

THE IMPACTS OF DEMOGRAPHIC CHANGE: JAPAN'S EXPERIENCE AND IMPLICATIONS FOR THE US

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Bank of Atlanta and The Japan-America Society of Georgia
(“US-Japan Now--Economic Impacts of Ageing”)**

PART 1

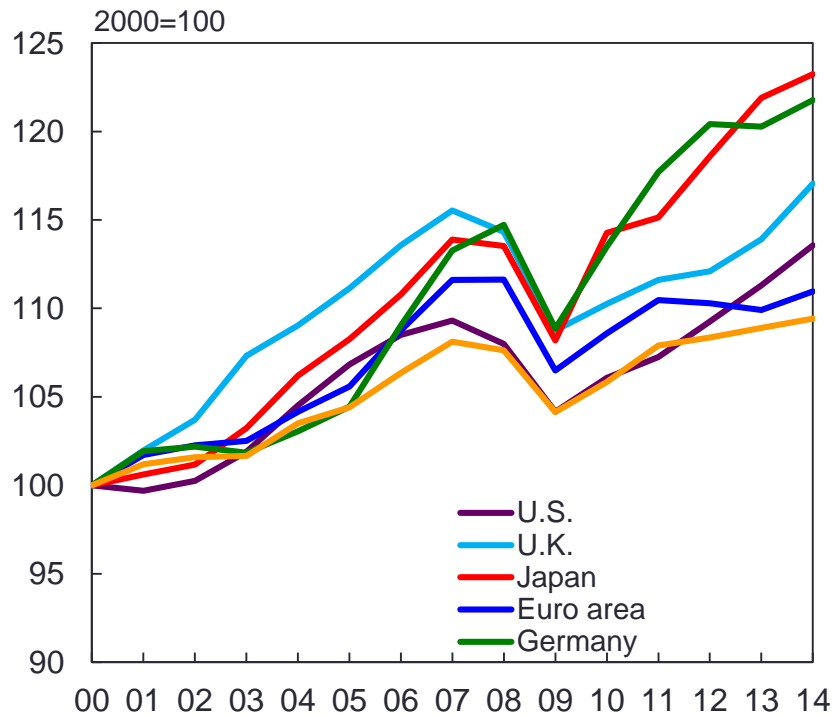
Why am I talking about demographics?

Quiz

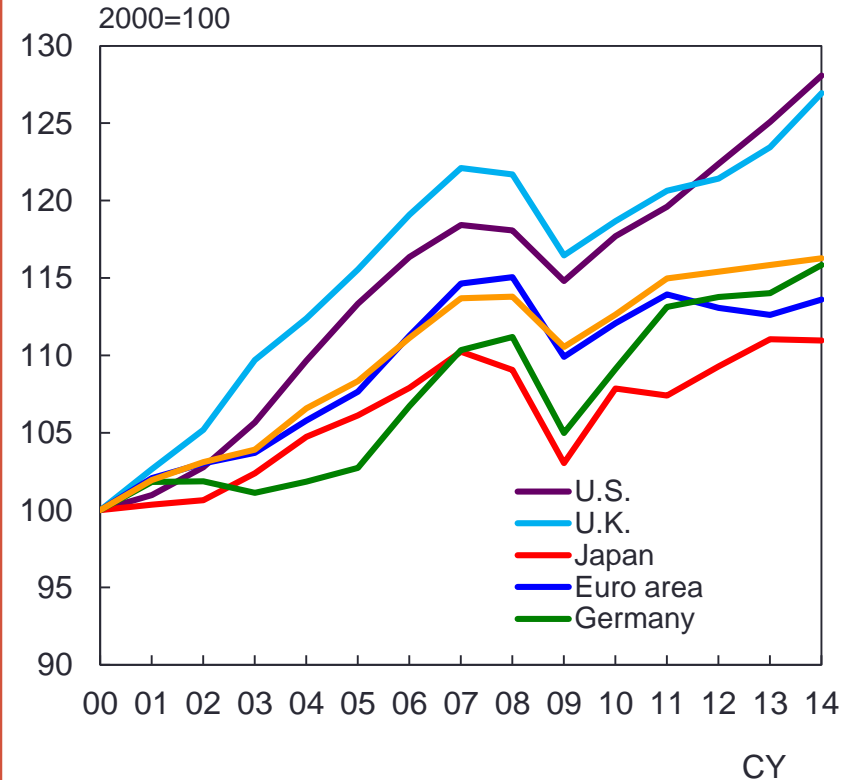
Which advanced economy has recorded the highest growth of GDP per working-age population --people aged 15 and 64--in the past 5 years, 10 years and 15 years?

The answer is Japan, though it may sound counter-intuitive

GDP per working-age population



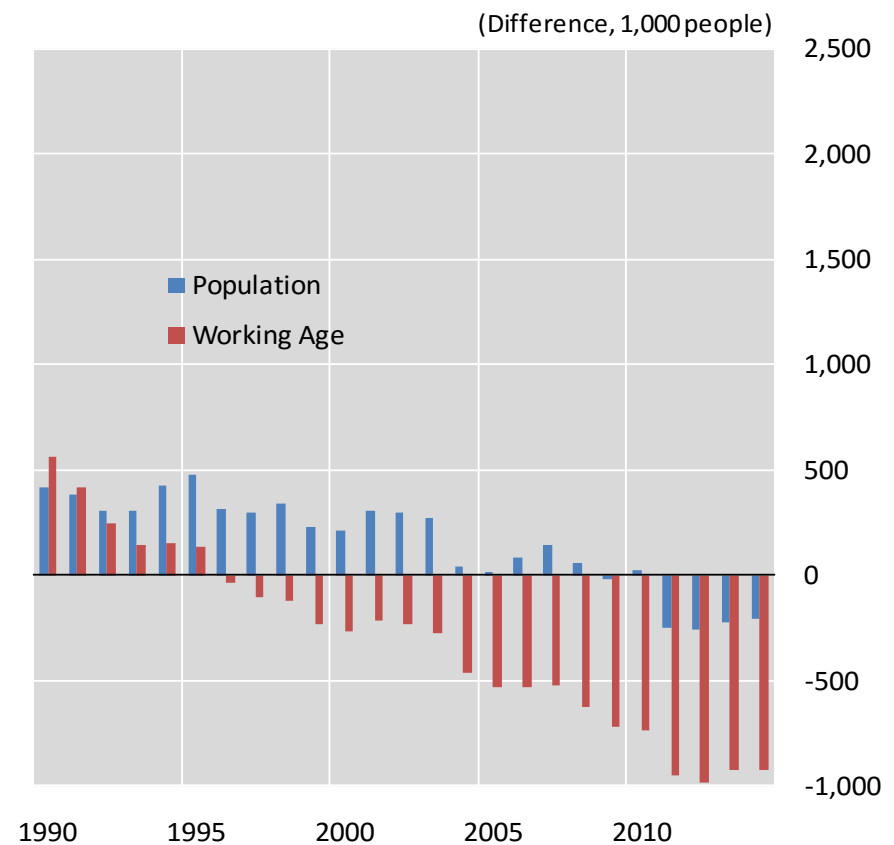
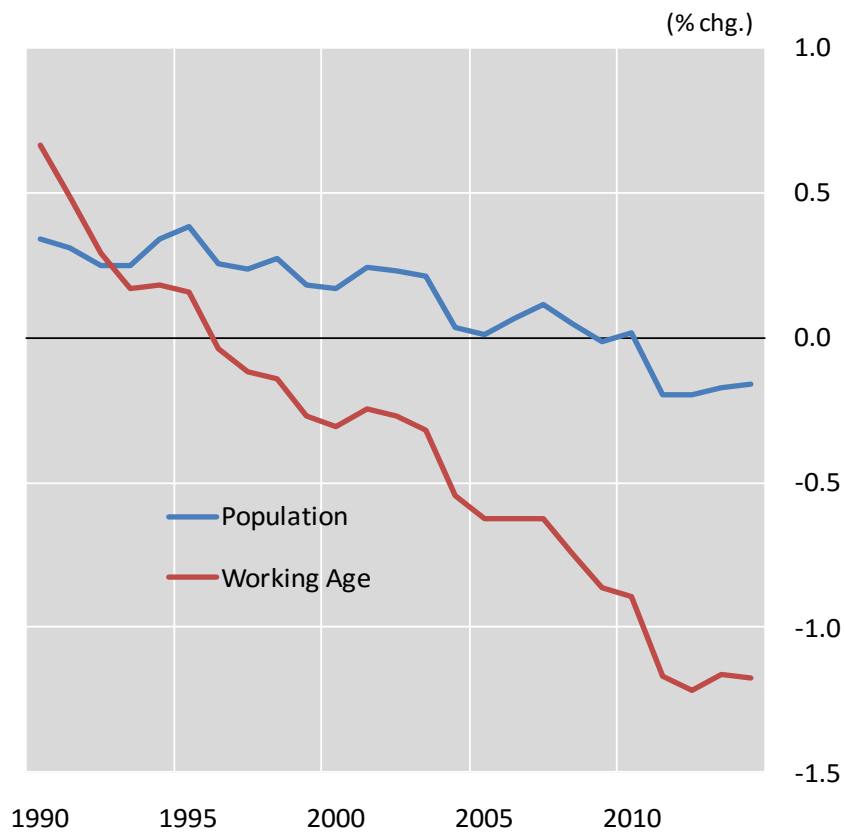
GDP



Implications

- A decade is long enough for us to neglect the impact of rapid ageing
- Japanese economy is not so bad as is implied by expressions frequently used in media and policy circle--"lost decade(s)", deflation plagued country, etc.
- But a sober fact is that people who can actually work is now shrinking in both absolute number and relative terms. What is important as a society is not GDP per working-age population but GDP per capita
- **Fundamental challenge facing Japanese economy is demographic change:**
 - Rapid ageing
 - Declining population

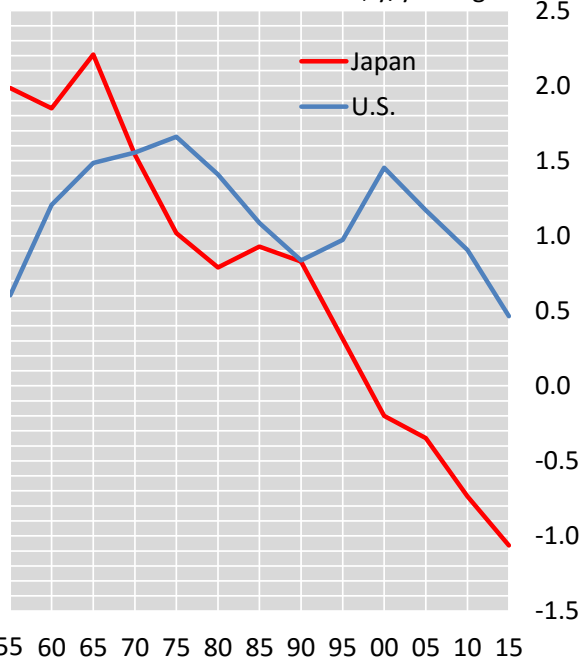
Working-age population in Japan is now decreasing by one million every year



Demographics: Japan and the US

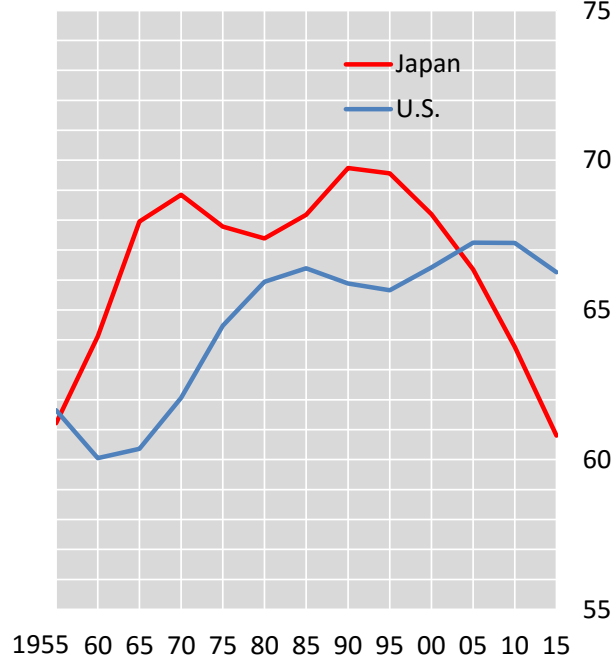
Growth of working-age population

ave., y/y % chg.



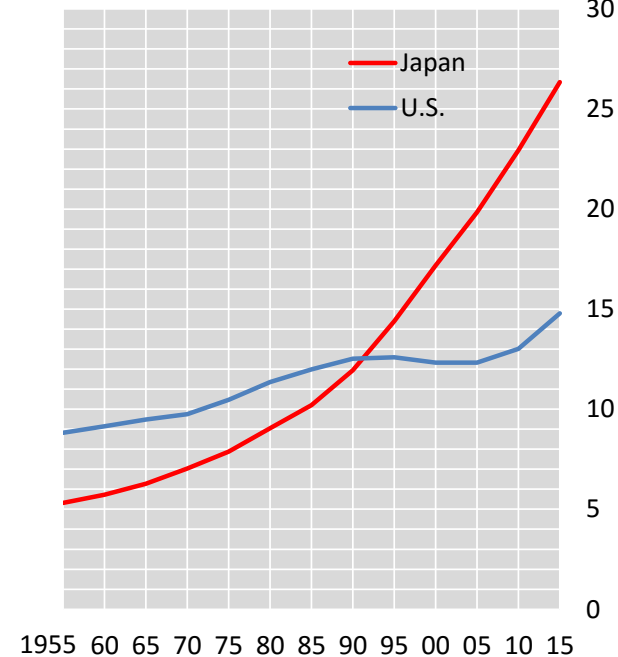
Share of working-age population

%



Share of population Aged over 65

%



Note: Working-age population means the aged between 15 and 64 years.

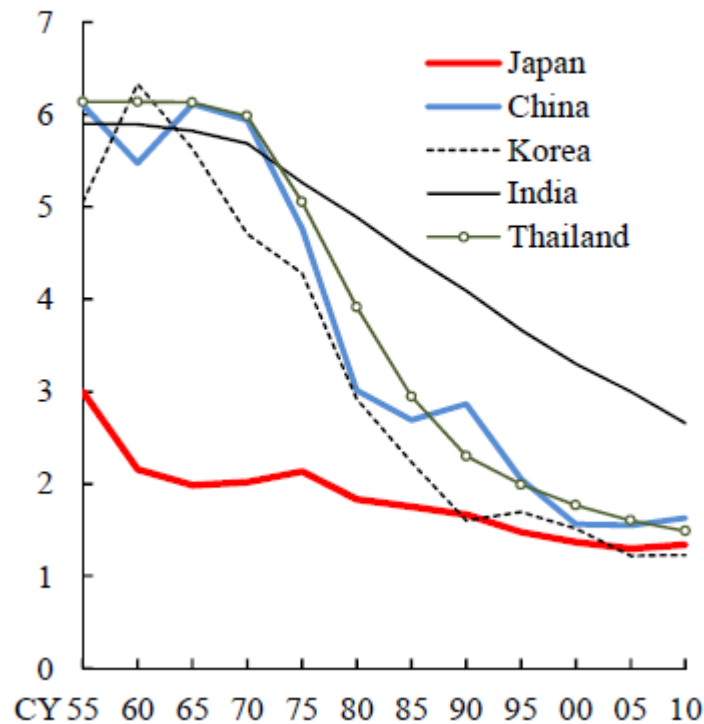
Source: United Nations.

Motivation of my talk today

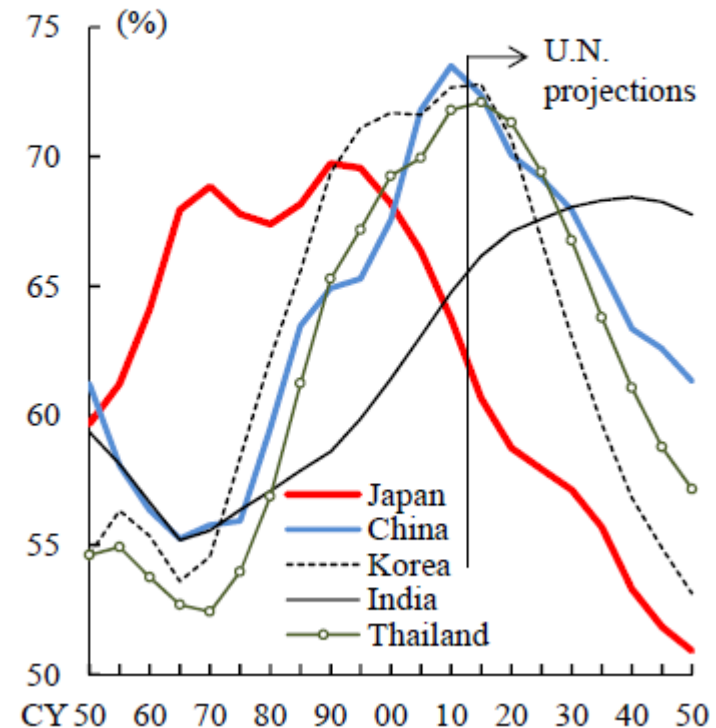
- Explaining about the importance of demographics by using Japan's experience as a quintessential example
- This is important for the rest of the world as well:
 - The US is no exception, being faced with demographic challenges though less severe
 - Challenges are acute for emerging Asia, especially for China in decade to come. ⇒ SLIDE 9
- Unfortunately, wrong lessons are often drawn from Japanese experiences, which I am afraid might misguide macro economic policies in other countries
 - A case in point is debate on deflation which is grossly exaggerated ⇒ SLIDE 10,11
- I, too, had to confess I was ignorant about the importance of demographics 30 years ago and quite dismissive of the argument by "alarmist"
- My main message is to be prepared!

Japan is a forerunner. Other Asian countries including China are following suit

Fertility Rate

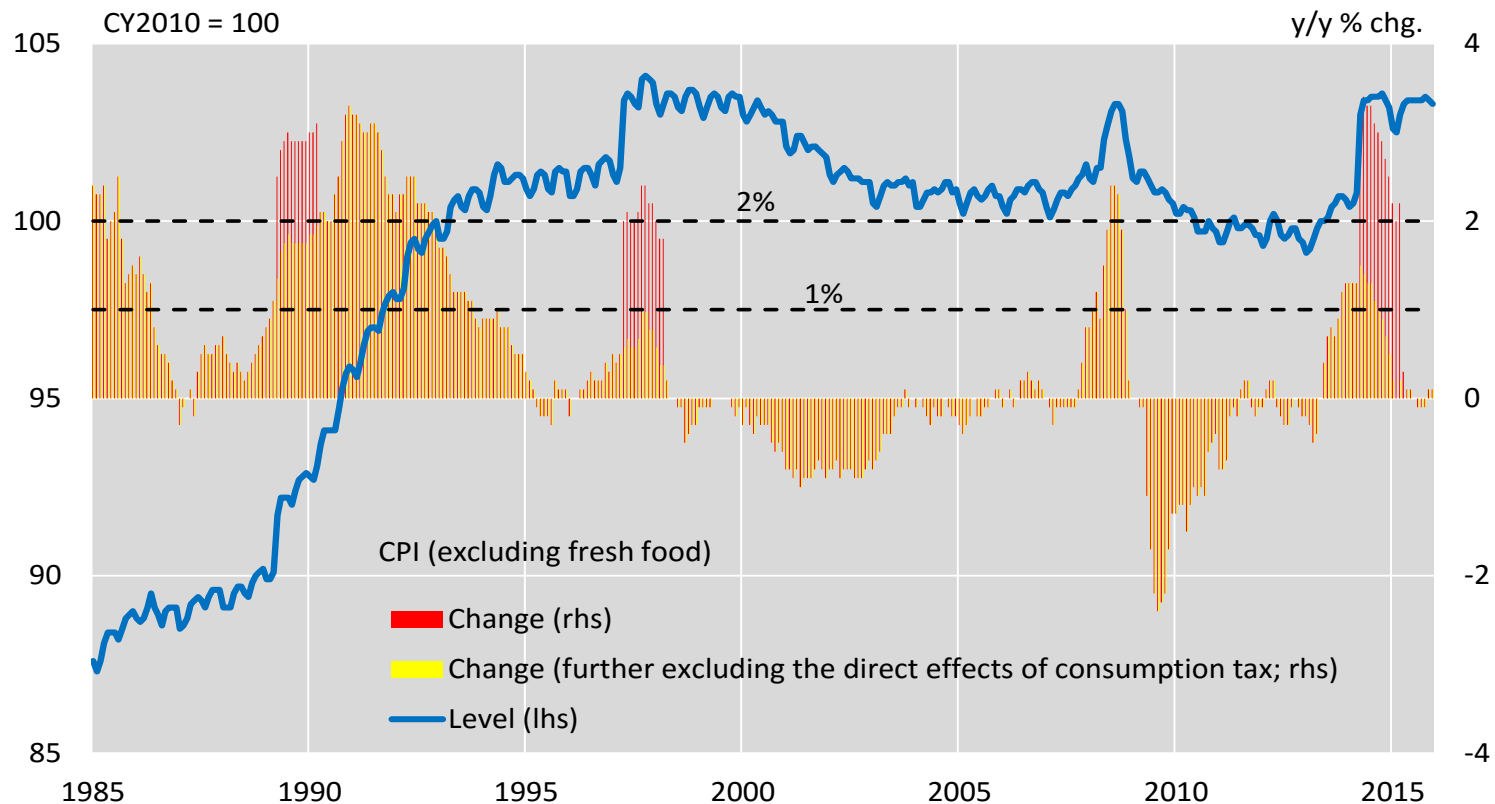


Working-Age Population Ratio



Yes, Japan experienced mild deflation but that is not the root cause of the problem

CPI inflation rate in Japan



Japan's GDP growth rate and contribution of components: boosting potential growth is a key

	2012 4Q/ 2009 4Q	2015 4Q/ 2012 4Q
GDP	3.9	1.9
Consumption	2.4	-1.0
Residential investment	0.4	-0.1
Business investment	1.2	0.8
Private inventory	1.0	0.3
Government expenditure	0.4	1.0
Net export	-1.4	0.7
(Export)	0.9	(2.6)
(Import)	(-2.2)	(-1.9)

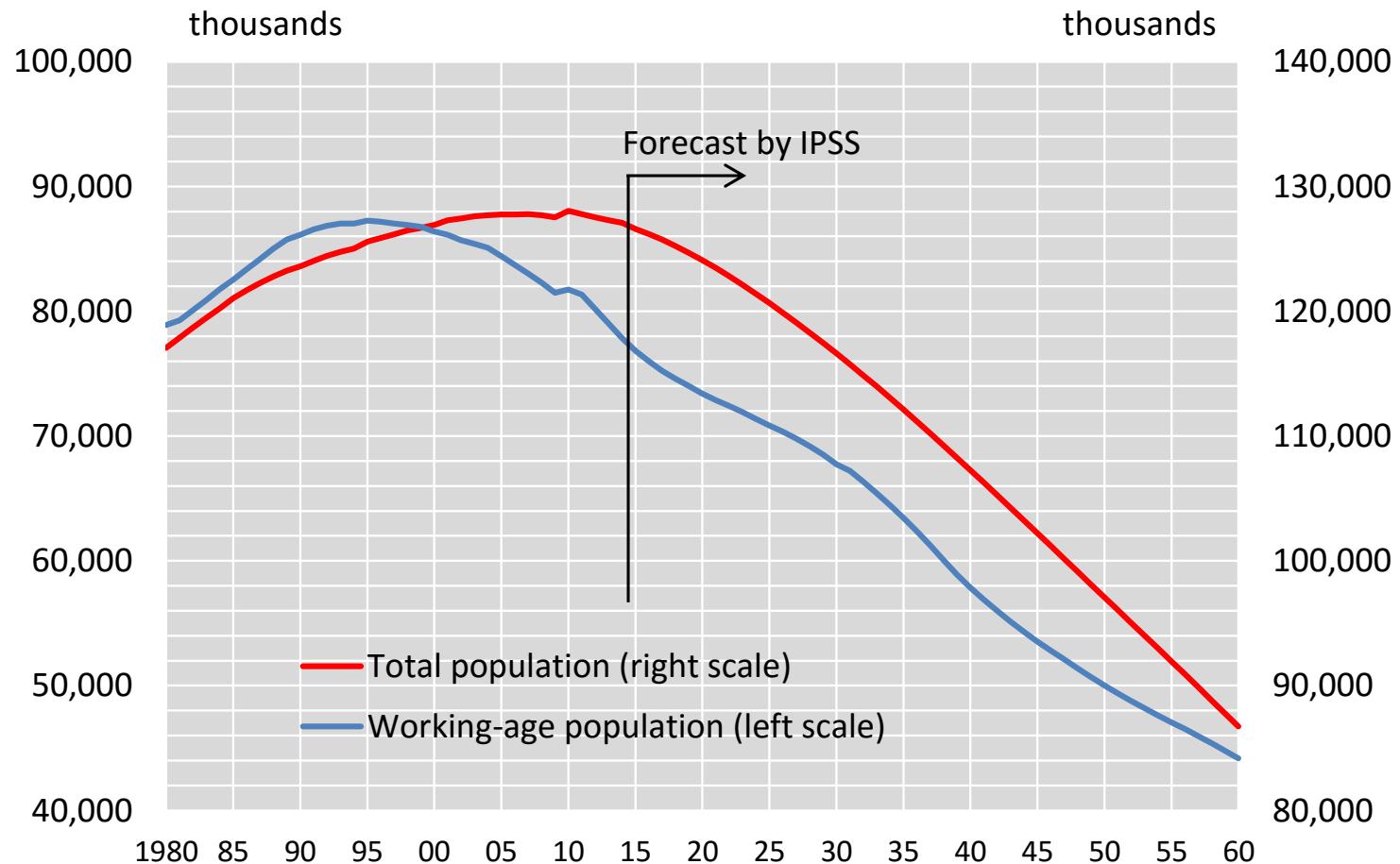
PART 2

How demographics--rapid ageing and lower fertility rate-- affects the Japanese economy?

Demographics affects the society and the economy in various manners

- Today, I will focus mainly on the first.
 1. **Growth and Inflation**
 2. Real estate prices and financial system
 3. Differing impact on regional economy
 4. Balance of payments
 5. Social security and government finance

Japan's long-run demographic projection is very dire



Note: Working-age population means the aged between 15 and 64 years.

Sources: Ministry of Internal Affairs and Communications; National Institute of Population and Social Security Research.

The net impact of ageing on growth is likely negative, though its mechanism is complex

Negative

1. Shrinking domestic market (demand side) and declining labor force (supply side) ⇒ SLIDE 16
2. The impact of ageing on political process (“Silver democracy”) ⇒ SLIDE 17
3. Relative decline in innovators who are generally young ⇒ SLIDE 18

Positive

4. Technological innovation induced by demographic change

Long-run factors

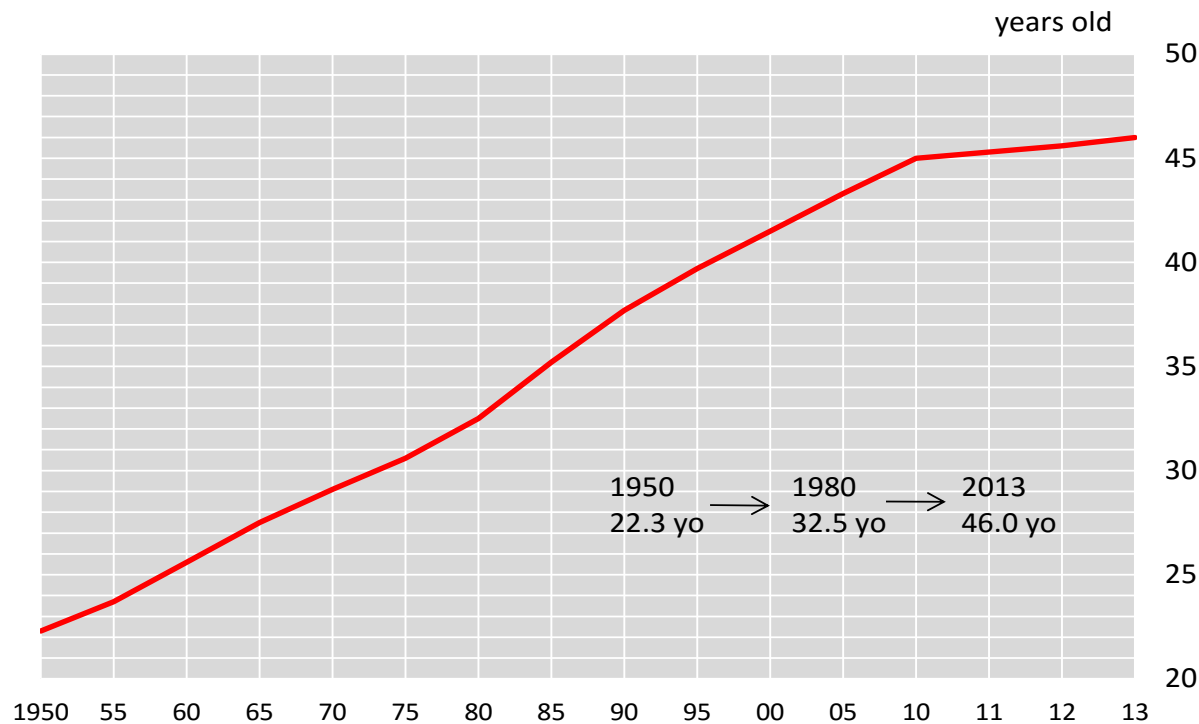
5. Fertility rate
6. Immigration

Projection of Japan's potential growth in decades to come: demographic headwind

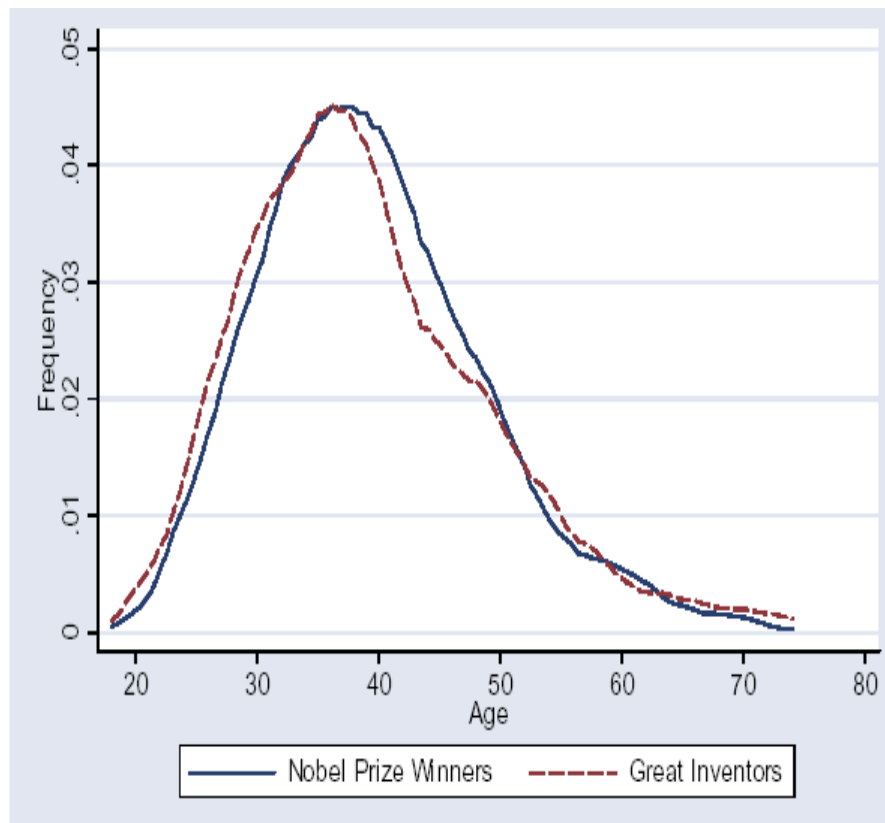


“Silver democracy”: delay in social security/ fiscal reform and inclination toward short-sighted, less growth friendly policy

Does democracy work well in shrinking economy?



The Age Distribution of Great Innovation



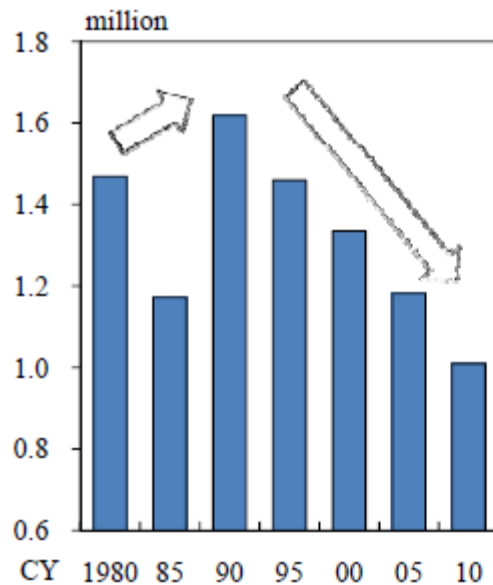
Benjamin F. Jones, "Age and Great Invention" (Working Paper 11359, National Bureau of Economic Research, May 2005)

The process and mechanism that ageing affects growth and inflation change over time

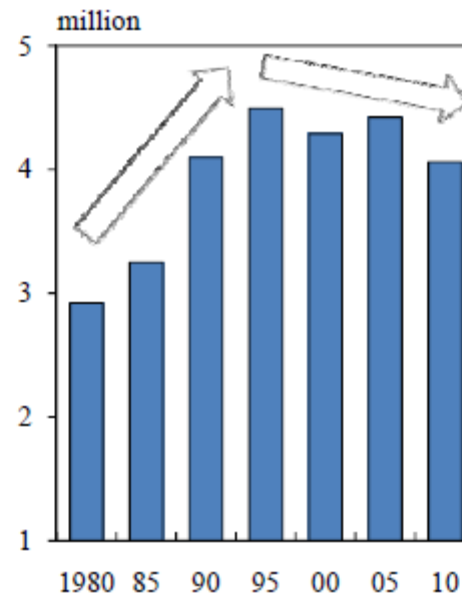
- **First stage: Anticipation of ageing**
 - An expected decline in future demand depresses current expenditure ⇒ SLIDE 20
- **Second stage: Transition toward a new steady state with fewer population**
 - Actual decline in productive capacity due to decrease in working-age population dominates
 - Subsequent decline in “effective” working-age population
 - ∴ Very aged people needs growing number of caring and nursing people ⇒ SLIDE 21,22
- **Third stage: New steady state with fewer population?**

Domestic spending: change in composition and gradual contraction

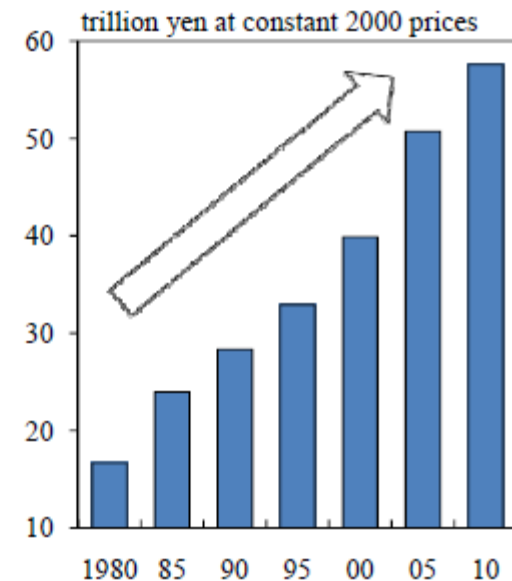
Housing Starts



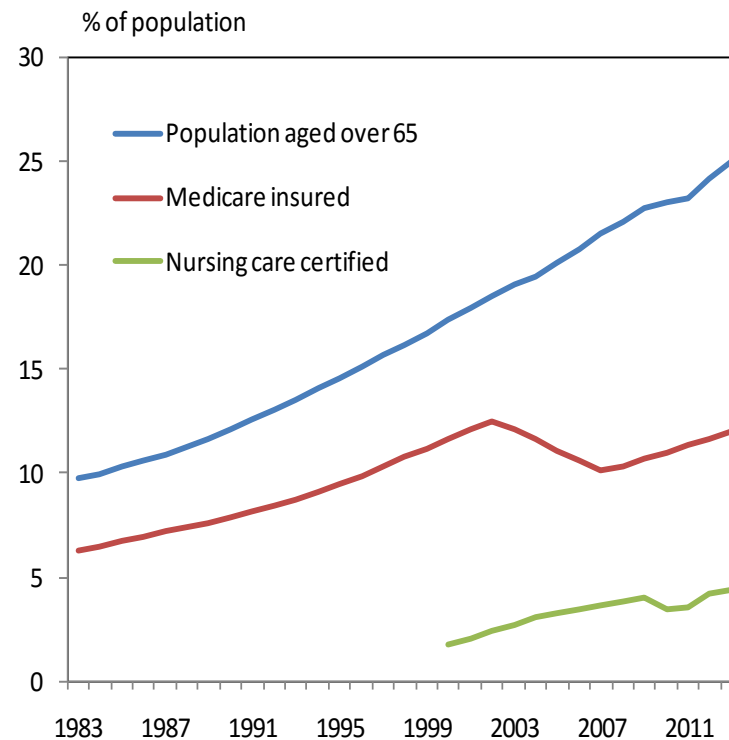
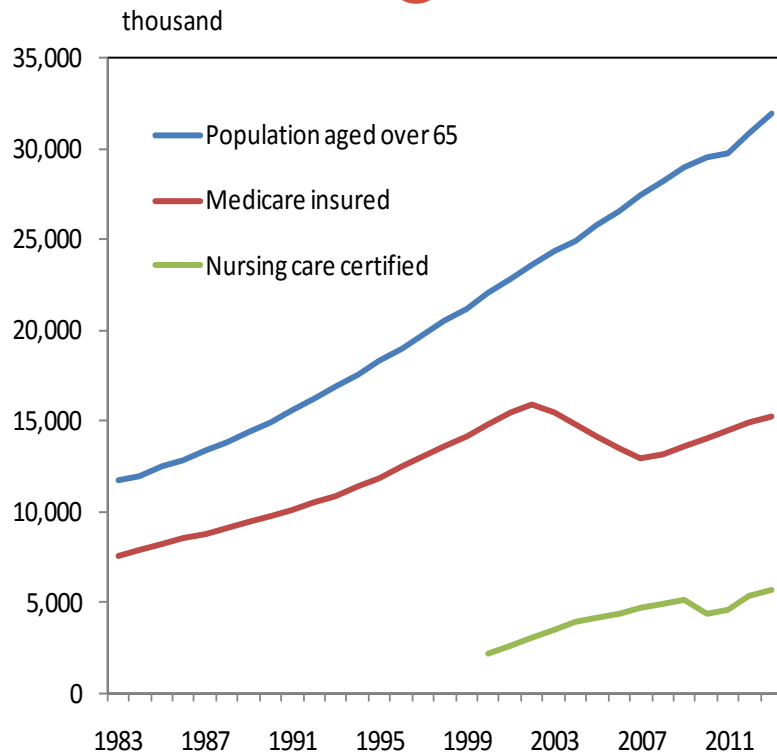
Domestic Car Sales



Real Output in the Medical and Health Care Industry



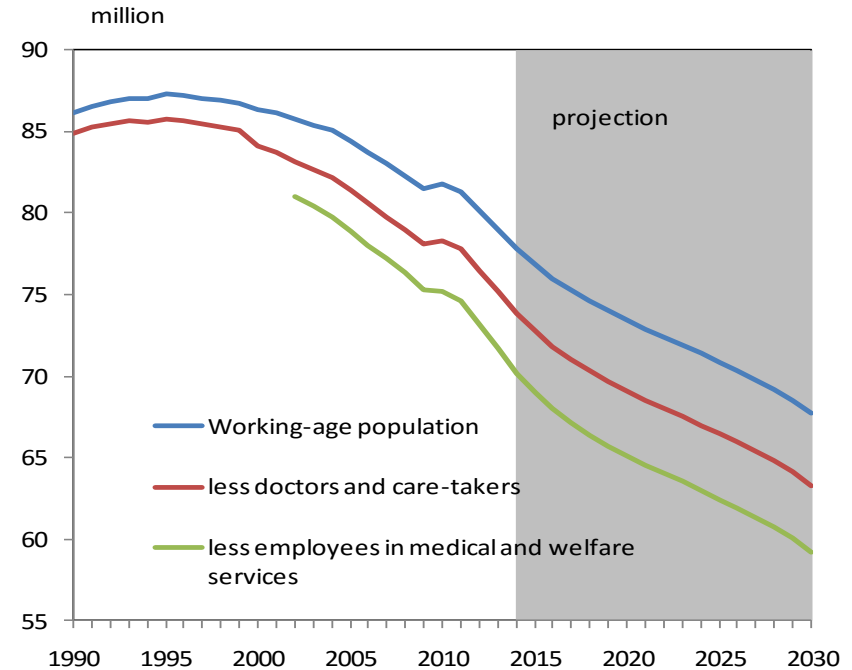
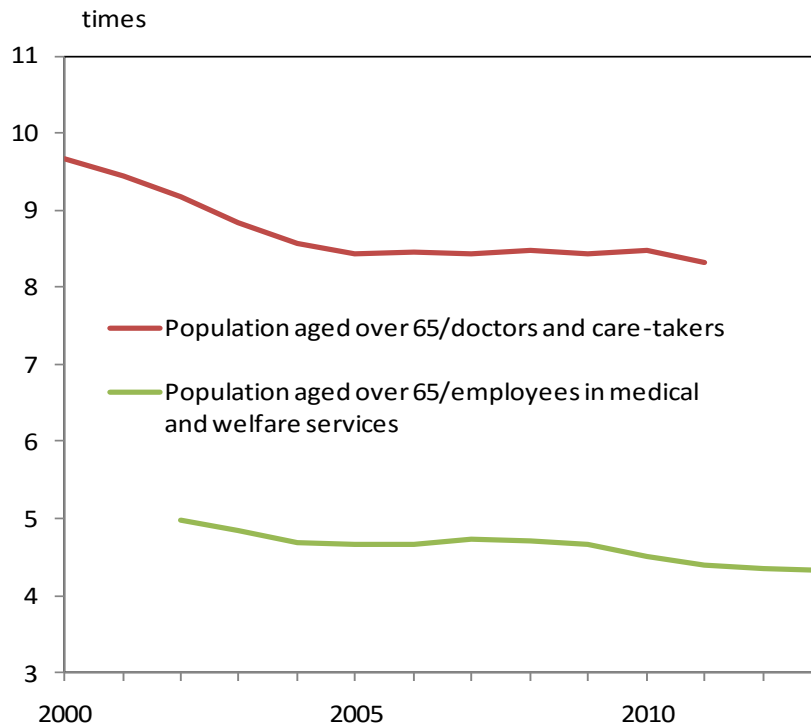
Increased demand for medicare and nursing care service “absorbs” labor



Note: Eligibility for Medicare insurance (senior-stage) was changed from “over 70 years old” to “over 75 years old”. That change was phased in from 2002 to 2007. Nursing care insurance started from 2000.

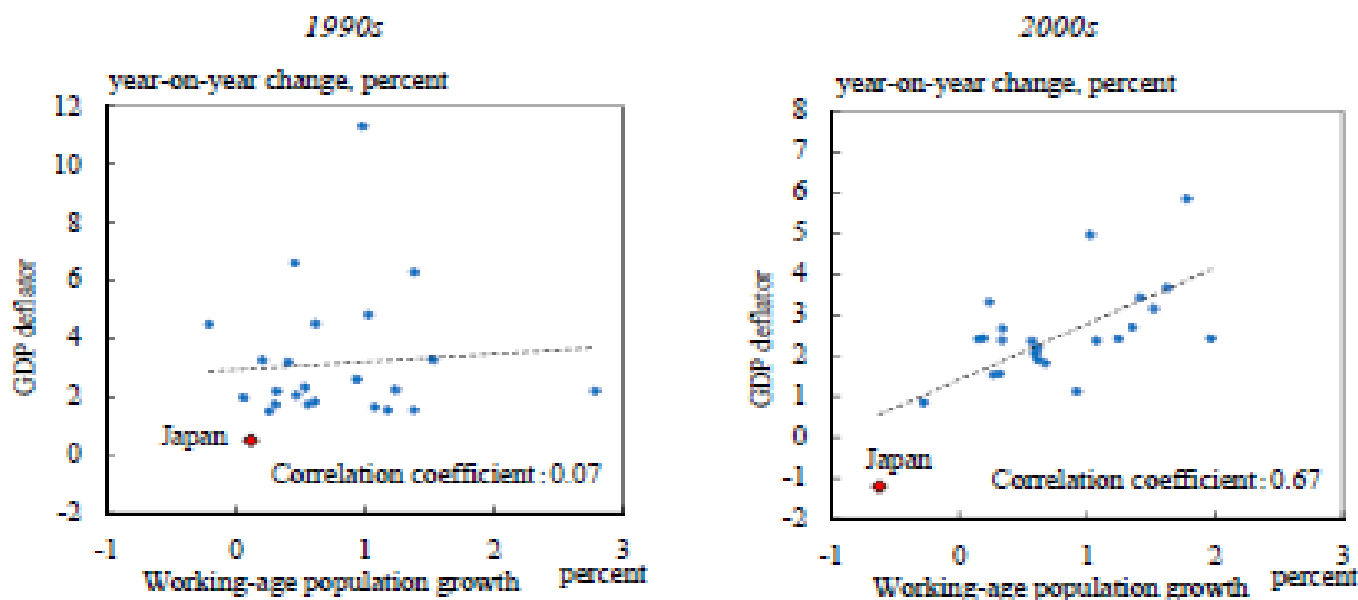
“Effective” working-age population decreases more than actual working-age population

The current ratio of population aged over 65 to people engaged in medical and welfare services is assumed constant, although it is likely to increase.



Demographics also affect time profile of inflation rate, even though it is not a dominant determinant

We come to observe positive correlation between inflation rate and growth rate of working-age population among OECD countries in the recent decade. Is this just a spurious correlation?

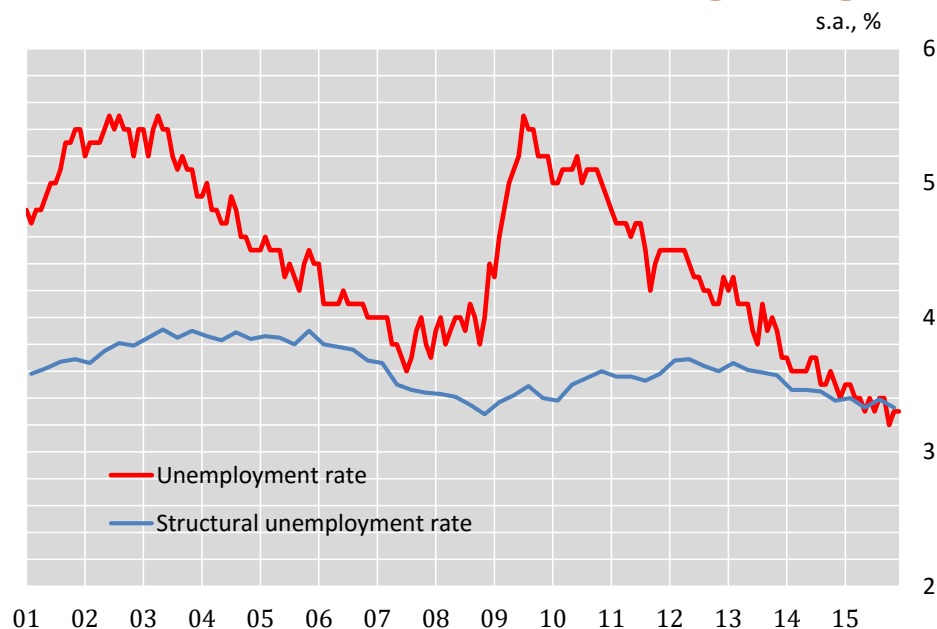


Note: For the 24 countries where the data are available among those that joined the OECD by the 1990s.
Source: OECD.

The time profile and mechanism that ageing affects inflation rate

- First stage: **deflationary pressure** (other thing being equal)
 - Expectation of a decline in future demand precedes actual decline in productive capacity
- Second stage: **inflationary pressure** (other thing being equal)
 - Actual decline in productive capacity due to decrease in workforce create inflationary pressure. ⇒ **SLIDE 25**
- Third stage: **neutral as long as fiscal sustainability is maintained**. However, if this condition is not met, either high inflation or financial system instability is a consequence

Labor market in Japan is now tightening amid rapid decline in working-age population



	Year 2005-2010	Year 2010-2015
Change in unemployment rate (% points)	+0.7	-1.7
Change in labor participation rate (% points)	-0.8	0.0
Change in working-age population (thousands)	-2,687	-4,917
Change in employed person (thousands)	-580	+780
Aged people (thousands)	+750	+1,600
Female (thousands)	+230	+980

Note: The structural unemployment rate is estimated by the Japan Institute for Labour Policy and Training.

Sources: Ministry of Internal Affairs and Communications; National Institute of Population and Social Security Research.

PART 3

Possible lessons for other countries

#1 Don't be dismissive of the impacts of demographics: “Demographics matters a lot”

People tend to underestimate the importance of demographic change

Several observations

- It is a very slow-moving picture. Population continued to increase long after fertility rate decline below replacement level because of longer longevity.
- The peak of “population bonus” (late 1980s) coincided with the bubble which masked underlying problem
- Once society goes beyond a critical point of ageing, it is hard to forge a politically feasible consensus because of conflicting interests between generations
- People just do not want to hear gloomy story. Instead, easy explanation for Japan's low growth—deflation-- is offered, though this is not the root cause of the problem facing Japan

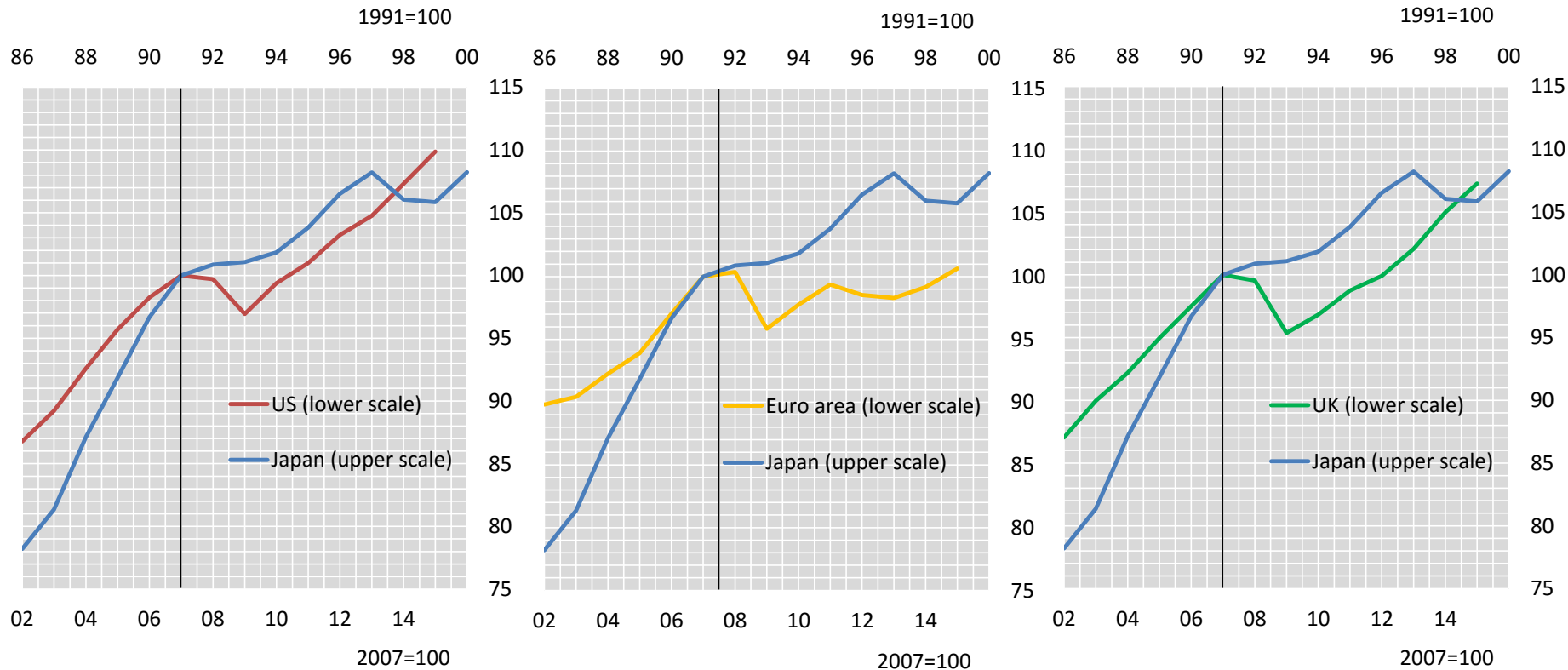
Academic economists were generally optimistic. Issues are so intractable

- Analysis called for is so disparate that economists and policymakers alike tend to inadvertently downplay the importance demographics, despite the fact that long-run is cumulative “short-run”
- Yes, economists incorporate “young” and “old” in overlapping generation model. But still their focus is on “steady state”
- Real challenge for society and, for that matter, policymakers and economists is the transition from one “steady state” to another

#2: Don't draw wrong lessons from Japanese experience

- Deflation, albeit mild, was often identified as the cause of the low growth of Japan, which led to monetary policy activism globally
- But the fundamental problem is not deflation but demographics
 - Aggressive monetary policy is not making much difference so far ⇒ **SLIDE 11, 30**

Low growth in post-bubble period: Japan in 1990s and US and Europe since 2007



#3: We do not have one-size-fits-all solution for demographic change

- The manner in which demographics affects the economy and needed policy response vary
- Each society has different dynamics of politics, economy and culture.
 - Labor market practice
 - The role of family
 - Immigration
 - History as an important factor shaping society's response
 - Economic and demographic conditions of neighboring countries

PART 4

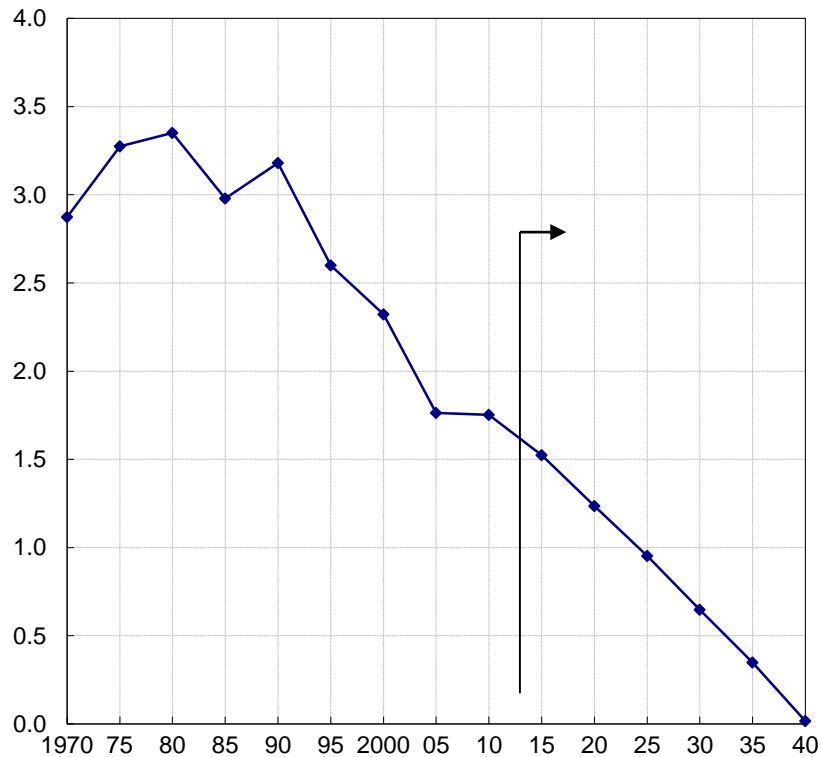
The US economy: A view from Japan's
experience of demographics

In the US, direct impact of demographics on growth is projected to be less severe

- Qualitatively, both Japan and the US are the same ⇒ **SLIDE 7**
- Mitigating factors:
 - The US has still higher fertility rate, compared with Japan
 - The US accepts far more immigration
 - Diversity due to receiving immigration is functioning like a “magnet” of attracting young entrepreneur
 - On top of that, the US could learn right lessons from the “aged countries” like Japan and take decisions before adverse political/social dynamics kicks in
- Important caveat
 - Growth of working-age population of sending emigrants to the US is also declining ⇒ **SLIDE 34**

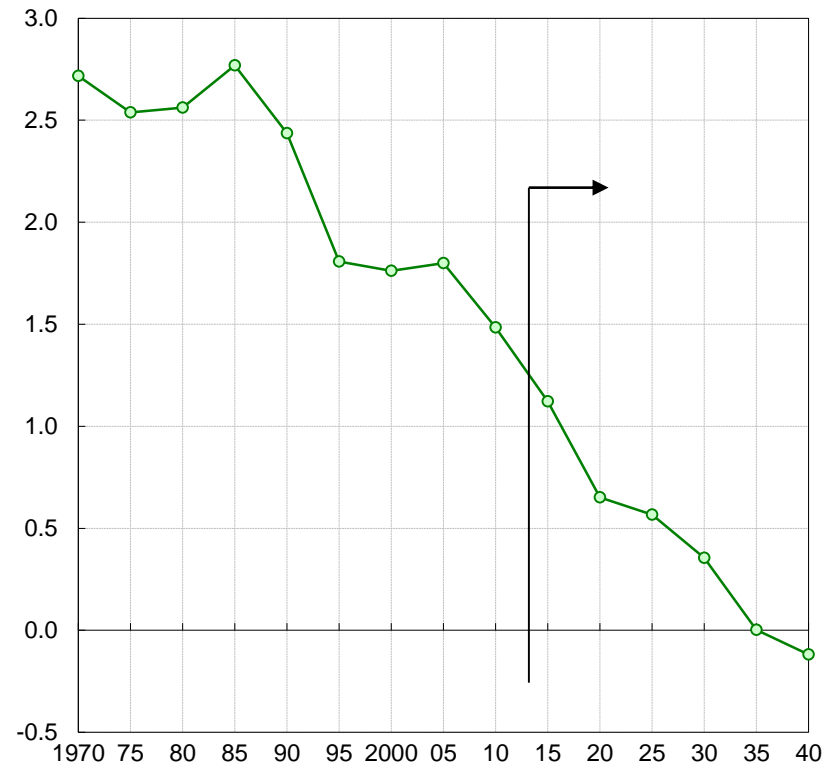
Annual growth of working-age population of countries sending emigrants to the US

Mexico



Source: Ryutaro Kono (BNP Pariba)

Top 10 countries in terms of US immigrant



Viewed from the US, demographic impact on global economy and its subtle effect on monetary policy responses are more important

- Secular stagnation?
- Monetary policy activism on a global scale
- Its possible impact on global financial system

Thank you for your attention.

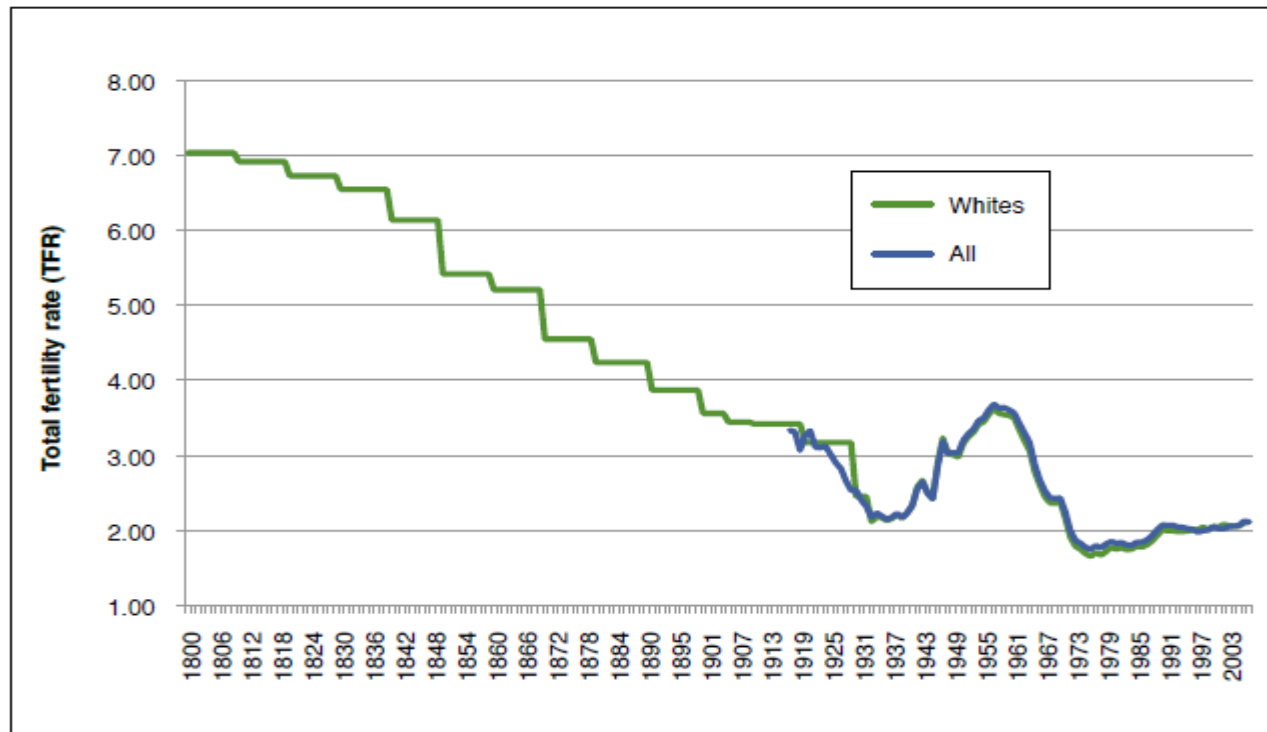
ANNEX:
**Some issues that I hope economists will
tackle**

#1 In terms of population growth, is “negative” just a number below zero or special?

- My observation is that negative is “special”. Fundamental reason is social, political and economic dynamics resulting from negative population growth tends to make achieving stationary population growth difficult.
- Counter-argument is possible. So far, we focused mainly on advanced economies and emerging economies. But after all, world population is growing rapidly, especially in African countries. If we look at issues from truly global perspective, how does my observation change?

#2 After all what determines long-run trend of fertility rate?

Figure 17. Historical Trend in U.S. Total Fertility Rate, by Race: 1800–2007



Source: Human Fertility Database; National Vital Statistics Reports (NVSr), Volume 58, Number 24, August 2010.

Report to the Social Security Advisory Board (September 2011)