

# Macroeconomic, Fiscal, and Financial Implications of Aging

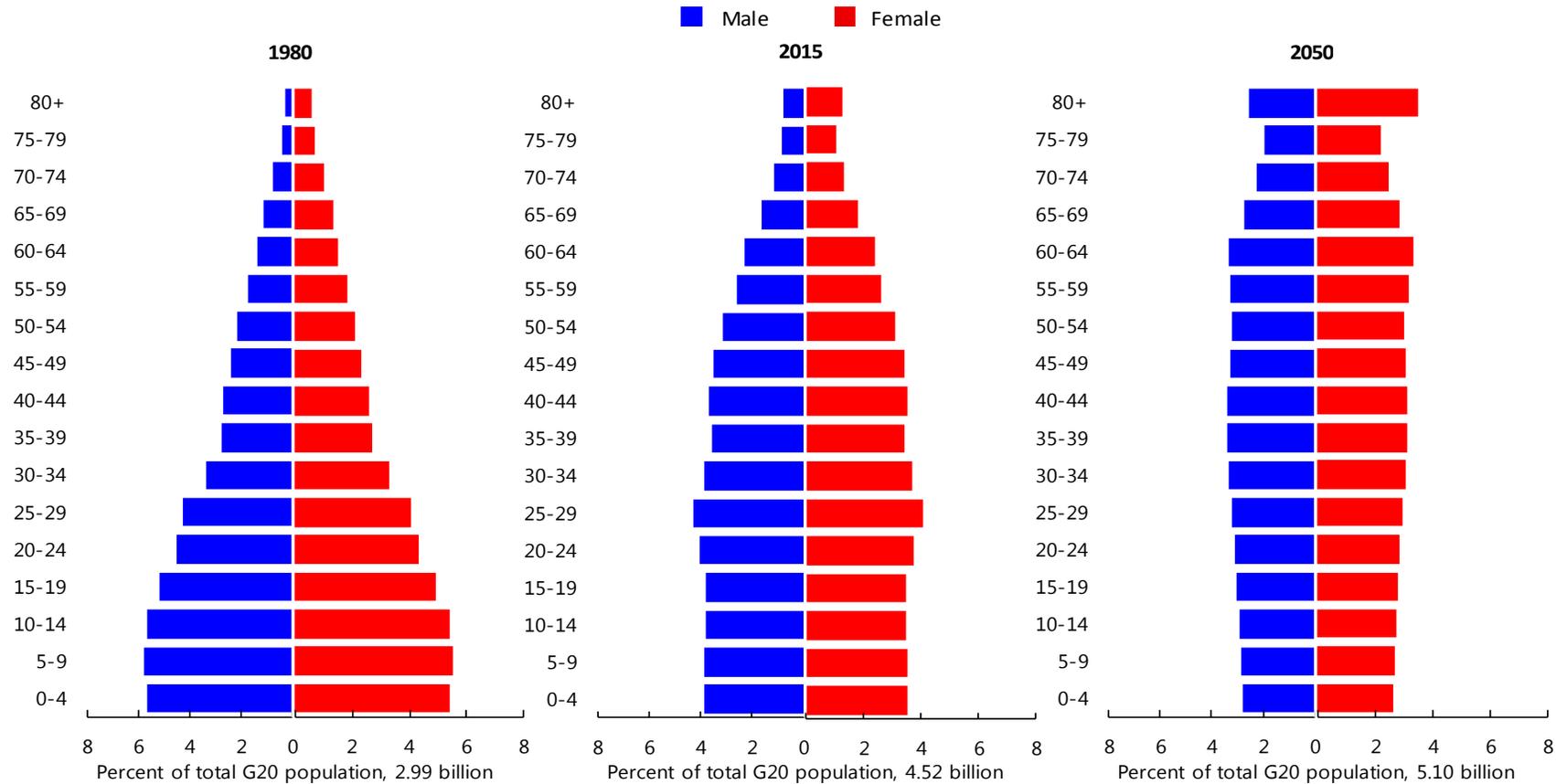
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International Monetary Fund

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Presentation at the G20 Symposium: “For the Better Future:  
Demographic Changes and Macroeconomic Challenges”

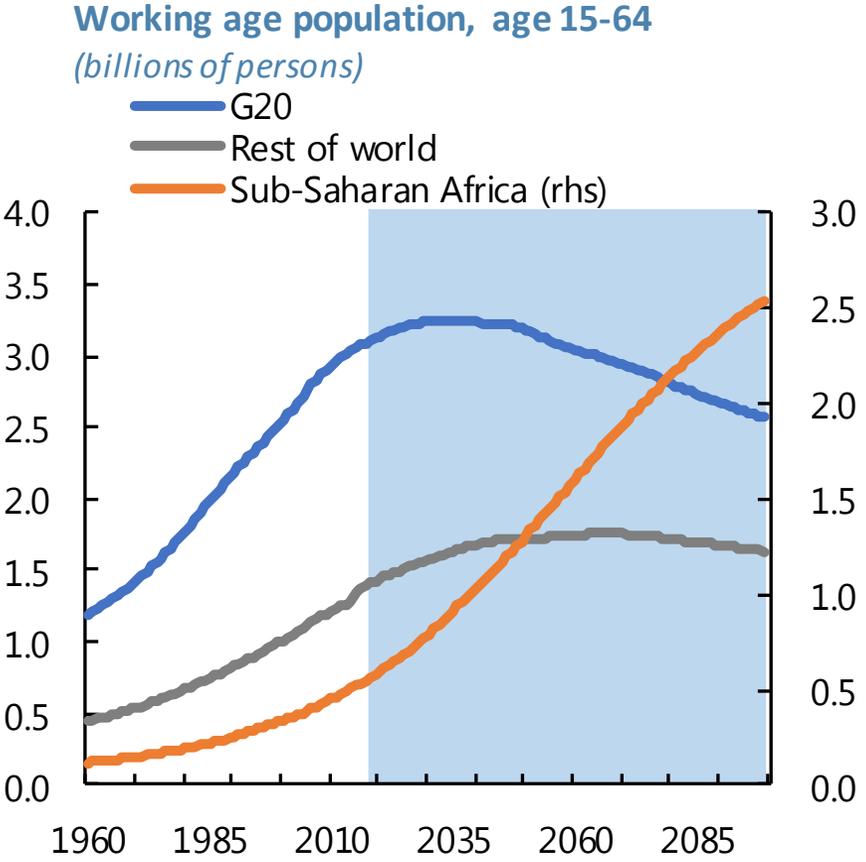


# The G20 is undergoing stark demographic changes.

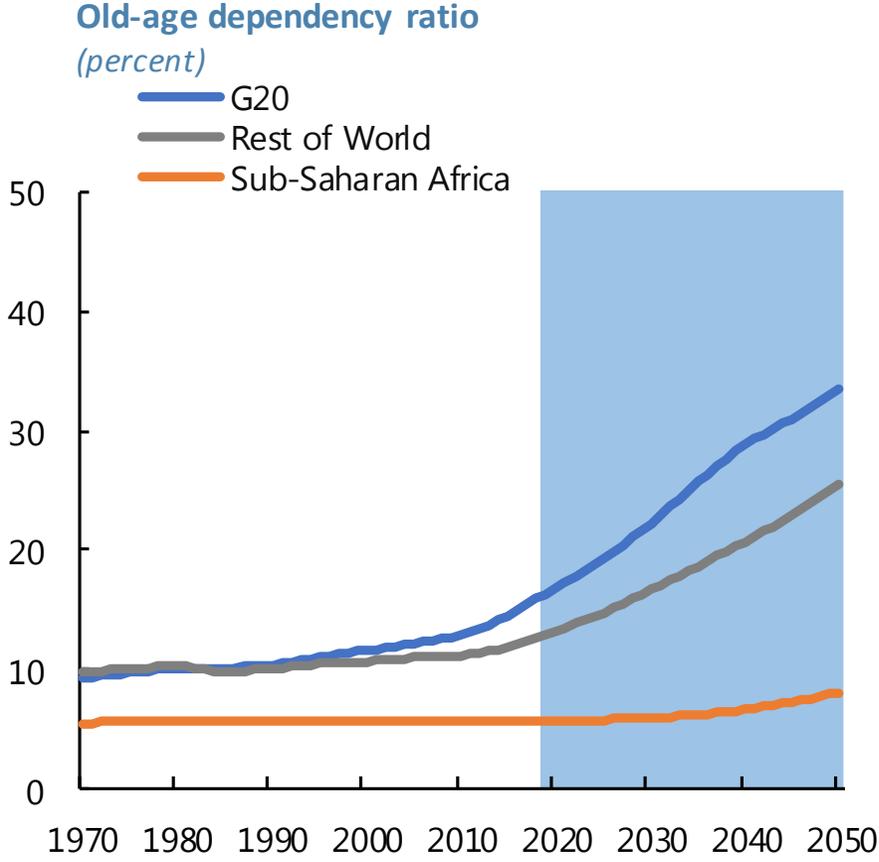


Sources: United Nations, Department of Economic and Social Affairs, Population Division (2017); and IMF staff calculations.

# Working-age populations are falling, while old-age dependency ratios are rising.



Sources: United Nations (2017); and IMF staff calculations.

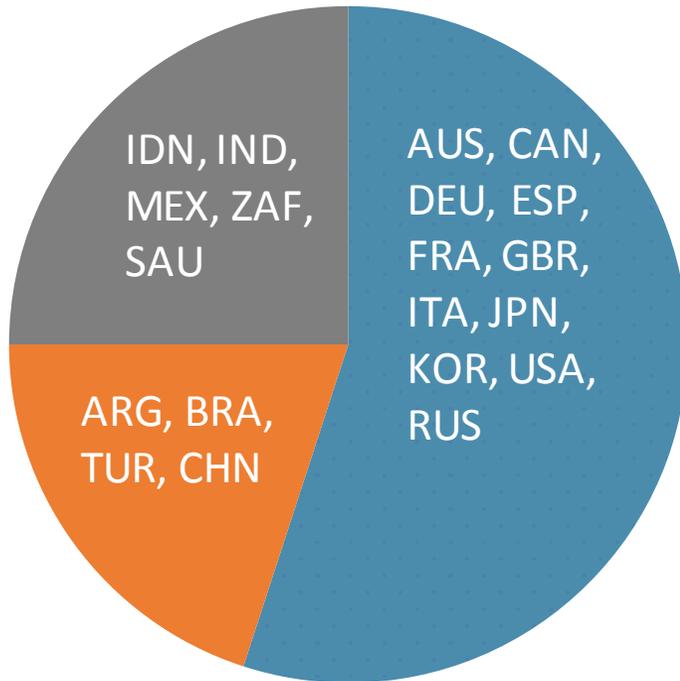


Sources: United Nations (2017); and IMF staff calculations.

# Aging across G20 countries is asynchronous.

**G20: Demographic Clusters**  
(number of countries)

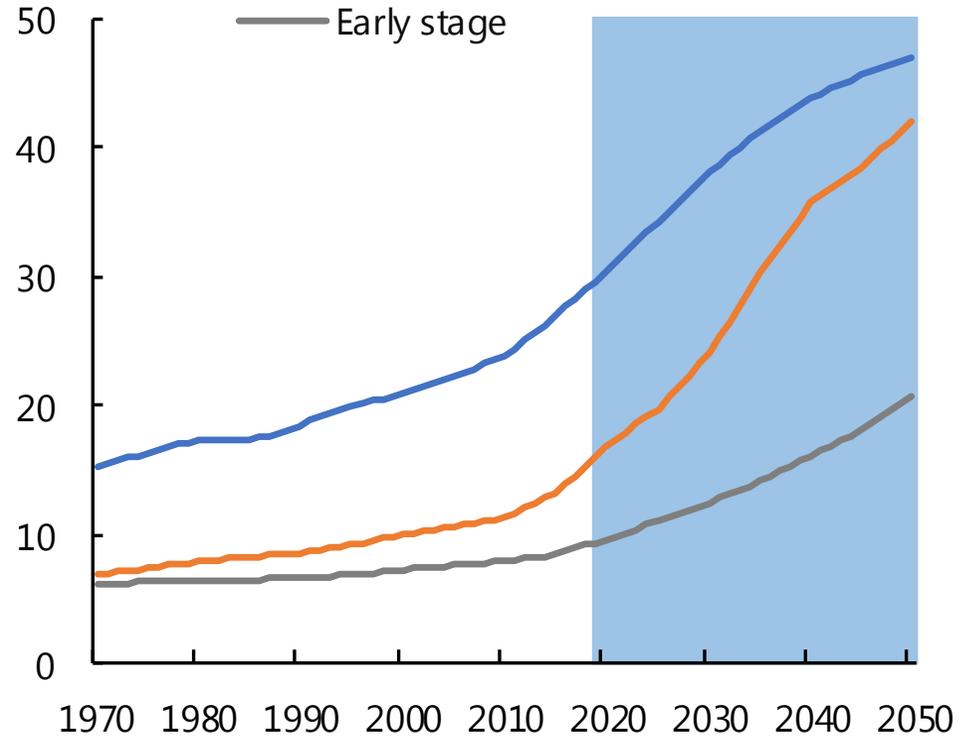
■ Late stage   ■ Advanced stage   ■ Early stage



Sources: United Nation (2017); and IMF staff estimates.

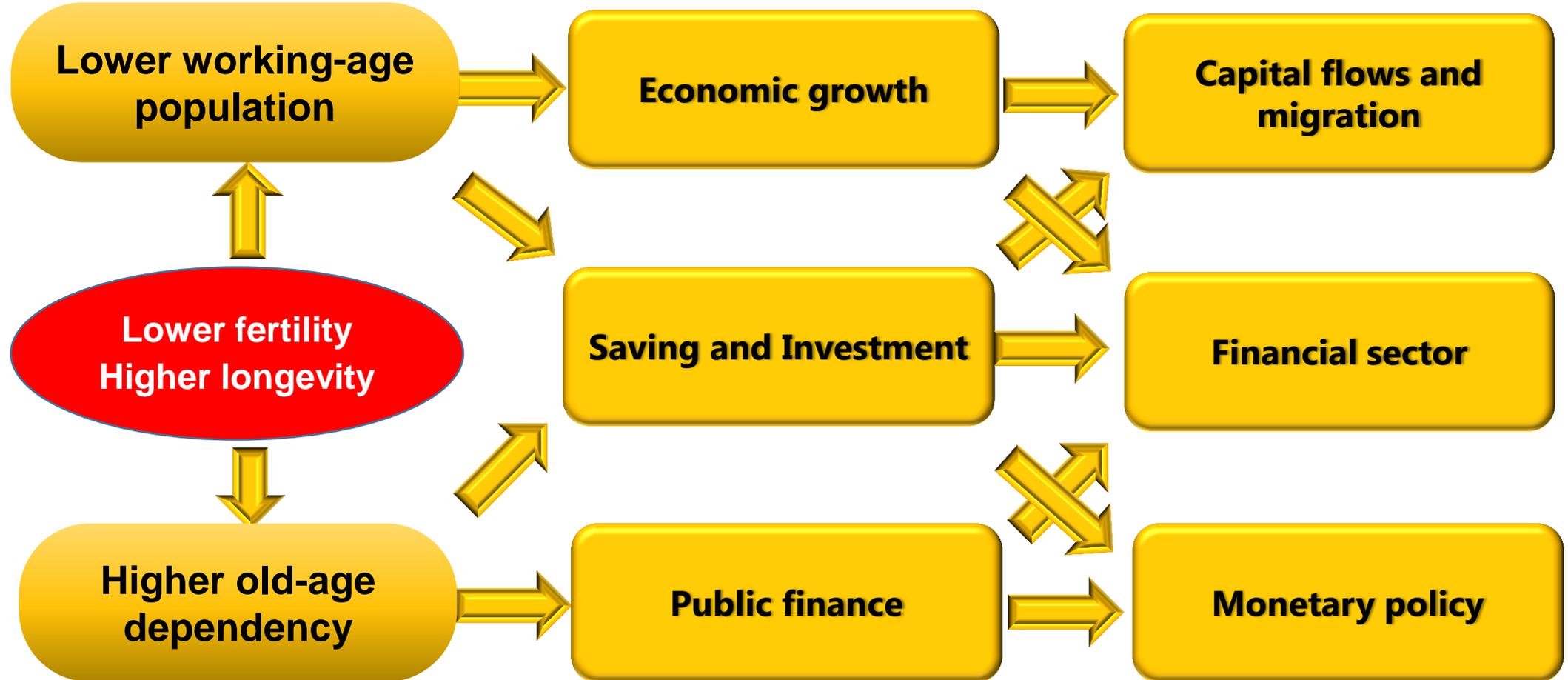
**G20: Old-age dependency ratio**  
(percent)

— Late stage  
— Advanced stage  
— Early stage



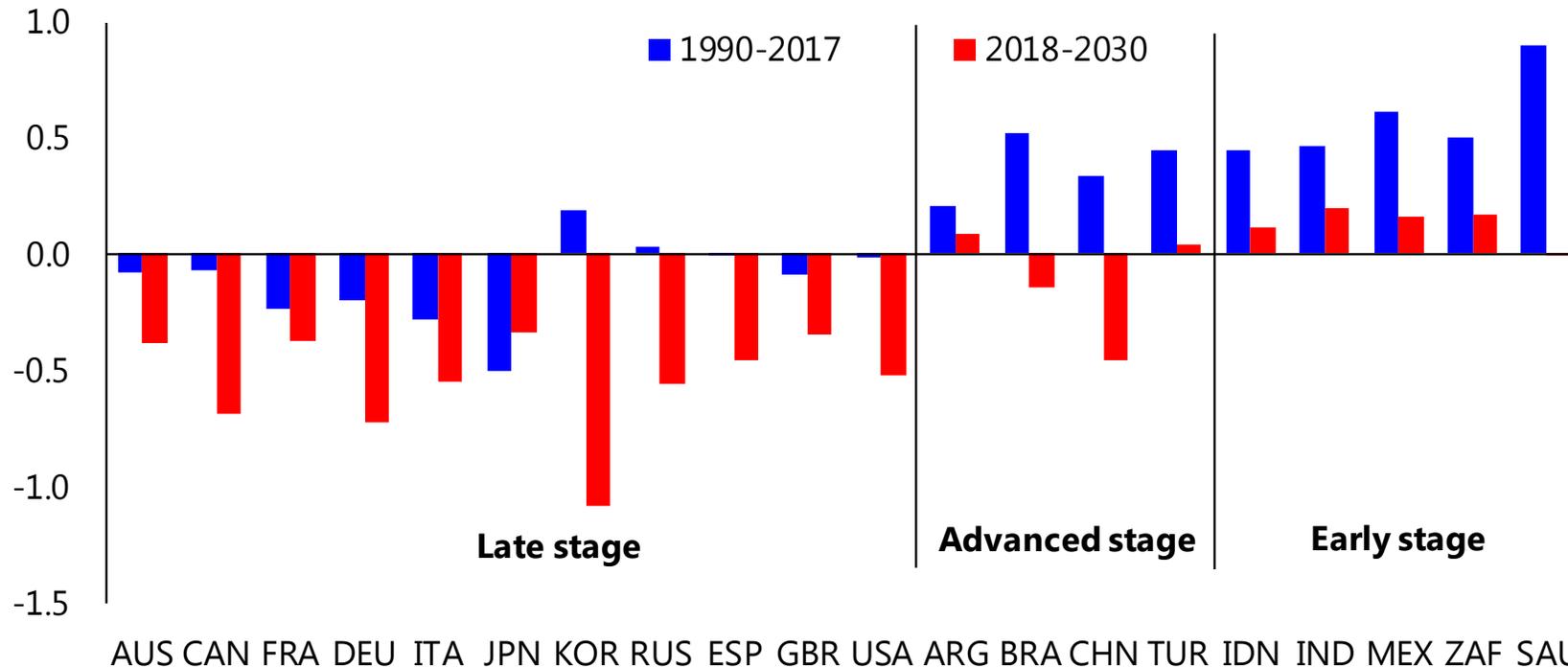
Sources: United Nation (2017); and IMF staff calculations.

# Potential economic impact of aging is multi-faceted.



# A smaller share of workers in total population would likely reduce standards of living.

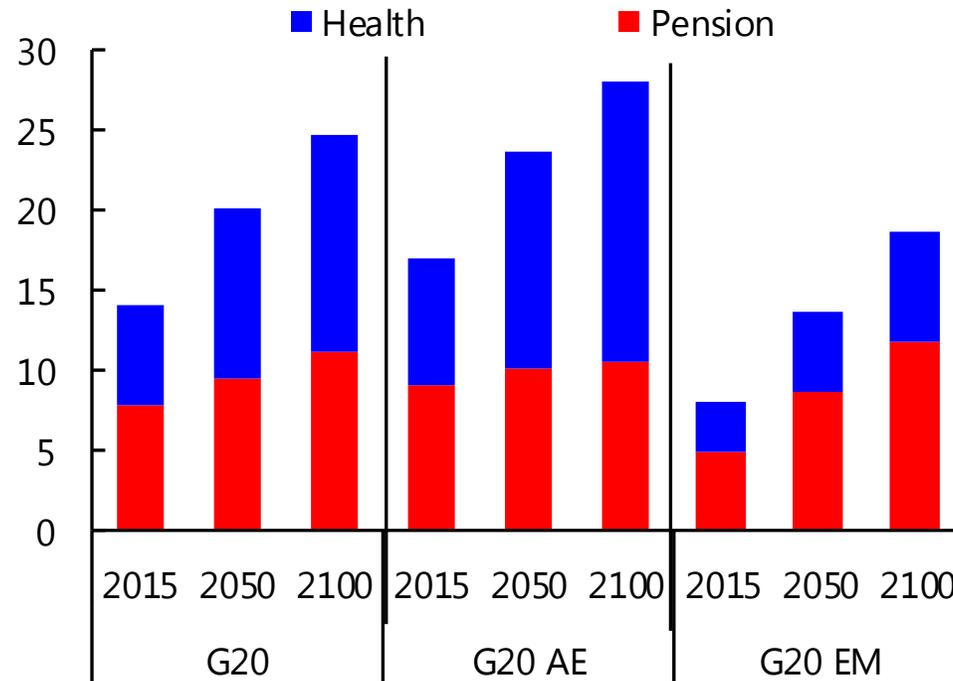
Average annual contribution of the change of the share of the working age population to GDP per capita growth



Source: IMF "G-20 report on Strong, Sustainable, Balanced, and Inclusive Growth".

# Public finances would come under pressure due to aging.

**Age-related spending**  
(percent of GDP; nominal GDP weighted)

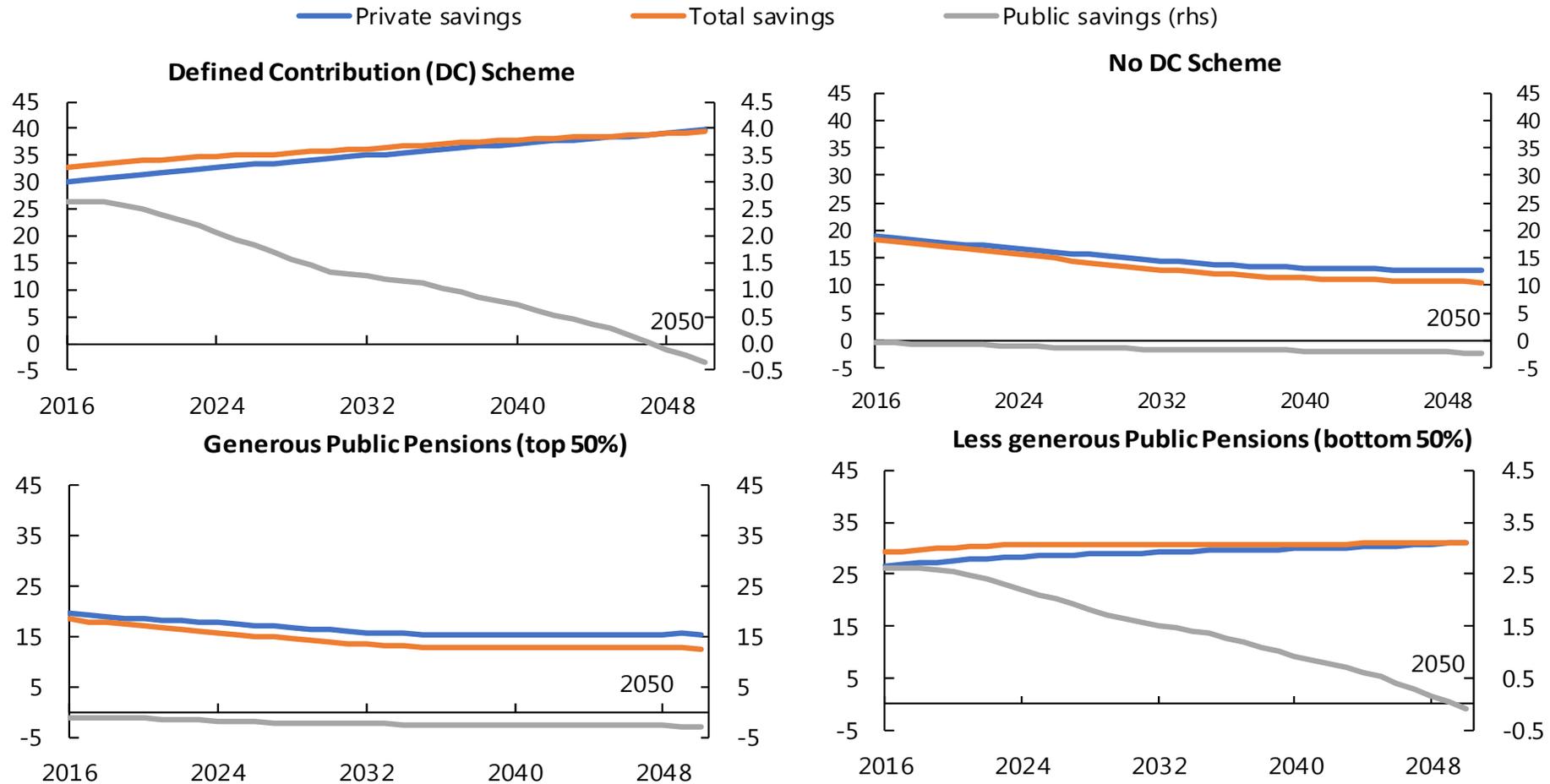


Source: Updated from IMF paper "*Fiscal Policy: How to Assess Fiscal Implications of Demographic Shifts; A Granular Approach*", 2016.

# Institutional frameworks, like pension systems, will affect how private and public savings behave.

## G20 savings

(percent of GDP; nominal GDP weighted)

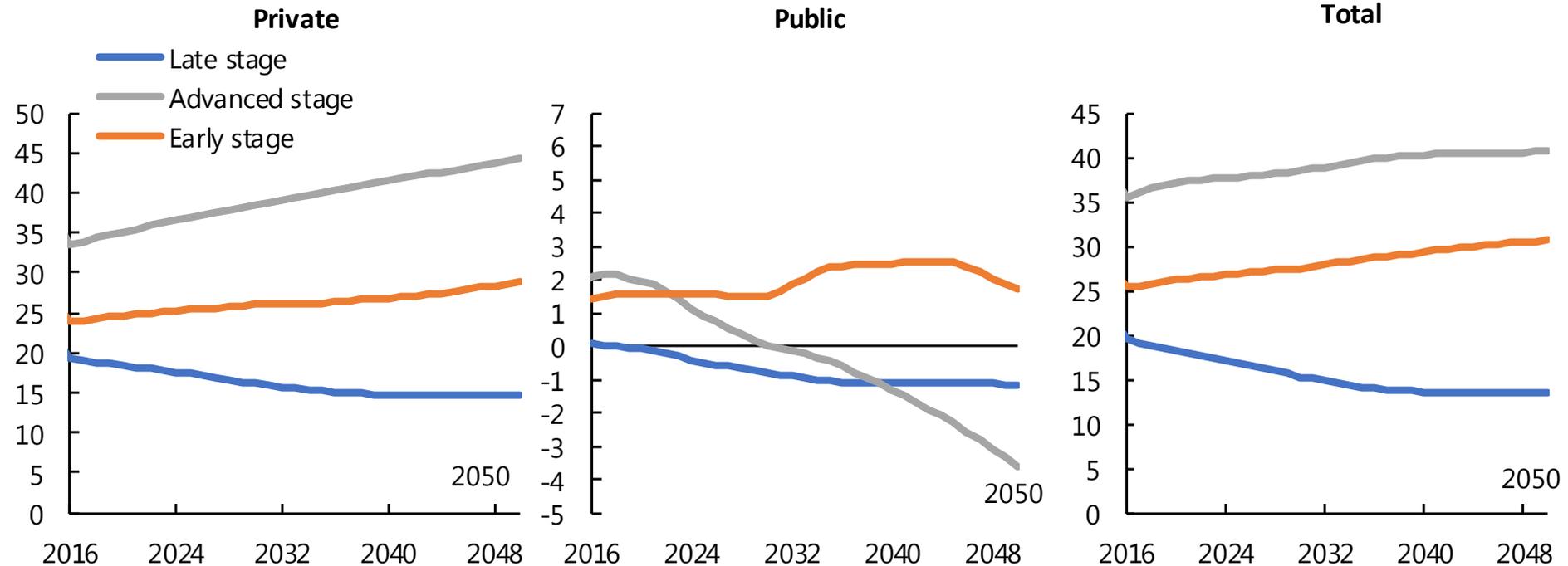


Source: IMF Staff Discussion Note "The Future of Saving: The Role of Pension System Design in an Aging World", 2019.

# Saving behavior would also depend on the stage of demographic transition.

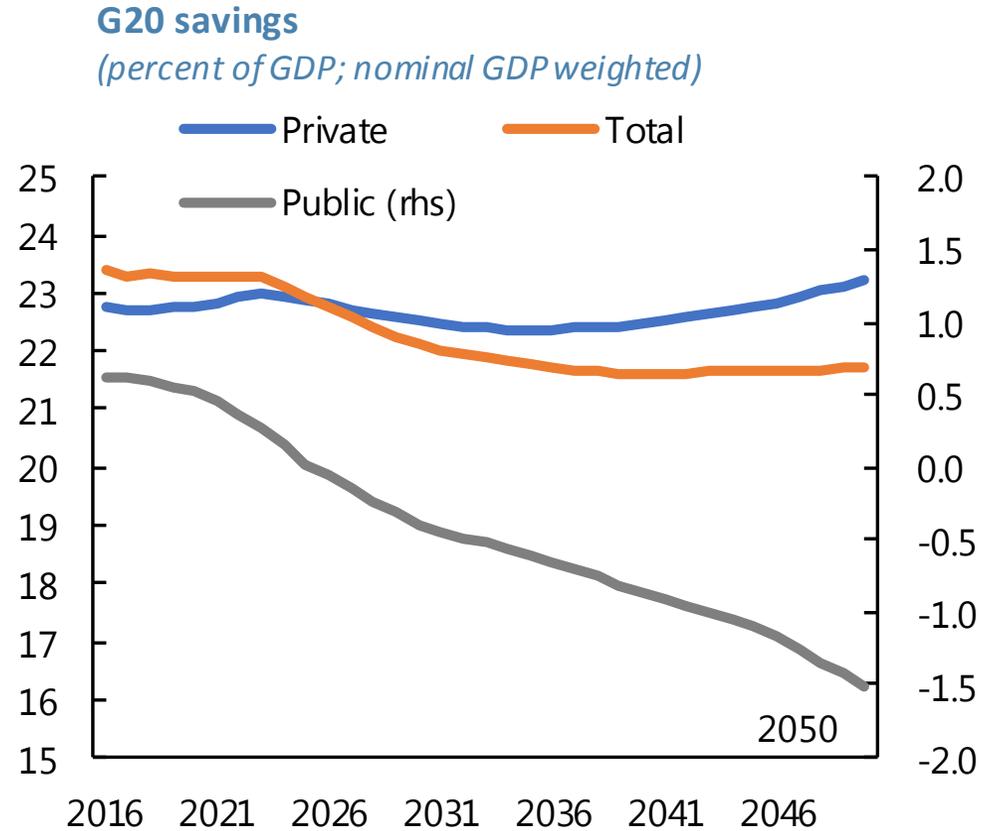
## G20 savings

(percent of GDP; nominal GDP weighted)



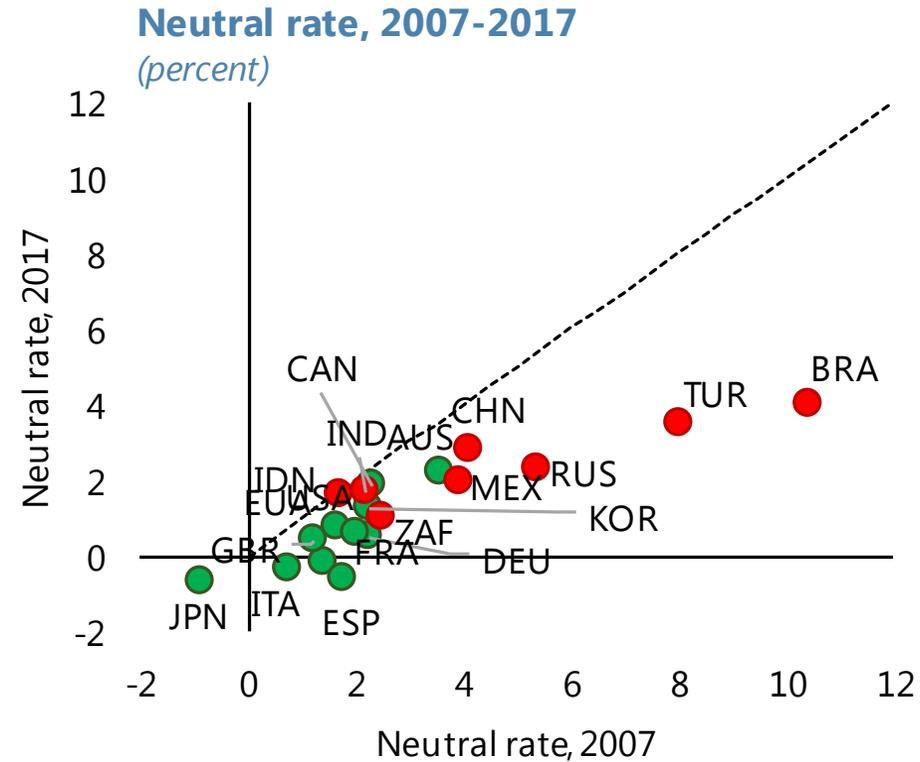
Source: : IMF Staff Discussion Note "The Future of Saving: The Role of Pension System Design in an Aging World", 2019.

Overall, total G20 saving would slightly decline with aging.



Source: IMF Staff Discussion Note "The Future of Saving: The Role of Pension System Design in an Aging World", 2019.

# Aging could create challenges for monetary policy.

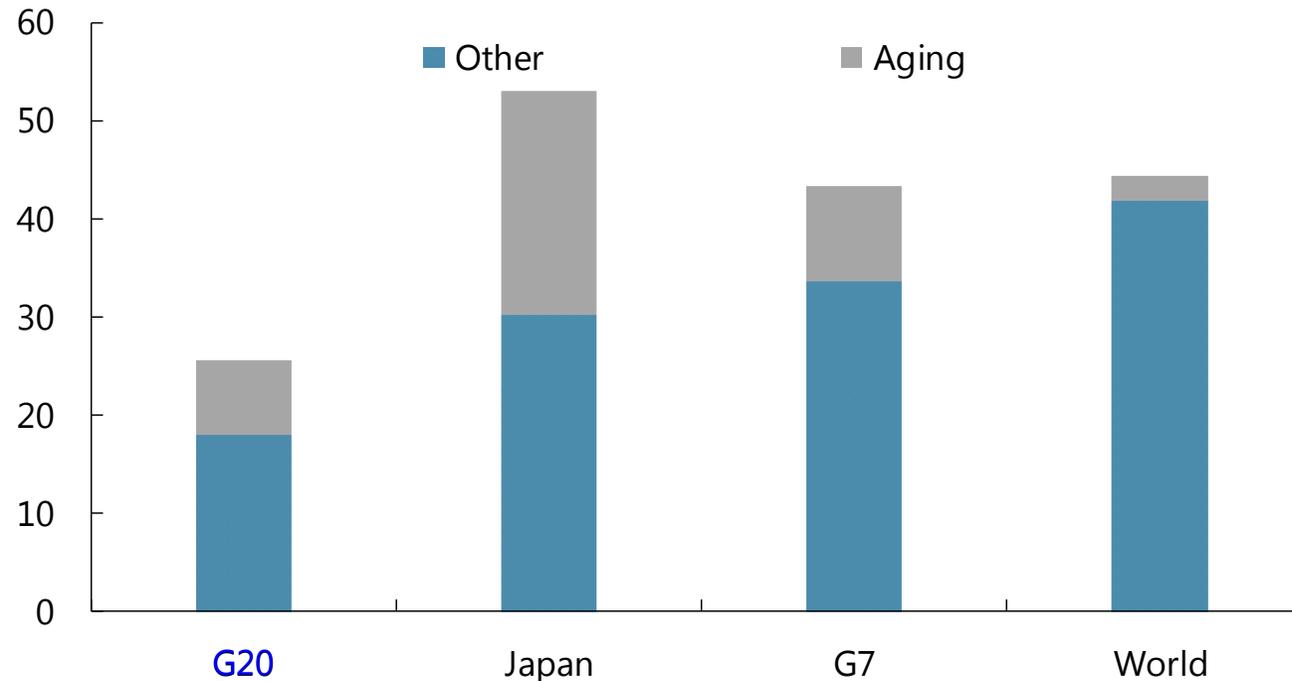


Source: IMF "G-20 report on Strong, Sustainable, Balanced, and Inclusive Growth", 2018.

# Aging could also impact the financial system and its stability.

## Increase in market-based finance and aging, 1990-2005

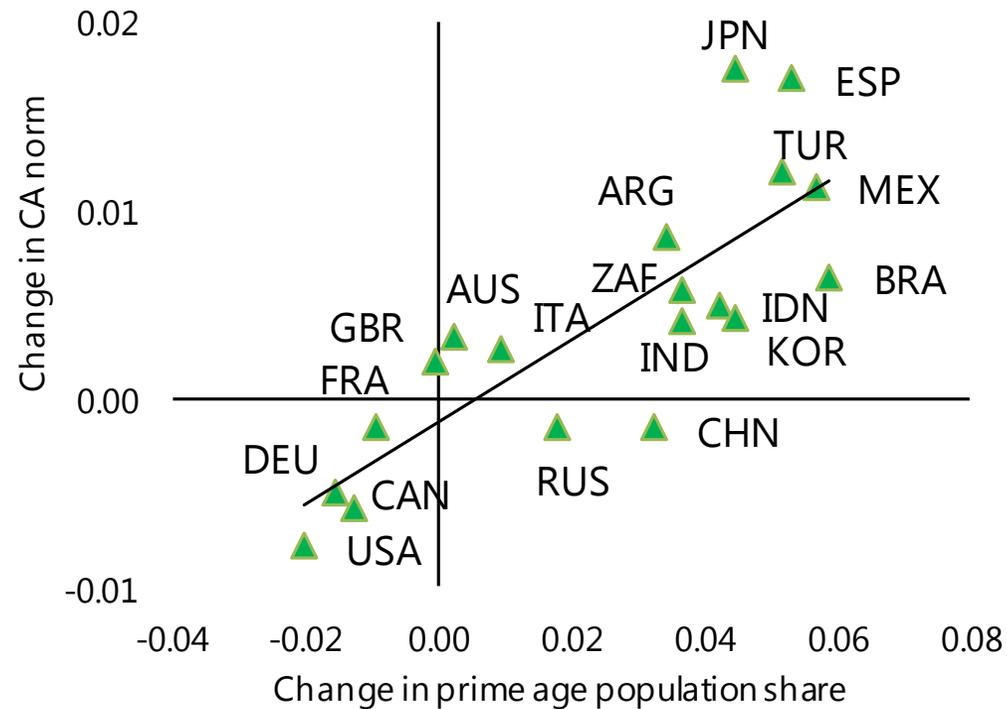
(percentage points)



Source: Updated from IMF country report "*Japan : Financial Sector Assessment Program-Technical Note-Long-Term Challenges for Financial Intermediation*", 2017.

# Aging has implications for current account dynamics.

Change in prime age population share vs. change in CA norm, 2018-2030  
(percentage points)



Source: IMF staff calculations based on the IMF *External Sector Report*, 2018.

# Policy Implications

## **Mitigate effect of aging**

- Raise labor participation
- Raise productivity

## **Avoid monetary policy mistakes and put financial markets to work**

- Calibrate monetary policy
- Facilitate expansion of age-specific financial services

## **Counter fiscal pressures**

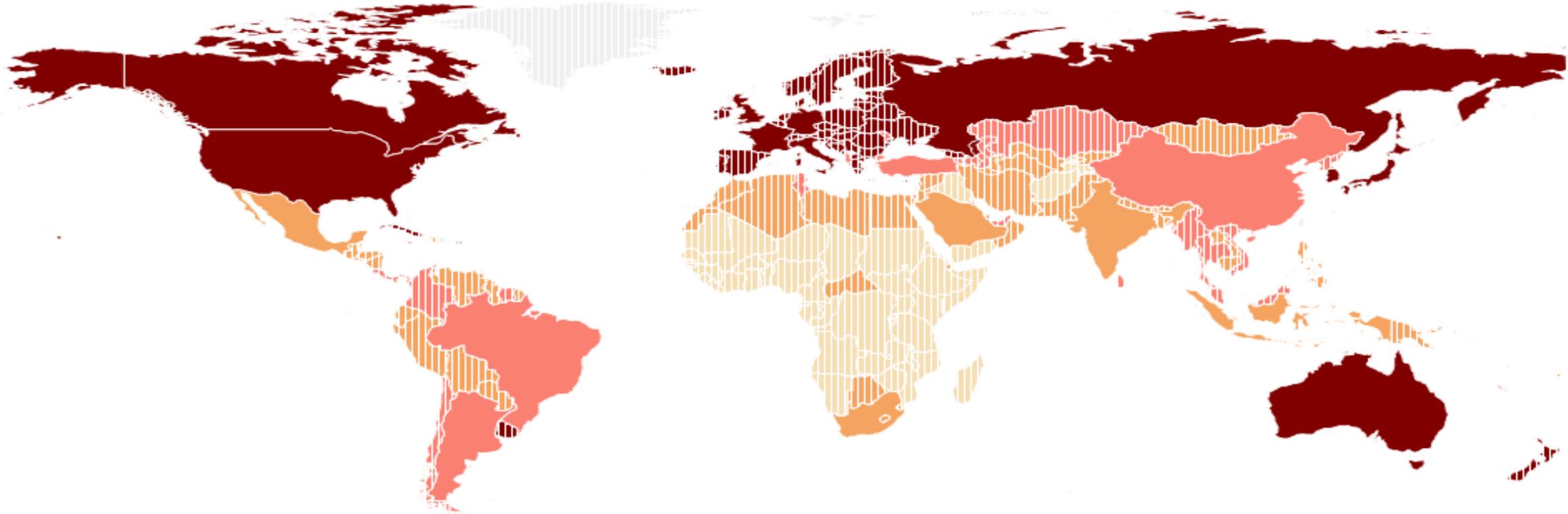
- Strengthen fiscal framework, improve tax system and enhance public spending efficiency
- Reform public pension and healthcare systems

## **Allow global risk sharing**

- Allow adjustment in CA due to aging

**Thank You!**

# Demographic transitions across countries



- Late stage
- Advanced stage
- Early stage
- Prior stage
- ▨ Non-G20 countries