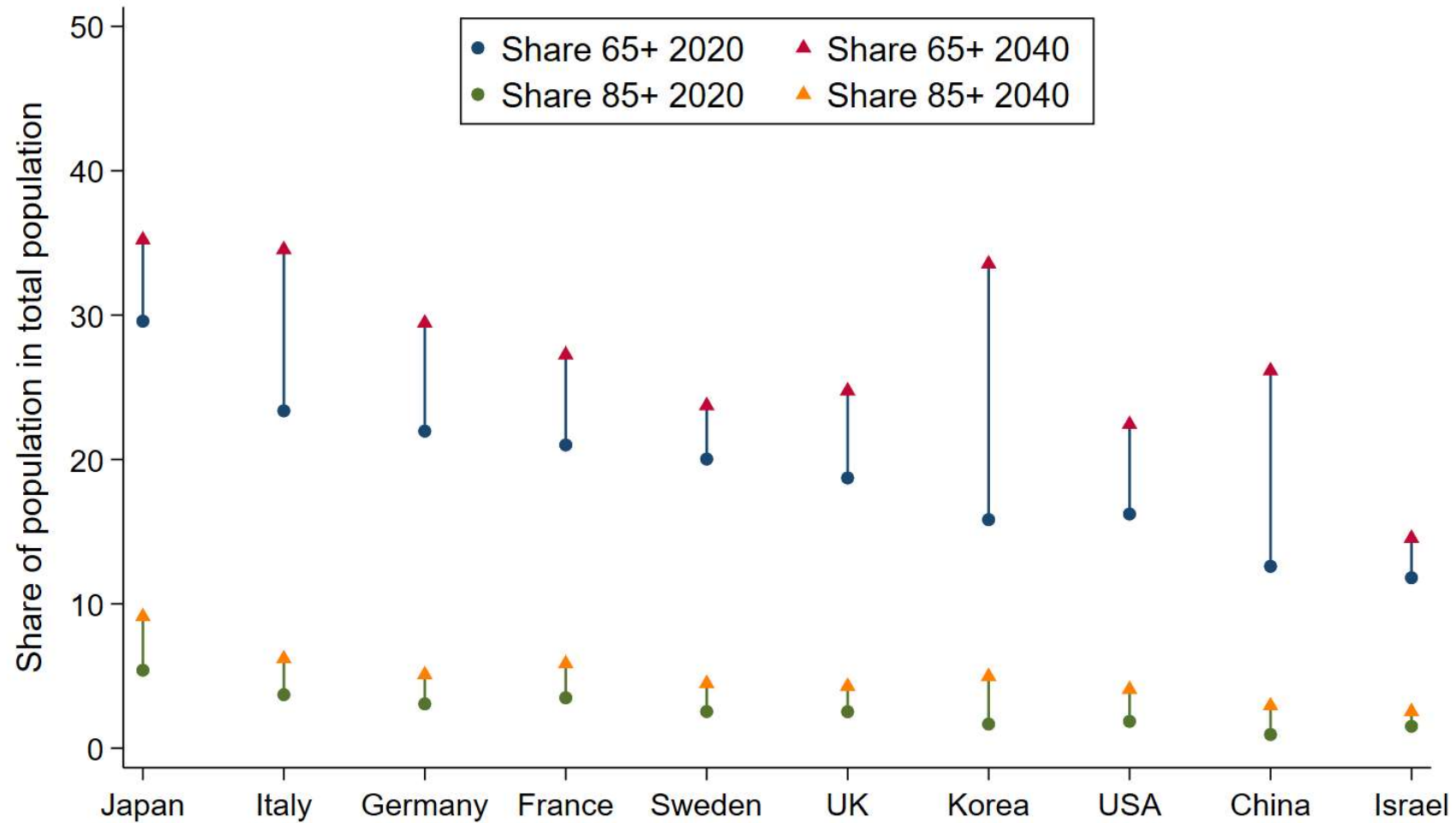
Data source: U.N. Population Division, *World Population Prospects 2022*

Key Challenges Posed by Population Aging

- **Economic performance**
  - Shrinking workforce (in relative terms)
  - Human capital (outdated skills and diminished health)
  - Potential dissaving and reduced investment
  - Lower rate of innovation and productivity growth

- **Public finances**
  - Fiscal strain on PAYG social security systems and health budgets
  - Ripple effects on the economy through monetary and tax policy
  - Risk of debt sustainability in shrinking populations

- **Society**
  - Family and gender norms regarding caregiving

Most Common Causes of Death: Japan
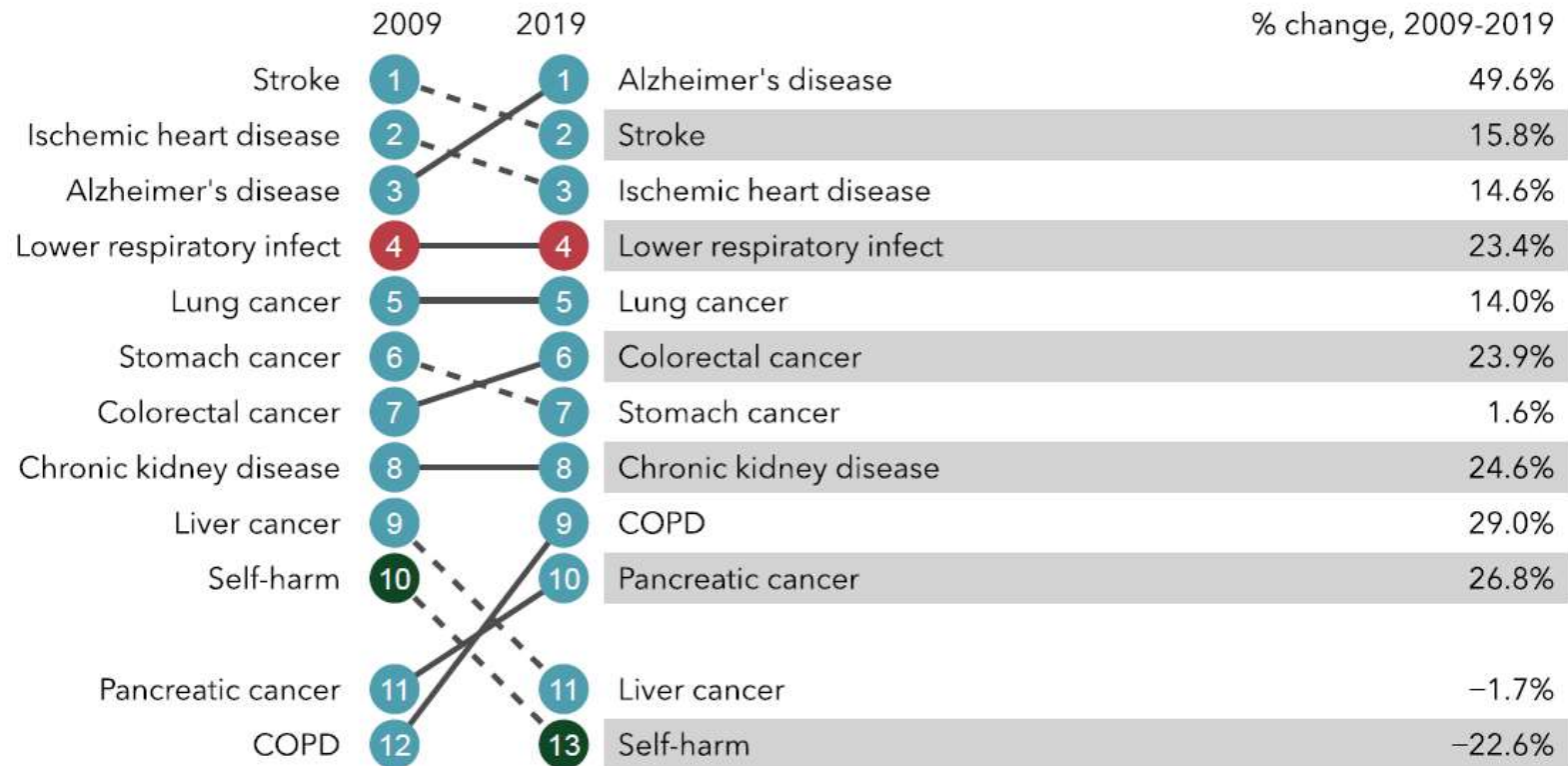
Source: Institute for Health Metrics and Evaluation, https://www.healthdata.org/Japan (7/19/2023).

Selected Options to Address Challenges from Aging: Behavior, Technology, Public Policy

- Invest in human capital (education, skills, health) over the life cycle
- Promote female labor force participation
- Encourage immigration
- Increase choice over retirement age and pensionable age
- Increase number of age- and family-friendly jobs
- Promote robotics, automation, digitalization, and AI
- Expedite global economic integration (offshoring and trade)
- Consider adjustments in taxes and benefit coverage in pensions, healthcare, and long-term care
- Spur investment in disease prevention and health technology
- Social infrastructure (e.g., transportation and recreation facilities)

Specific Challenges in Japan

- Japan's population is projected to shrink by 0.6% per year from approximately **125.2m** people in 2020 to **111.2m** in 2040

- The population aged 20–64 is projected to fall from **67.6m** (54.0% of population) in 2020 to **55.7m** (50.1%) in 2040

- Net migration in 2011–2020 averaged **147k** people per year, representing only a small portion of demographic change

- High stock of public debt (debt/GDP ratio **>200%**) limits fiscal leeway. Debt per person will rise as population shrinks

Implications for Economic Growth: Recent Estimates

Study	Country	Projection horizon	Effect on annual income growth rate (in pp.)	Sample	Focus
Aksoy & colleagues	Japan U.S.	2015–2025	-0.42 -0.65	22 OECD countries	Innovation (R&D)
Cooley & Henriksen	Japan U.S.	2015–2030	-0.27 -0.33	Simulation model	Age-specific productivity
Gagnon & colleagues	U.S.	2020–2030	-0.50	Simulation model	Workforce aging
Maestas & colleagues	U.S.	2020–2030	-0.60	U.S. states and D.C.	Labor productivity
Kotschy & Bloom	Japan U.S.	2020–2050	[-0.91,-0.13] [-0.54,-0.26]	145 countries	Working-age share

# Projected Change in Annual Growth Rate of Income per Capita: 2020–2040
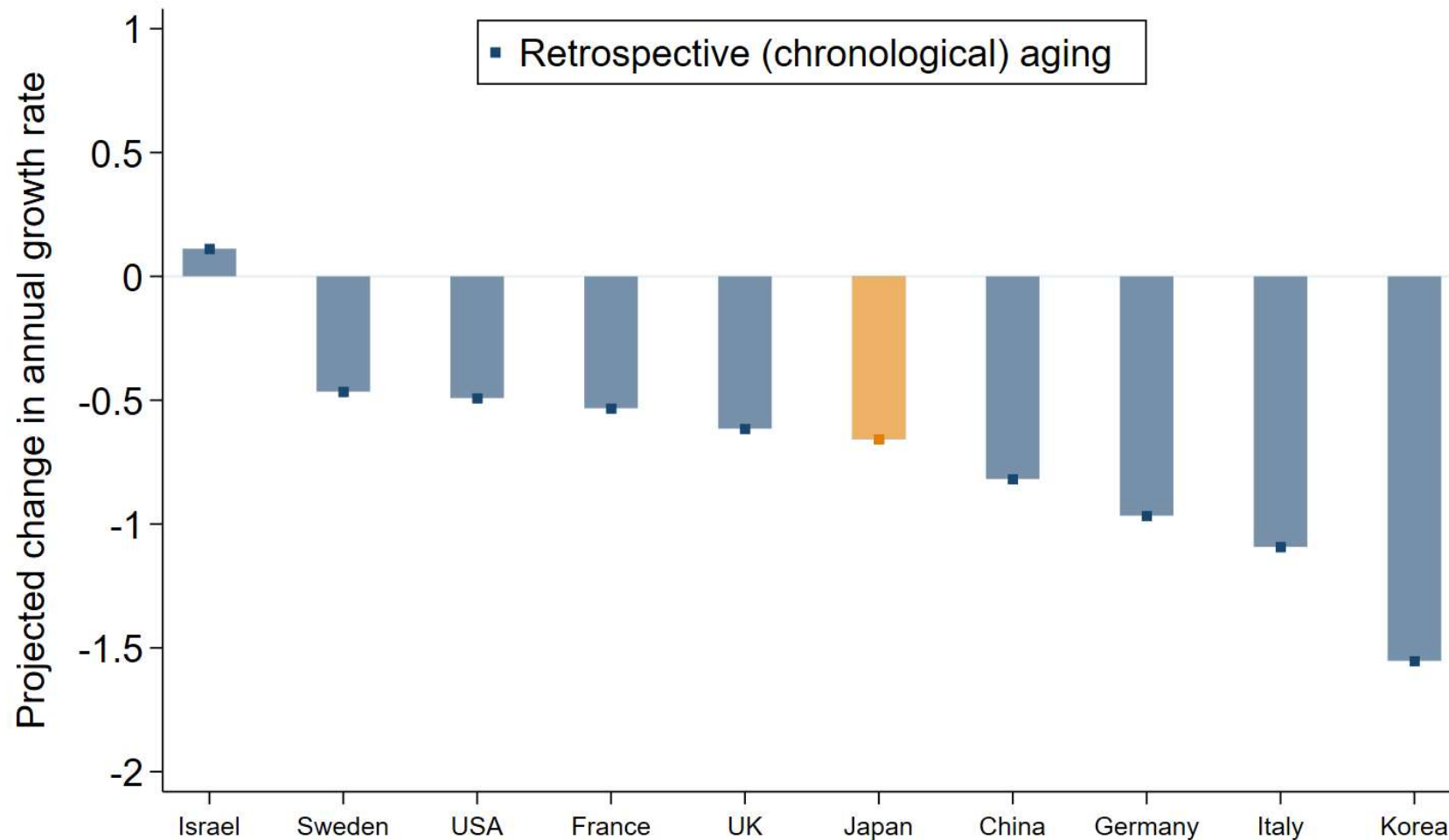
Source: Authors' calculations based on estimates in Kotschy and Bloom (2023)

Implications for Economic Performance

- **Synopsis of scientific literature**
  - Challenges from population aging will, taken as a whole, potentially exert a modest to sizable drag on medium-run economic growth
  - However, only scant evidence on effects of automation and AI, which are generally thought to be positive for economic growth

- **Labor and capital are key drivers of economic slowdown**
  - Relative (and in Japan also absolute) reduction in labor force: Projected loss of **7.4m** workers in 2020–2040 at current rates
  - Labor supply varies across genders and socioeconomic strata
  - Consumption does not decline proportionally, and social spending tends to increase (e.g., pensions, healthcare, long-term care)
  - Savings tend to decrease at older ages

Labor Force Participation by Gender: Japan
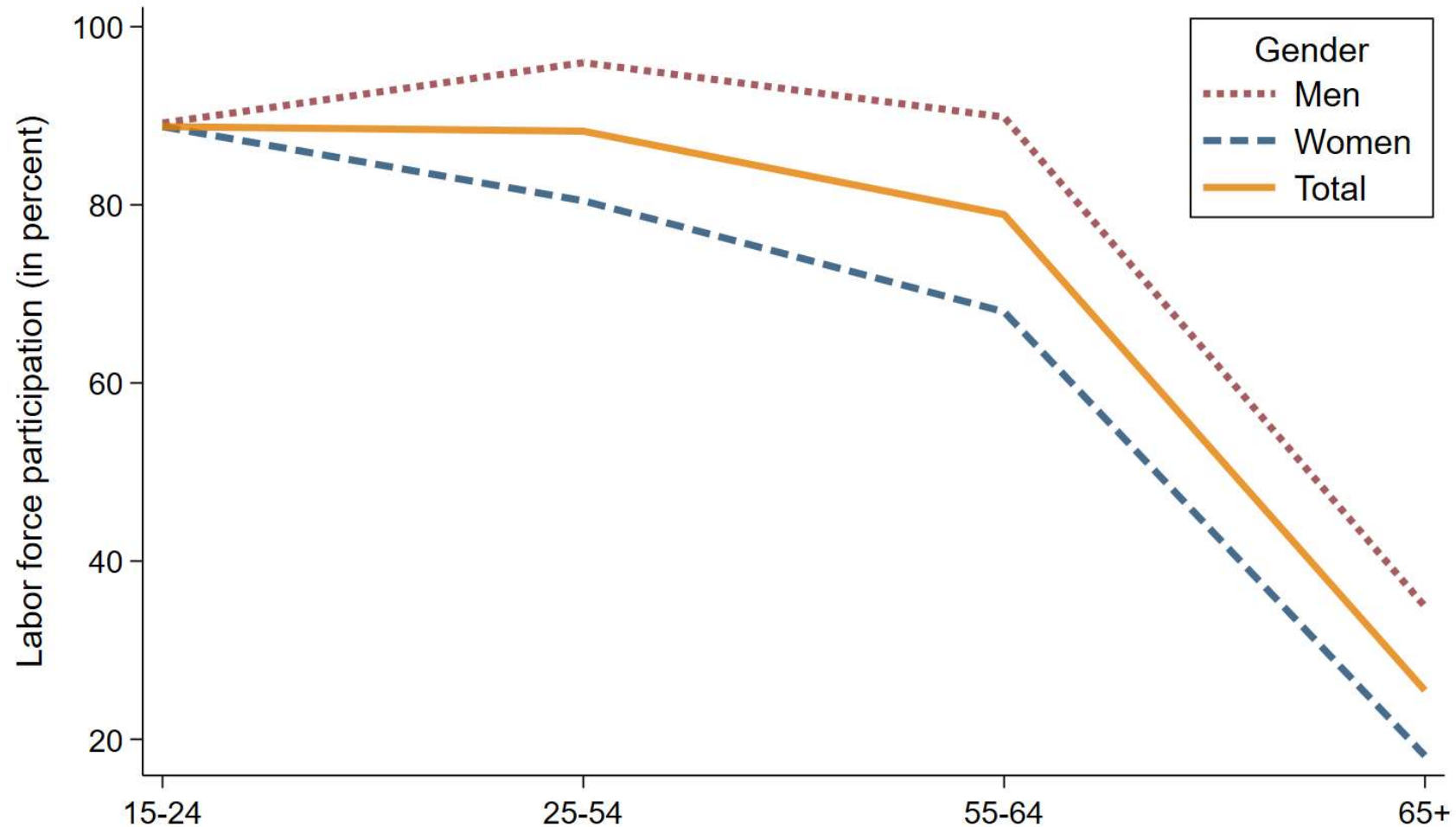
Data source: International Labour Organization, *ILOSTAT (2023)*; figures refer to Japan in 2020

Savings Rate by Age: Japan
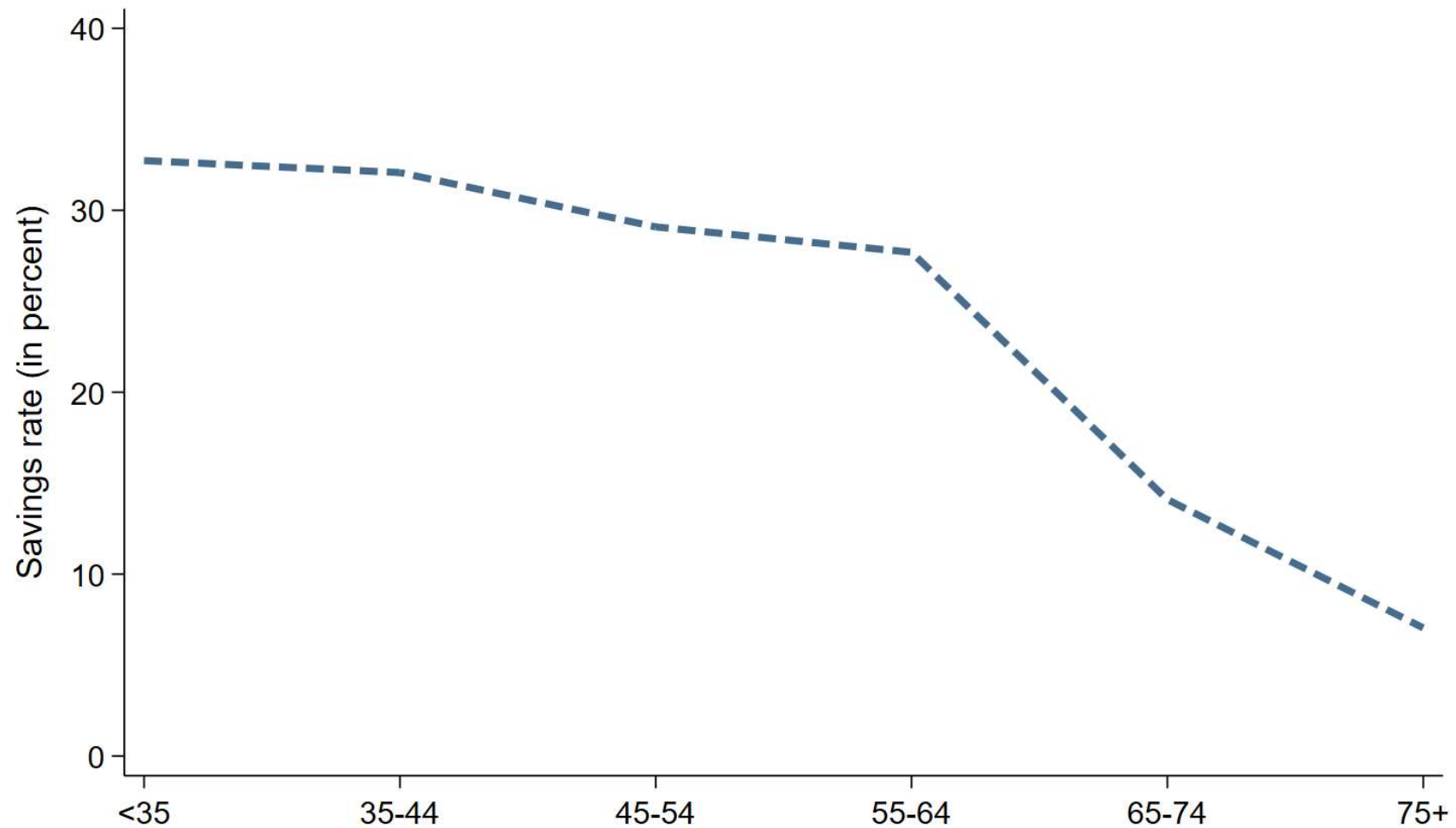
Data source: Statistics Bureau of Japan, *Family Income and Expenditure Survey 2019*

Potential Adjustment Paths: Some What Ifs

- What if people work longer?
  - Labor force participation (LFP) of people 65 and older: 25.3%
  - Workforce increases by **1.8m** (3.8m) workers if LFP rises to **30%** (35%)

- What if women catch up to men in LFP?
  - Figures in 2020: men 71.3%, women 53.4%, total 62%
  - Workforce increases by **4.3m** workers if gender gap **falls by half**

- What if net migration doubles to **300k** people per year
  - Population increase of about 2.9m people
  - Workforce increases by **2.1m** workers if migrants' LFP is 70%

- What if working ages were tied to remaining life expectancy?
  - Estimated range for **hypothetical** effects of population aging on economic growth on next slide (LFP is assumed to be constant)

Projected Change in Annual Growth Rate of Income Per Capita: 2020–2040 (Revisited)
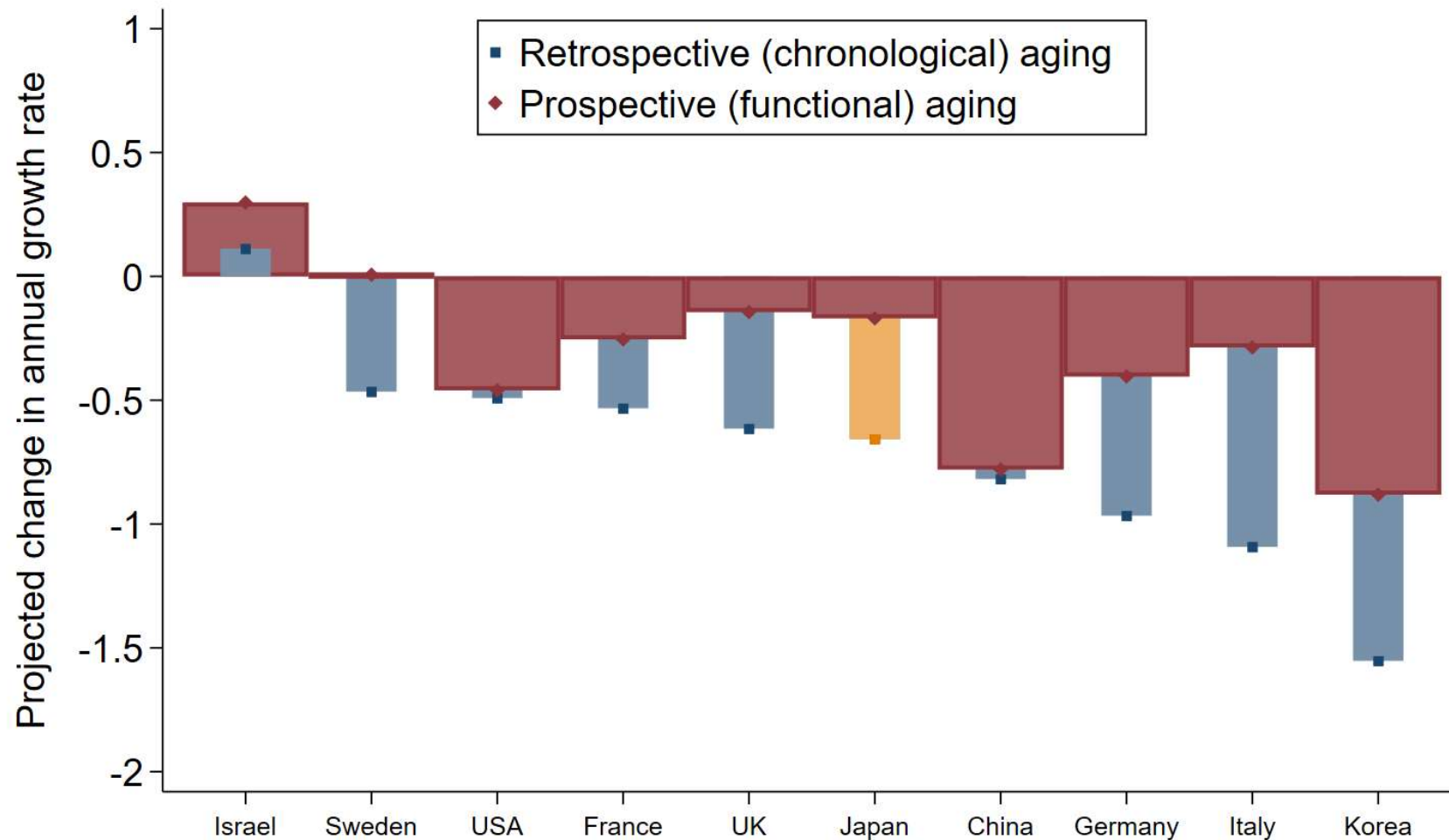
Source: Authors' calculations based on estimates in Kotschy and Bloom (2023)

Concluding Remarks

- Foregoing behavioral changes, policy and institutional reforms, and technological advances have much potential to offset long-term contractionary impulses posed by population aging

- Population aging concerns **everyone** because of intergenerational trade-offs, budget allocations, and economic interdependence
  - Labor supply and savings depends on people's health, their preferences, labor and capital markets, and incentives imposed by institutions and culture
  - Successful policy design involves multiple levels of government, employers, labor unions, social associations, and the people (young and old)
  - **Goal: Create an intergenerational contract with broad political support**

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