

TOWARDS FURTHER RESEARCH IN DEMOGRAPHICS

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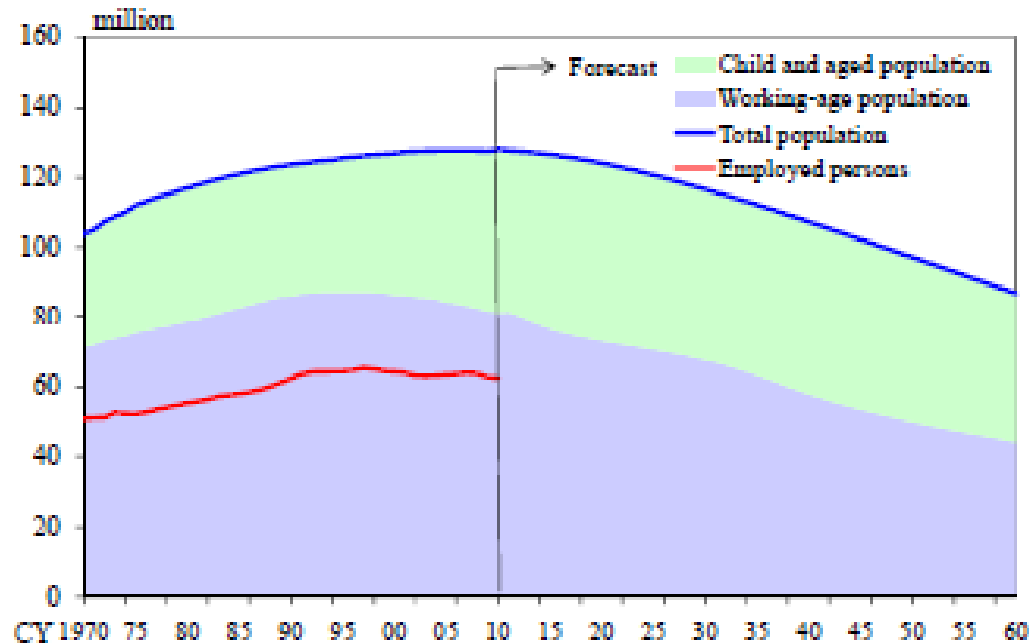
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Societal Ageing and the Japanese Economy,
Symposium hosted by the Graduate School of Economics
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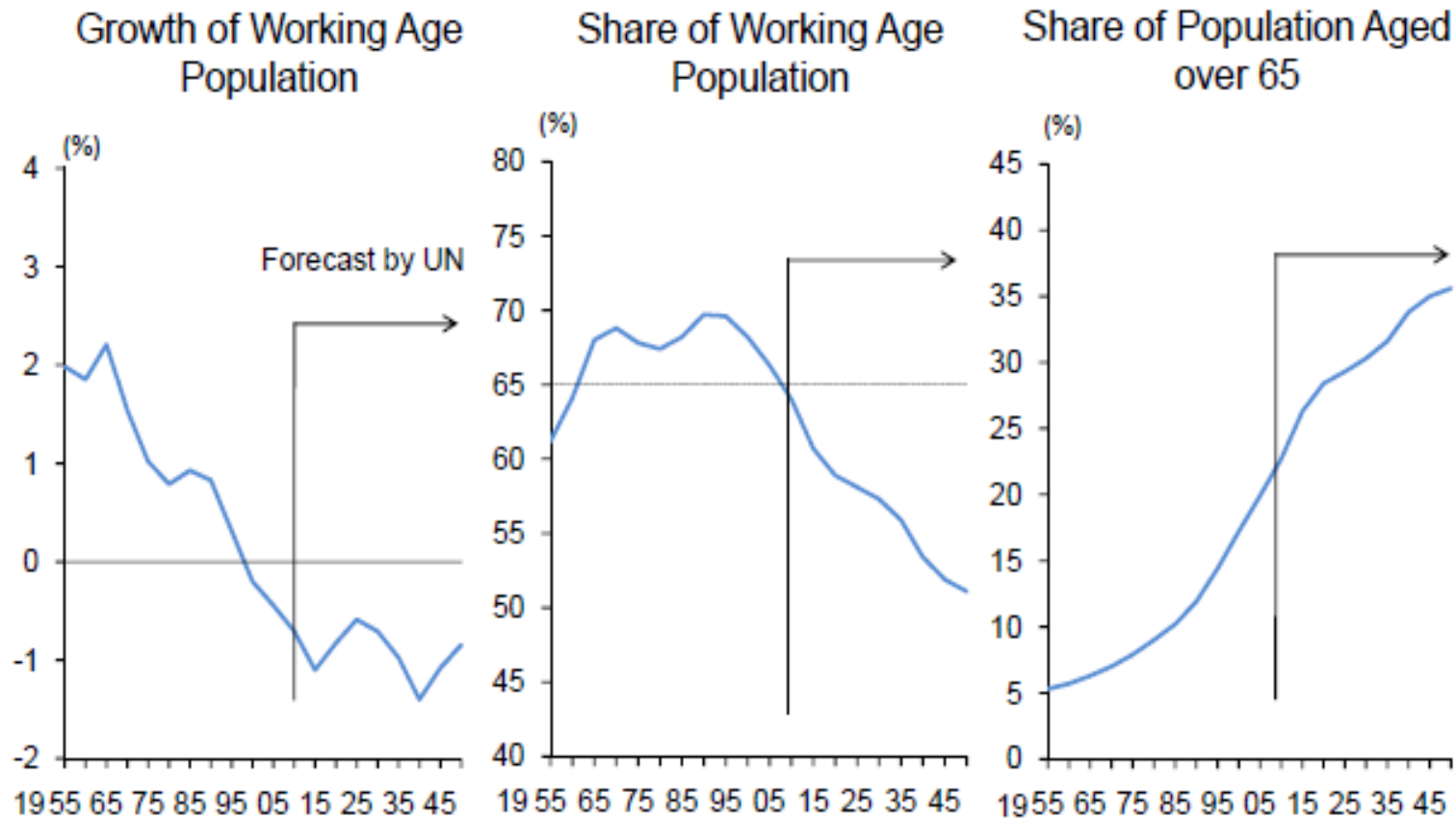
PART 1
The importance of demographics
: the Japanese experience

Japan has the most rapidly aging population in the world.

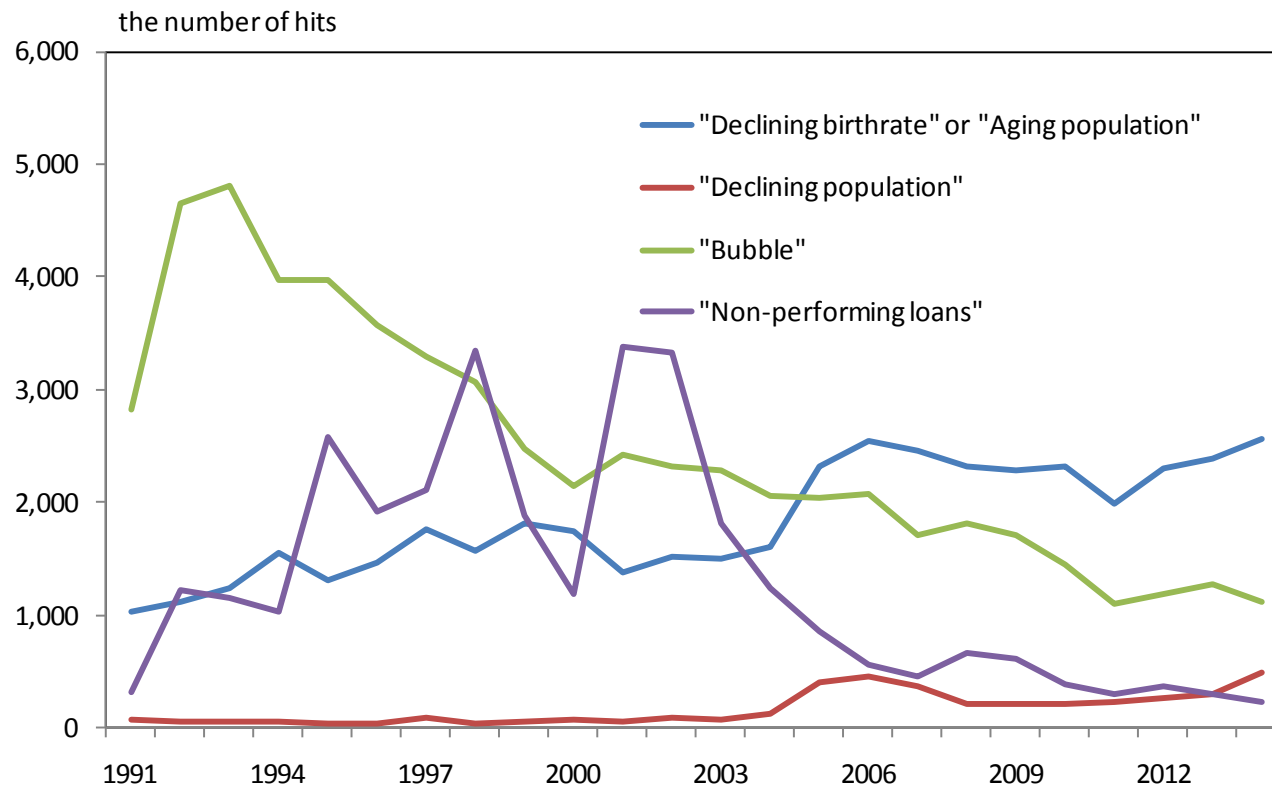
Working-age population started to decline from 1995 and total population started to decline from 2009.



Japan's long-run demographic projection is very dire.



It is only recent that people have come to realize the importance of the issue of demographics.



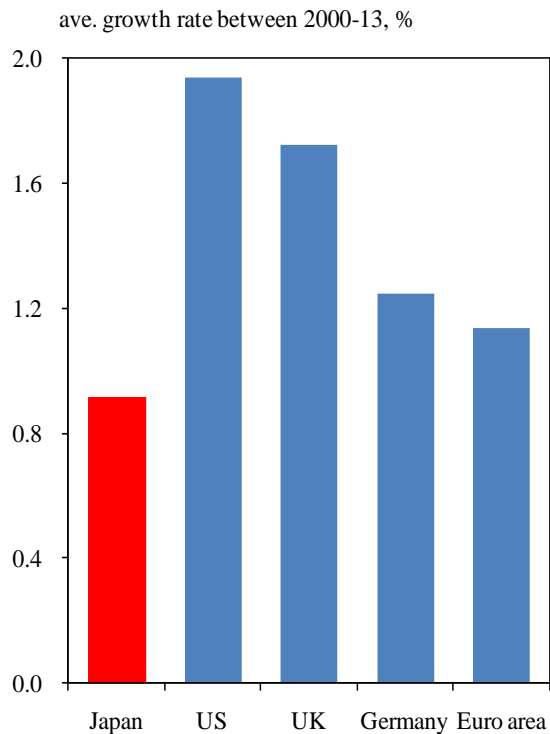
Note: The number of hits from searching major economic newspapers using the indicated key terms.

But, the issue of demographics is still underappreciated in Japan at policy and academic circles alike.

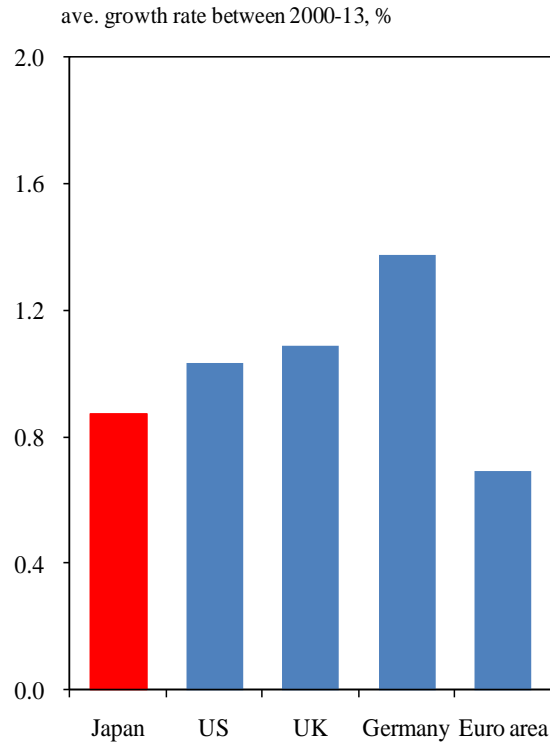
- Take a look at expressions used most frequently in Japan's macro-economic policy debate at home and abroad!
 - “Japan's lost decade(s)”
 - “Japanese-style of deflation”
- Do these expressions really capture the very fundamental challenges facing Japanese economy?

International comparison of growth rate since 2000: Lost decade(s) of Japanese economy?

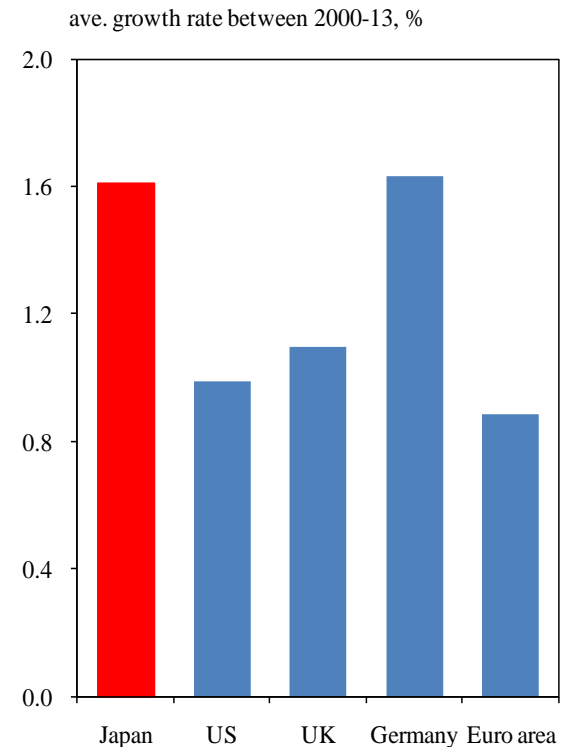
Real GDP



Real GDP per Capita



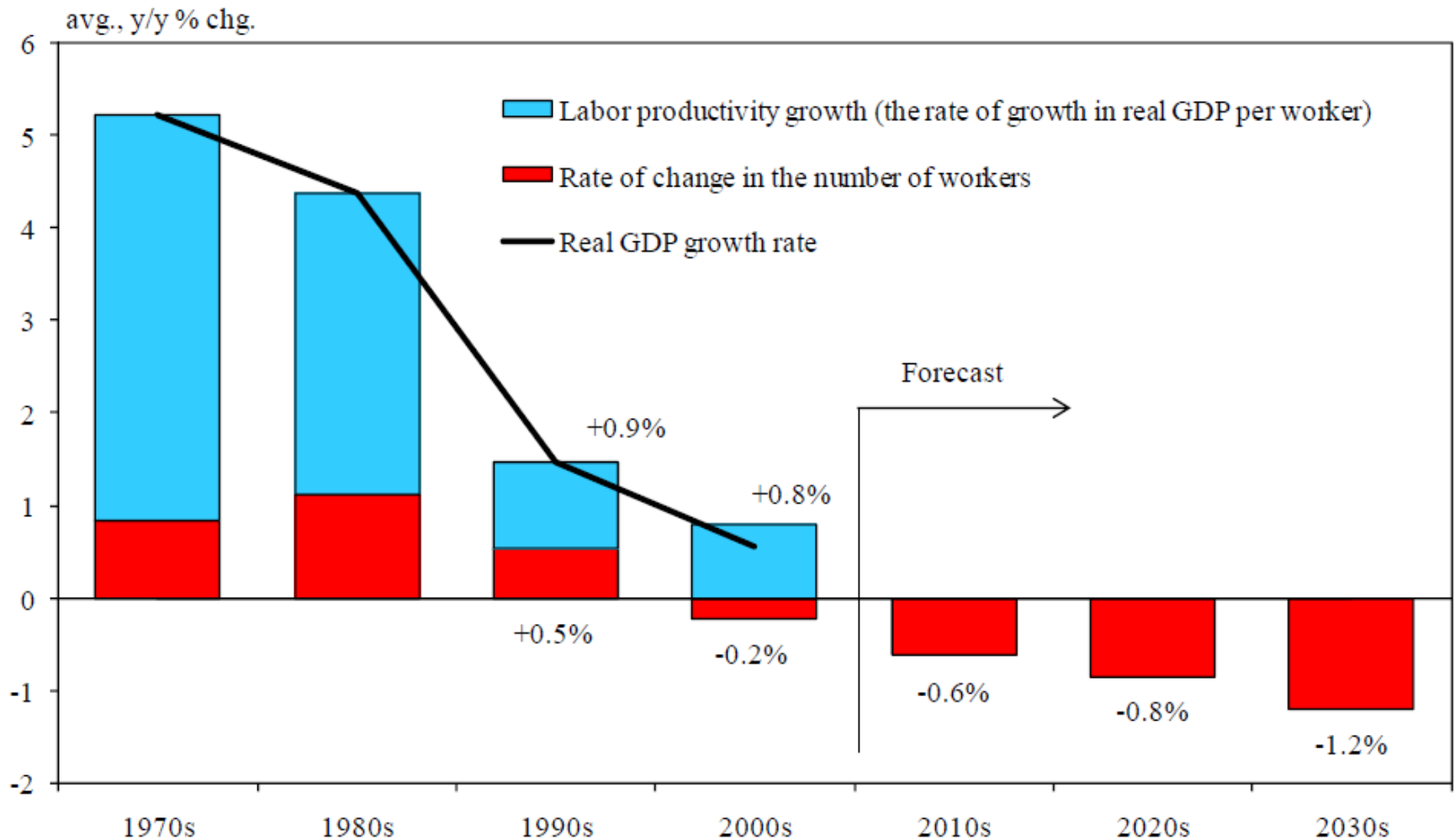
Real GDP per Working-Age Population



Implications of the international comparison of economic growth since the start of 2000

- A decade is long enough for us to neglect the impact of rapid ageing.
- Japanese economy is not that bad as is implied by "lost decade(s)" in terms of growth of living standard of average citizen.
- But a sober fact is that fraction of people who can work is shrinking and those people have to support growing number of aged people.

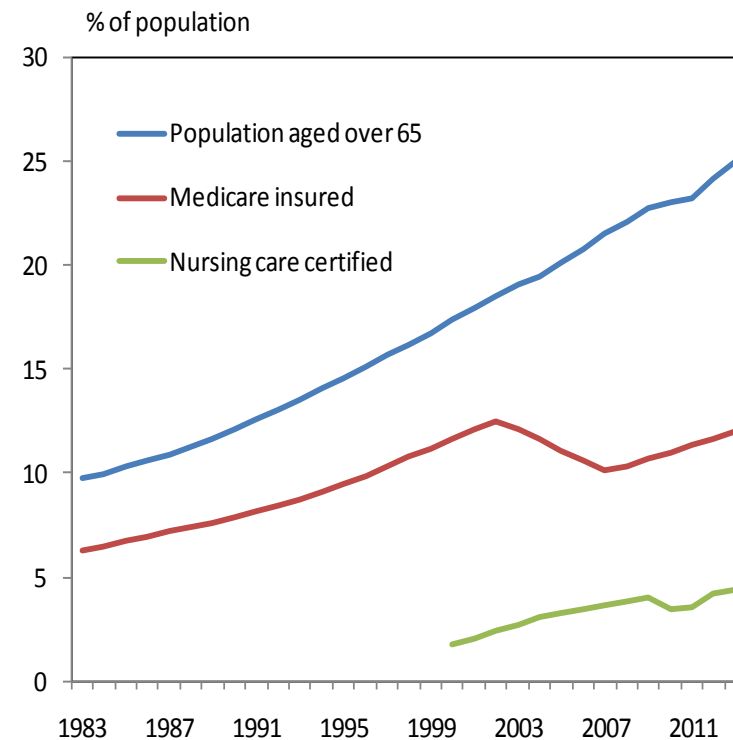
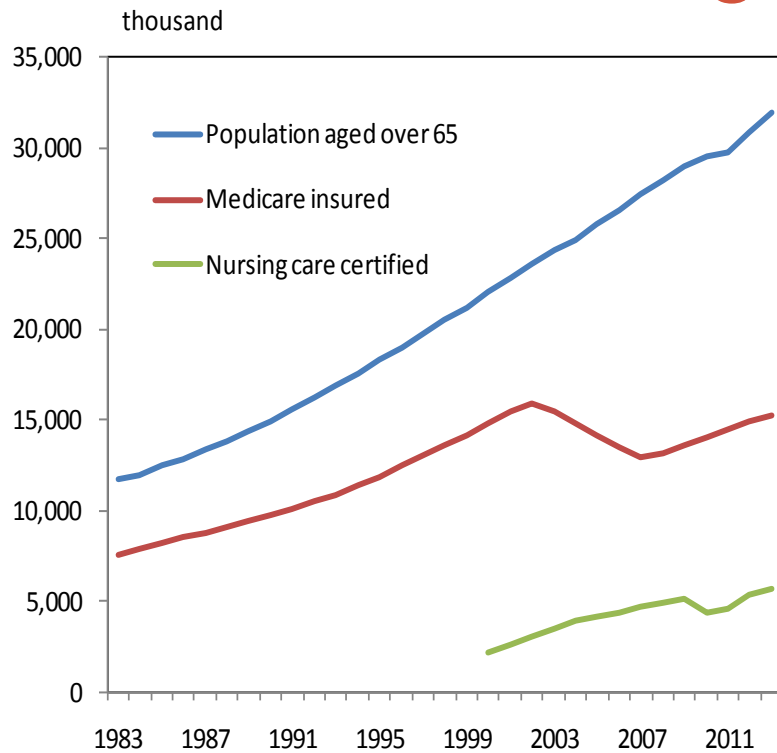
Demographics is a single most important challenge facing Japanese economy.



The critical issue is about “sustainability”.

- “Our country is like a rowing boat. The number of rowers is falling, while the number of older passengers will increase for a number of decades.” (the demographer Herwig Birg)
- Economic growth
 - First stage: A decline in workforce weighs on the economy.
 - Second stage: Very aged people needs growing number of caring and nursing people.
- Government finance
 - Deficit is mainly due to the increase in expenditure reflecting rapid ageing. ⇒
- Regional economy
 - Maintenance of Infrastructure (public transportation, hospital, school etc.) becomes difficult in population-decreasing regions.

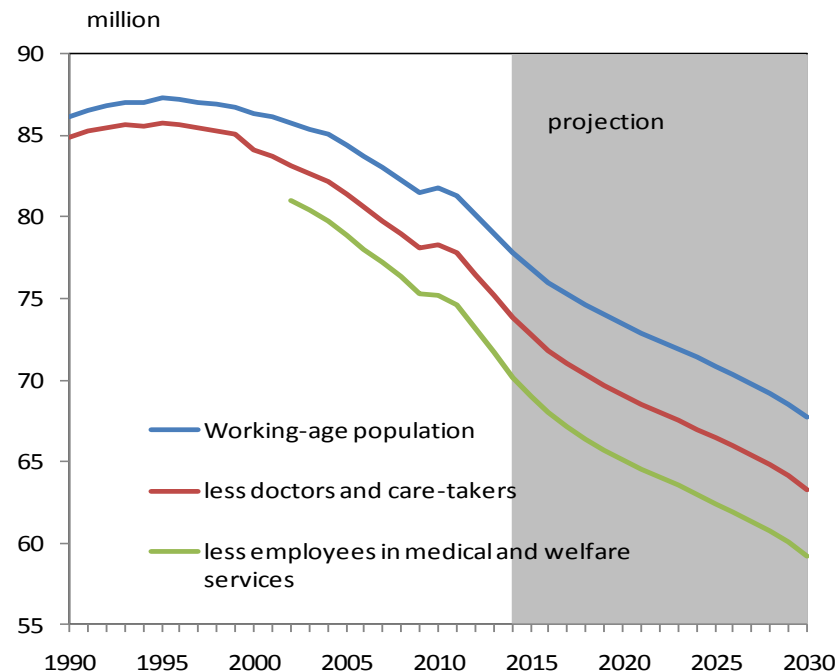
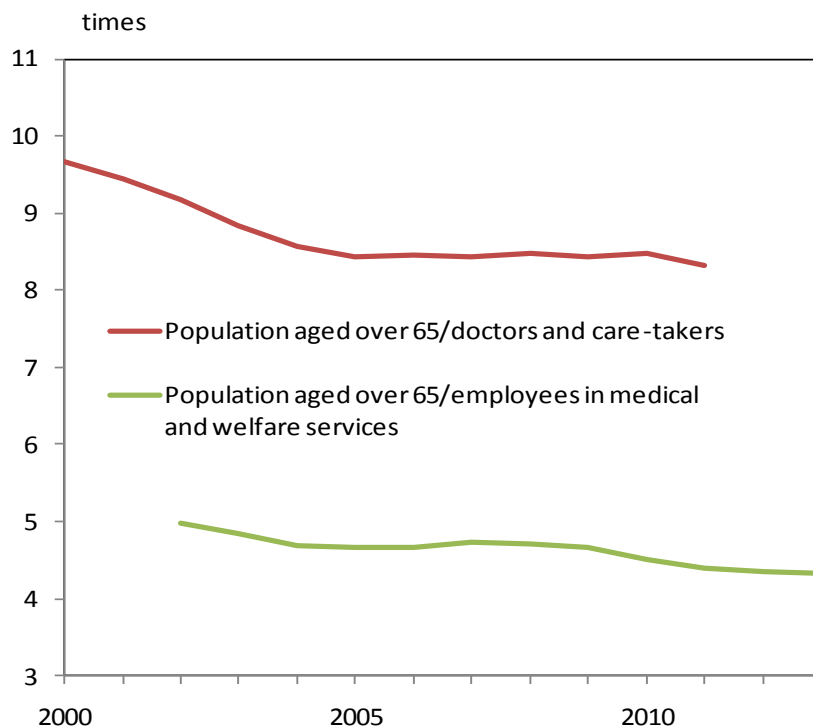
Increased demand for medicare and nursing care service



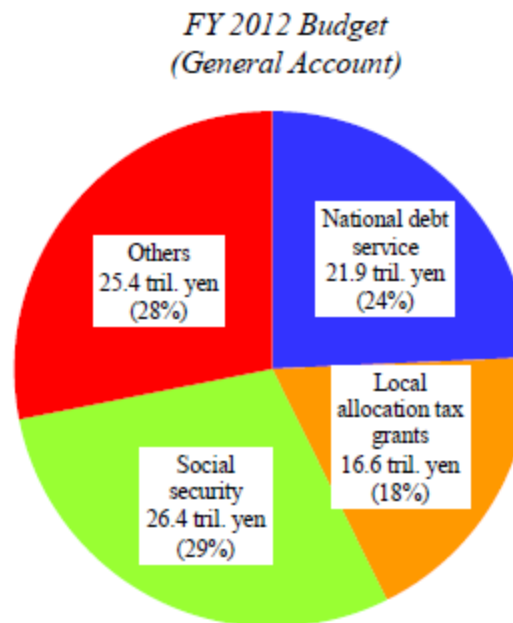
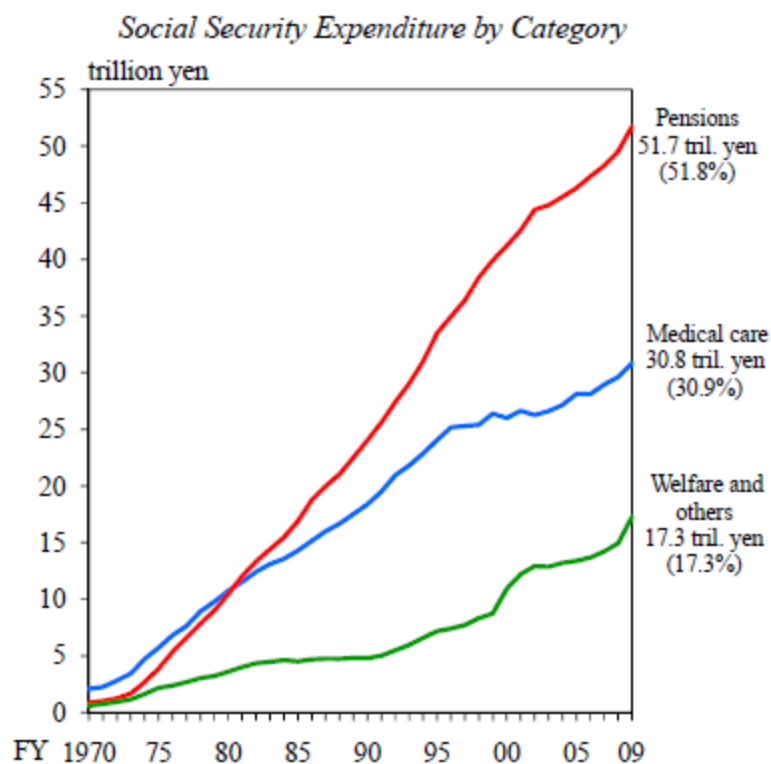
Note: Eligibility for Medicare insurance (senior-stage) was changed from “over 70 years old” to “over 75 years old”. That change was phased in from 2002 to 2007. Nursing care insurance started from 2000.

Projection of working-age population net of workers in medicare and nursing care

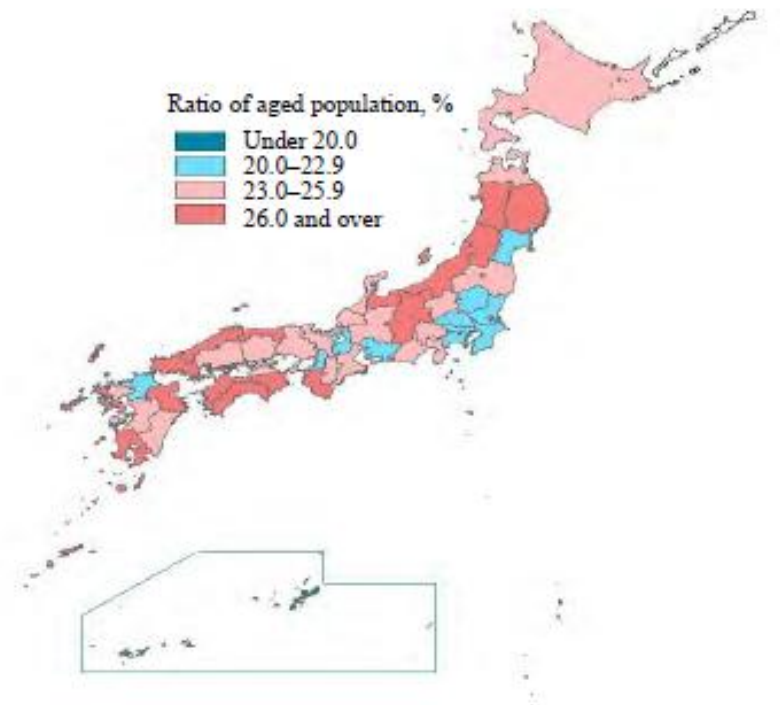
The current ratio of population aged over 65 to people engaged in medical and welfare services is assumed constant, although it is likely to increase.



The impact of rapid ageing on government budget



Demographics affects regions differently : ratio of people aged 65 and above



Note: As of 2010.

Source: Ministry of Internal Affairs and Communications.

“Some economic consequences of a declining population” by Keynes (1937)

“We know much more securely than we know almost any other social or economic factor relating to the future that, in the place of the steady and indeed steeply rising level of population which we have experienced for a great number of decades, we shall be faced in a very short time with a stationary or a declining level. The rate of decline is doubtful, but it is virtually certain that the change-over, compared with what we have been used to, will be substantial. We have this unusual degree of knowledge concerning the future because of the long but definite time-lag in the effects of vital statistics. **Nevertheless the idea of future being different from the present is so repugnant to our conventional modes of thought and behaviour that we, most of us, offer a great deal resistance to acting on it in practice.** There are, indeed, several important social consequences already predictable as a result of a rise in population already being changed into a decline.”

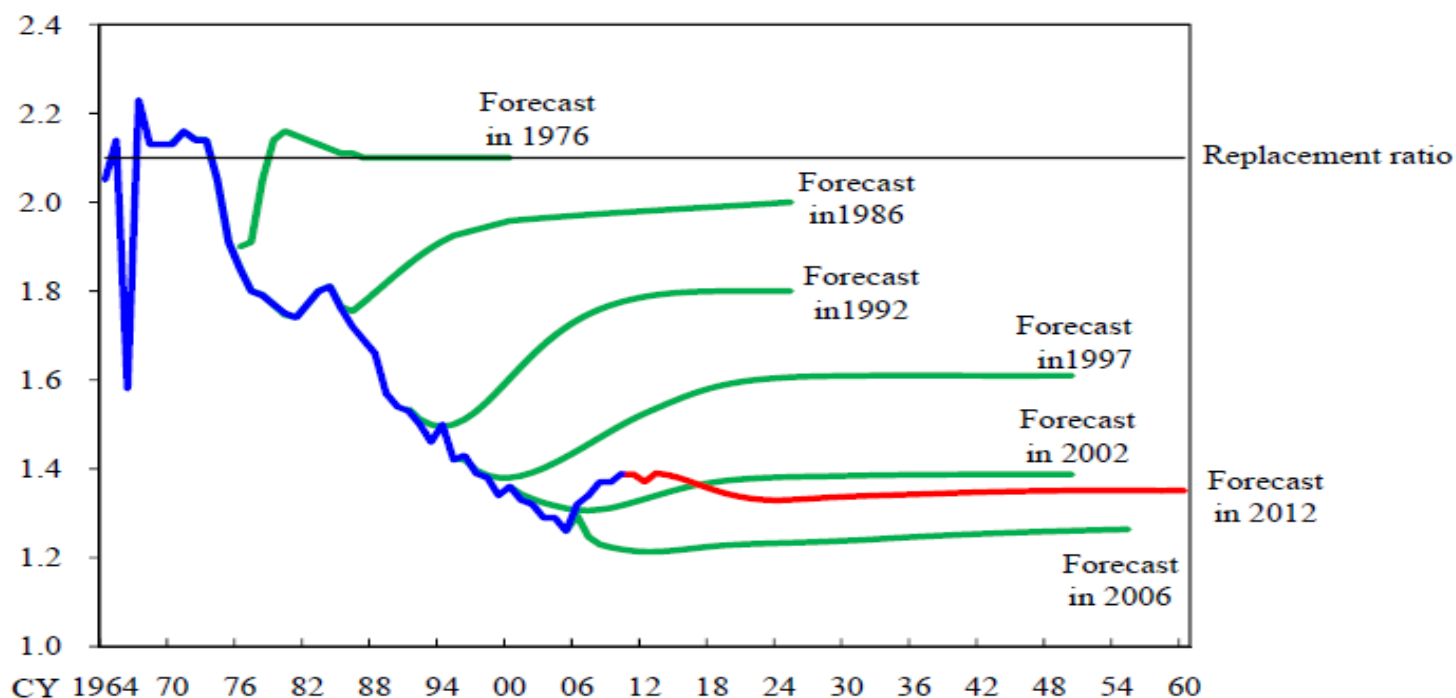
Why do people underestimate the importance of demographics and procrastinate?

Several hypotheses

- It is a very slow-moving picture.
- It took long to accept the decline in fertility rate as a trend.
- Population continued to increase long after fertility rate decline below replacement level because of longer longevity.
- The peak of “population bonus” coincides with the bubble which masks 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 do not want to hear gloomy story.

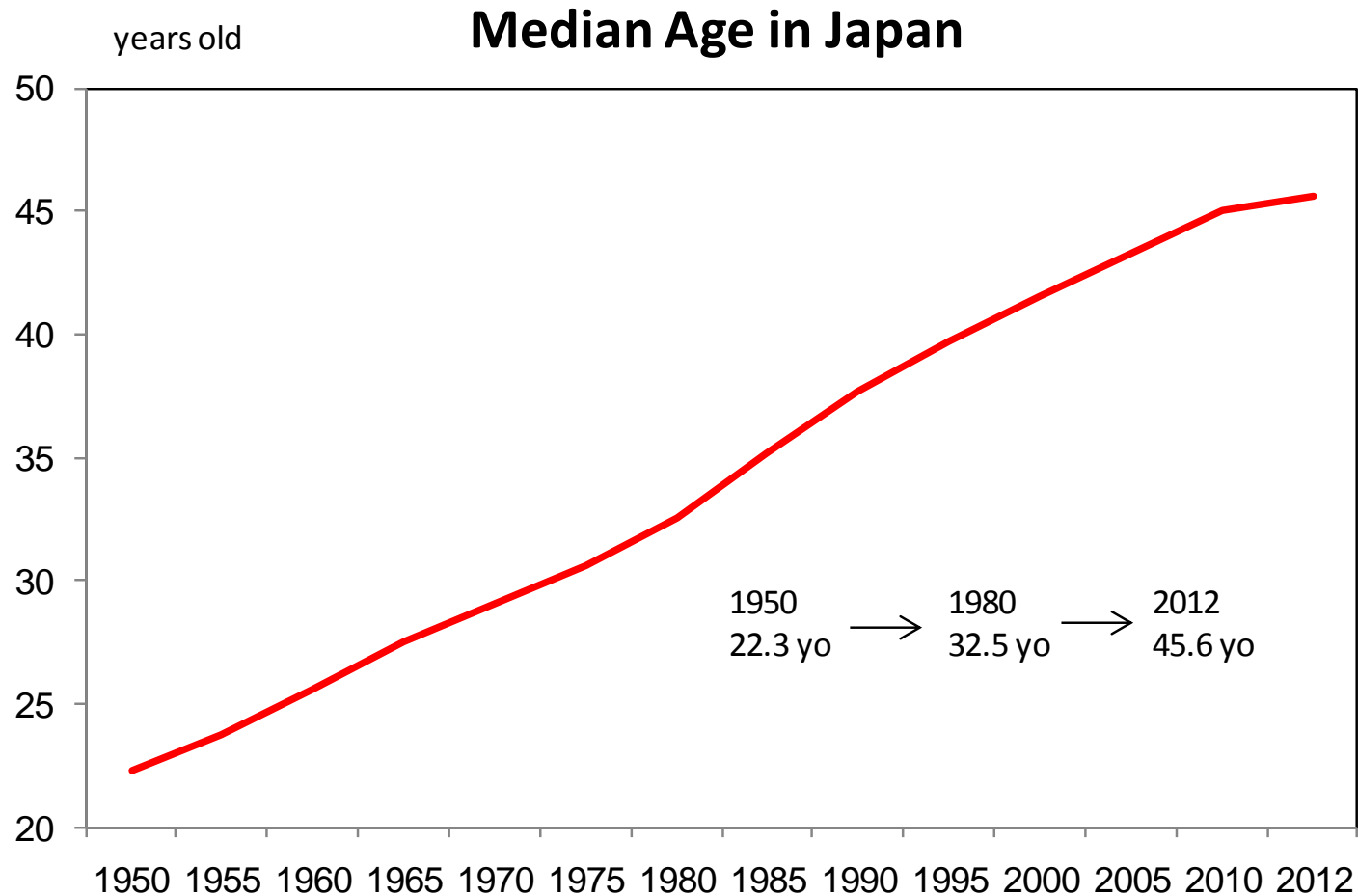
In fact, revision of fertility rate as a key parameter for projection of population was delayed.

Revisions in the Japanese Total Fertility Rate Forecast



Sources: Ministry of Health, Labour and Welfare; National Institute of Population and Social Security Research.

“Silver democracy”



Given above tendencies, the role of academic economists is important. But they also tended to be optimistic.

Several hypotheses

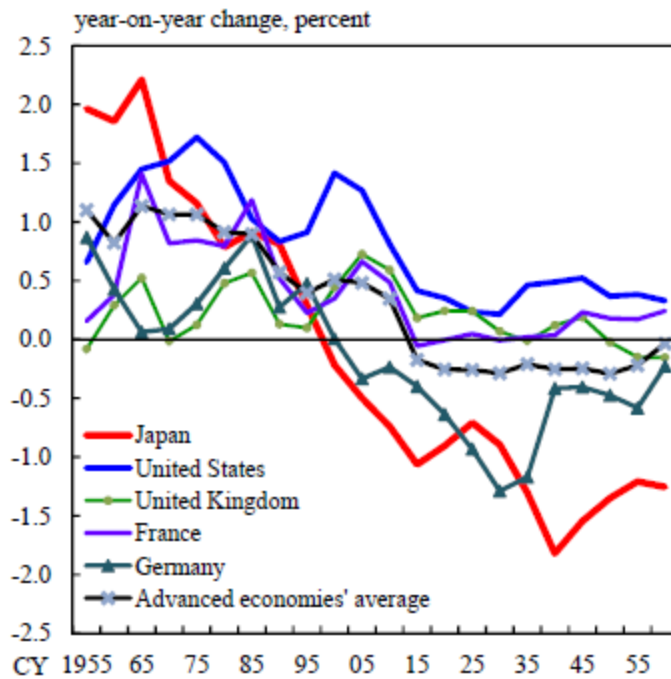
- No treatment in standard text-book?
 - There is no distinction between population and working-age population in growth theory. “Problems” are assumed away.
- Belief in substitution of labor for capital and/or optimism for demographics-induced innovation?
- These are leading to under-investment in the study of demographics.

Japan is offering many interesting foods for thought in demographics as well.

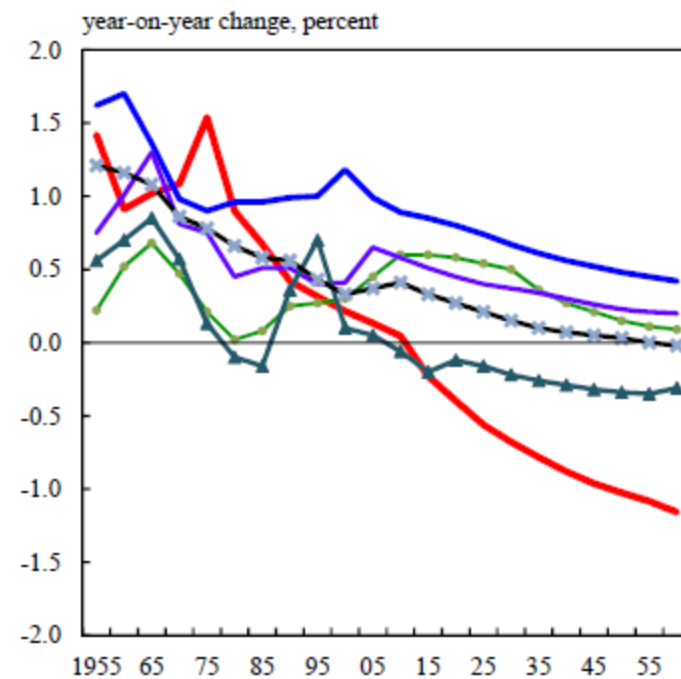
- After all, Japan experienced bubble, financial crisis and a decline in inflation (or mild deflation) ahead of other countries.
- The same is true for demographics.
- Other advanced economies and emerging economies are now being faced with the same problem with some time lags.

Projection of total and working-age population of advanced economies

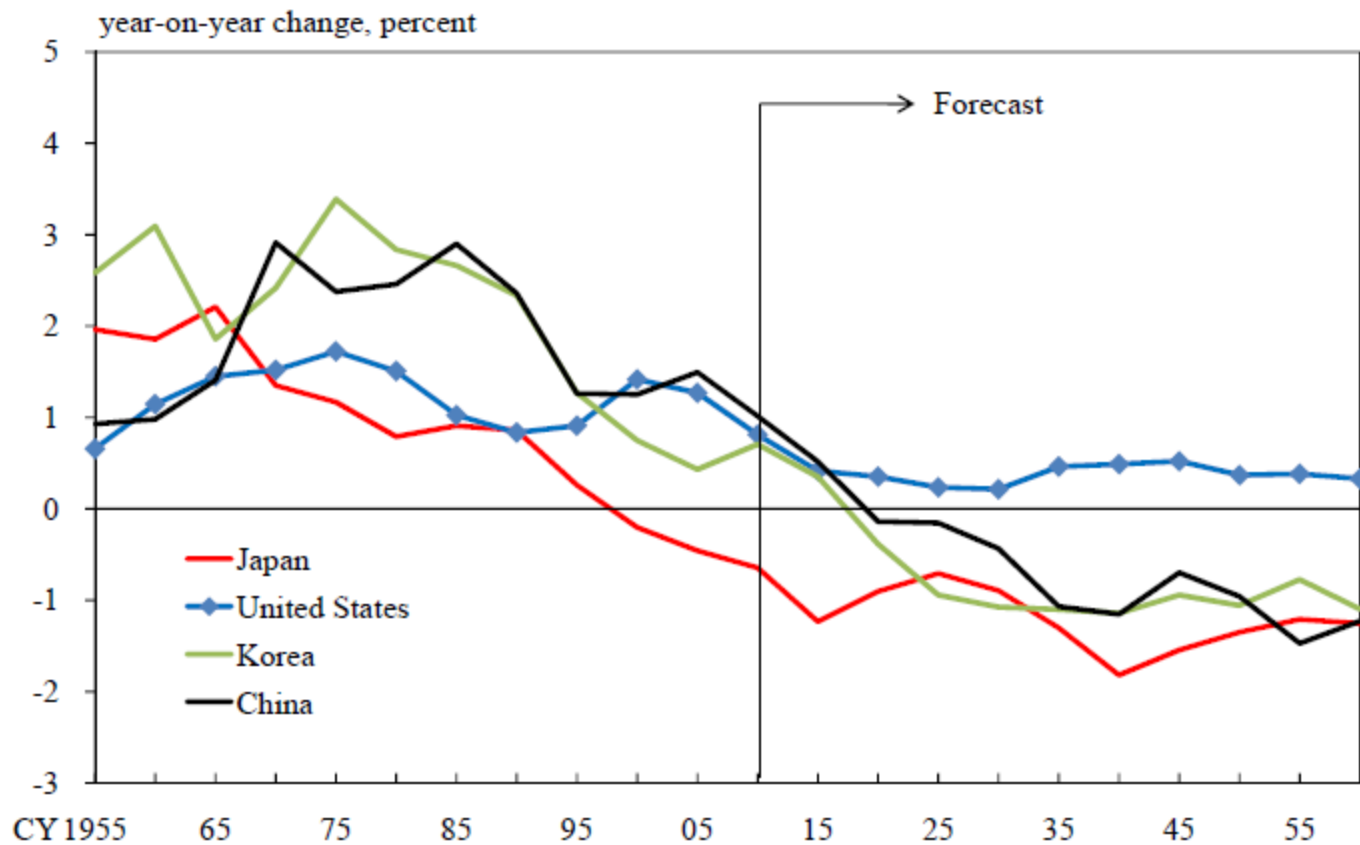
Growth Rate of the Working-Age Population



Growth Rate of the Population



Projection of working-age population of Japan, US, China and Korea



PART 2

Some issues with global implications that I want to highlight in order for academic to tackle with in future study

#1 Demographics and potential growth rate

Some factors affecting potential growth rate

1. Fertility rate

- What are economic and social factors for affecting fertility rate?
 - Unexpected baby-boomers in post WW II . No comparable phenomenon in post WW I .

2. Immigration

- We tend to focus on countries receiving immigrants. But what about the impact of demographics of countries sending emigrants ?

3. Innovation

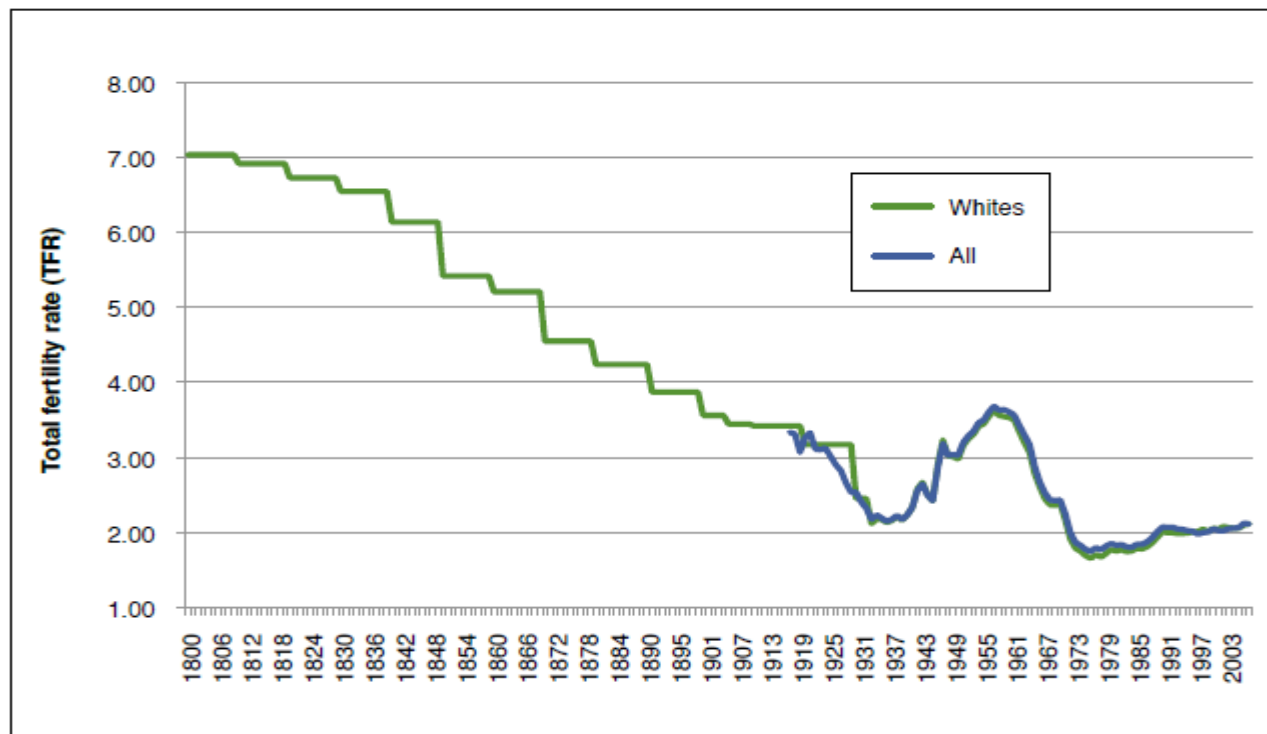
- Demographic-induced innovation (robot etc.)
- A relative decline in number of young people in society who hold “innovative” mind and ability.

4. Politics

- “Silver democracy”, regional economy, immigration

Long-run trend of fertility rate in US

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

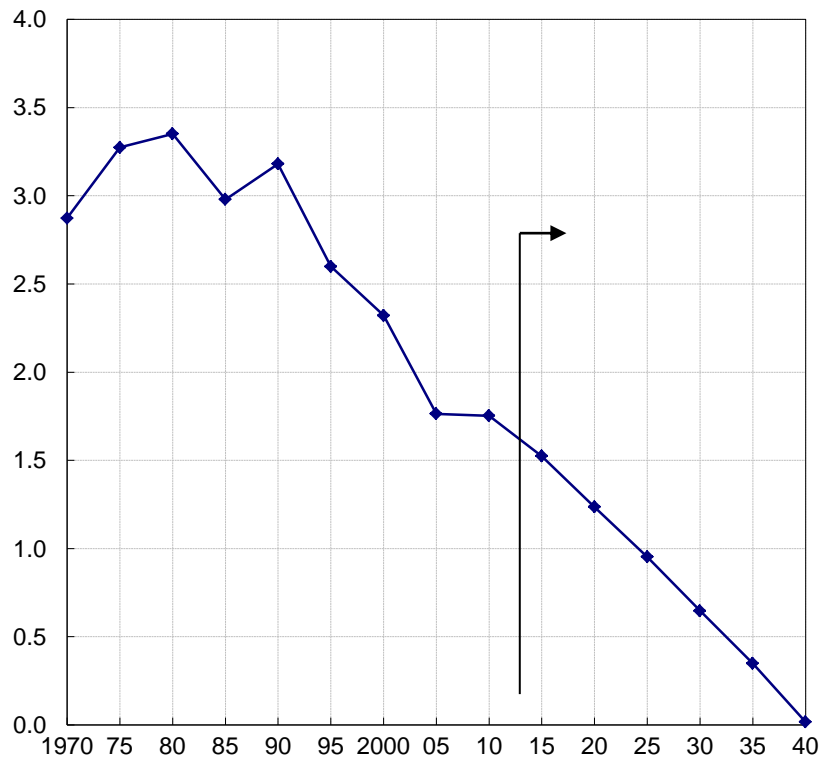


Source: Human Fertility Database; National Vital Statistics Reports (NVSr), Volume 58, Number 24, August 2010.

Report to the Social Security Advisory Board (September 2011)

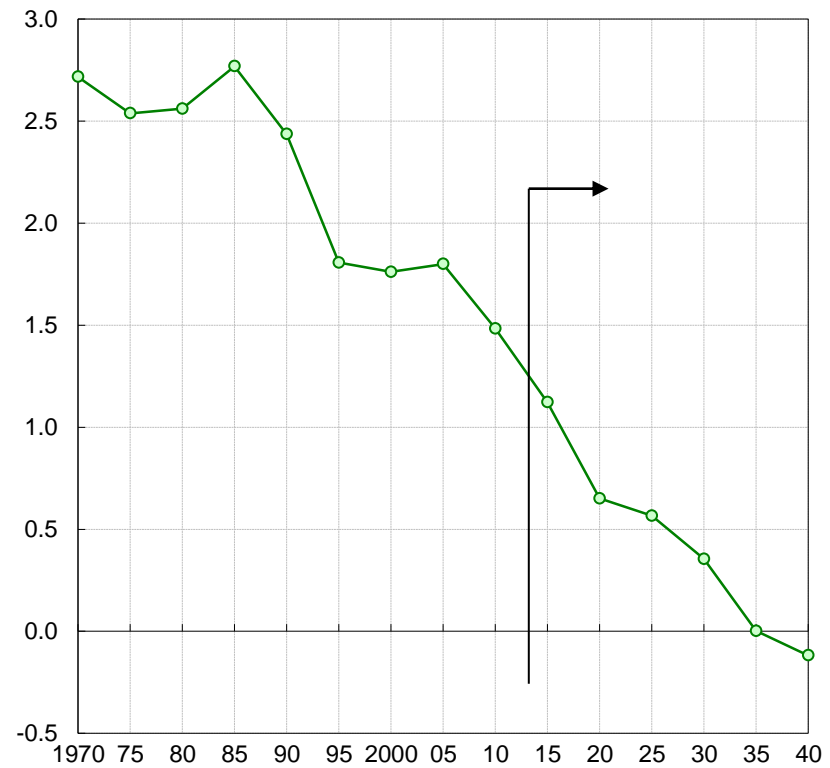
Annual growth of working-age population of countries sending emigrants to the US

Mexico



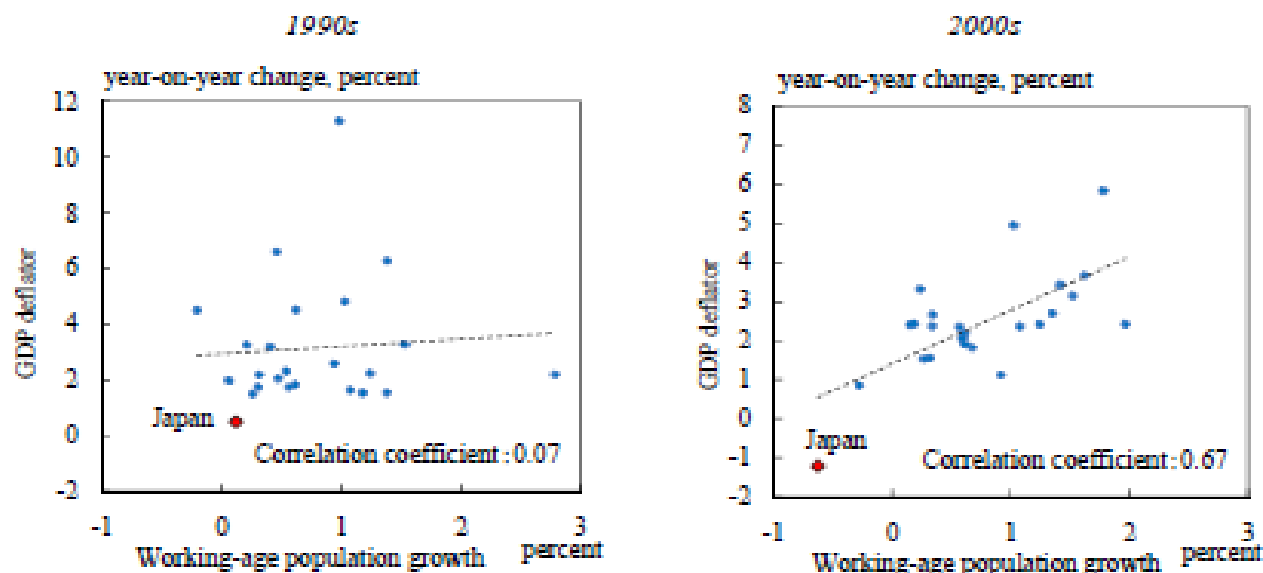
Source: Ryutaro Kono (BNP Pariba)

Top 10 countries in terms of US immigrant



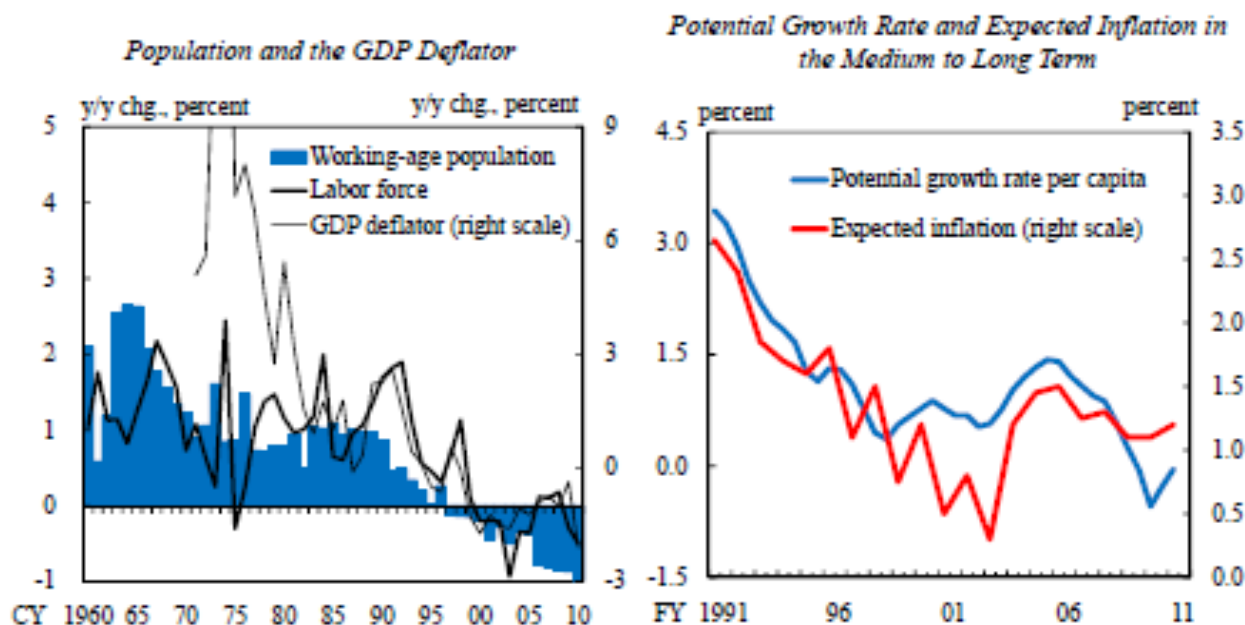
#2 Demographics and inflation rate

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.

There is no mechanical causal relationship between two variables. But what kind of mechanism is this “relationship” capturing



Note: Lagged values are used for population growth because they precede inflation by a year. Expected inflation is the inflation outlook for CPI in the next 6 to 10 years by the Consensus Forecast (average of the April and October surveys in each year). The potential growth rate is calculated by the Bank of Japan.

The impact on inflation rate might change over time depending on the stage of ageing.

The early stage of ageing

- Production does not decline immediately, because baby-boomers are not actually withdrawing from labor markets.
- Consumption might decline because of uncertainty over social security.
- Investment start to decrease at a relatively early stage of ageing on the expectation that domestic market will shrink in future.
- These are factors for lowering inflation rate.

(continued)

The current stage

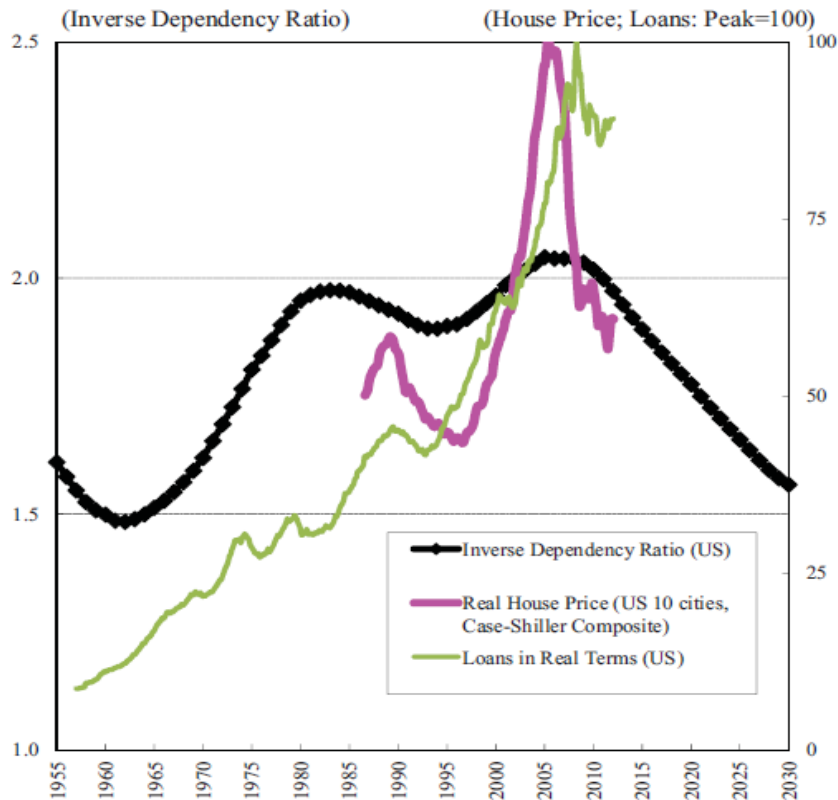
- Japan is now witnessing a change from labor surplus to labor shortage.
- It is mainly due to supply factor of a decline in labor force rather than due to demand factor. (Hayakawa(2014))
 - The peak of retirement of baby-boomers (born between 1946 and 1949) was past four years. ⇒ **A sharp decline in “production population”**
 - Consumption does not decrease in a parallel manner. ⇒ Demand for services such as retail, tourism, medical and nursing-care services which are labor-intensive is now increasing. ⇒ **No decline in “consumption population”**
- These are factors for raising inflation rate.

#3 Demographics and financial stability

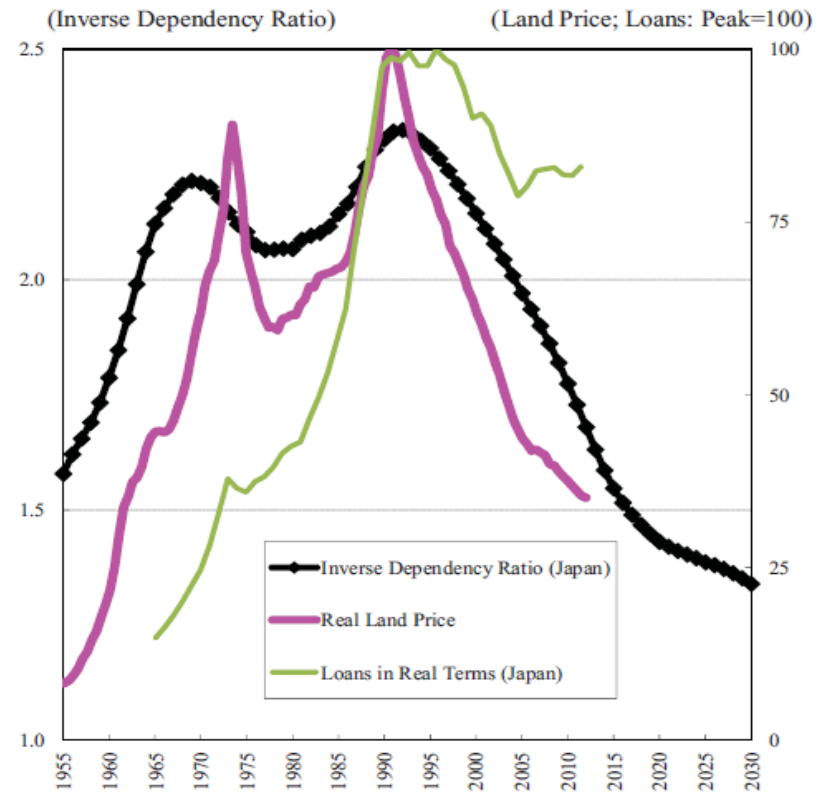
- Demographics could affect financial stability through creating bubble due to the following two channels.
 - Trend decline in profitability against the backdrop of a decline in potential growth rate, coupled with prolonged low interest rate, could create bubble.
 - Property prices are affected importantly by demographic factors.
- Demographics could affect financial stability through government finance.
 - Financial stability crucially depends on fiscal sustainability.

Peak of real property prices tend to coincide with the peak of population “bonus”.

1.1. US

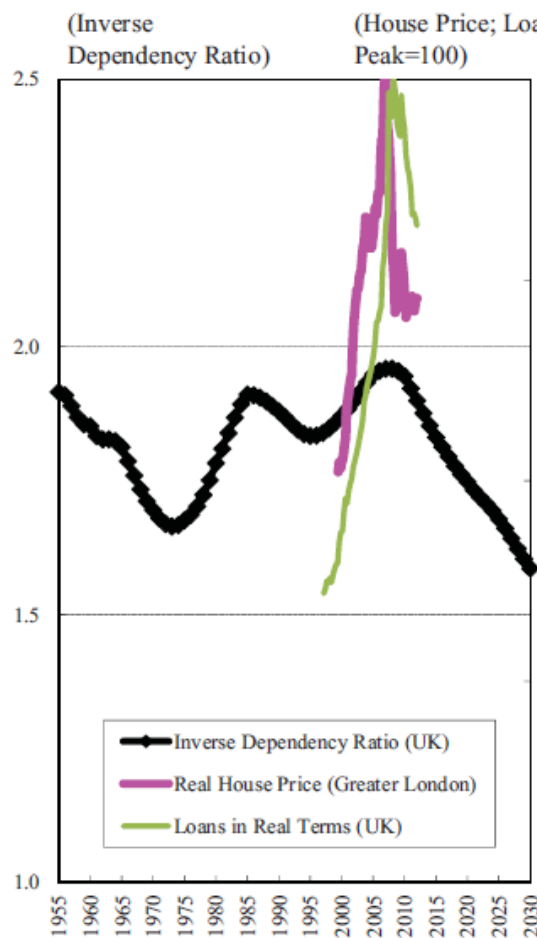


1.2. Japan

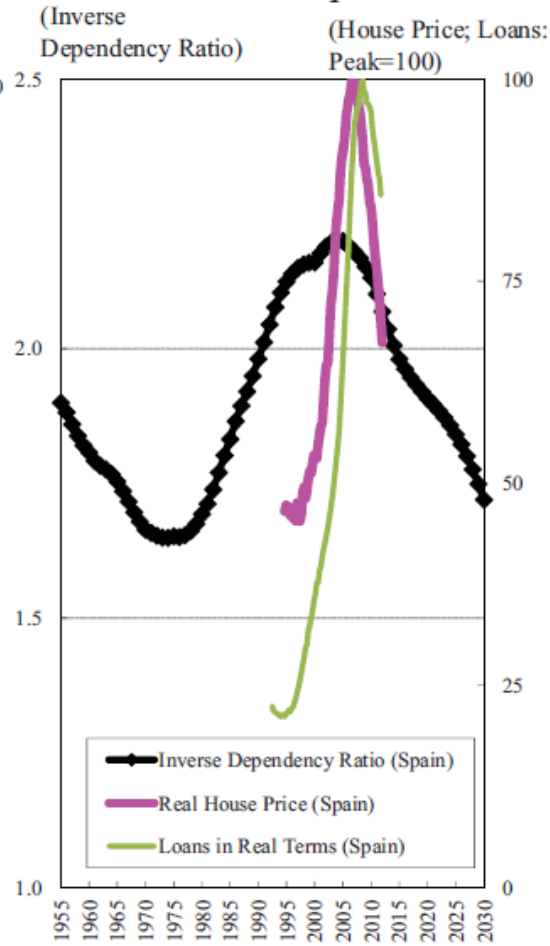


Peak of real property prices and population “bonus” (continued)

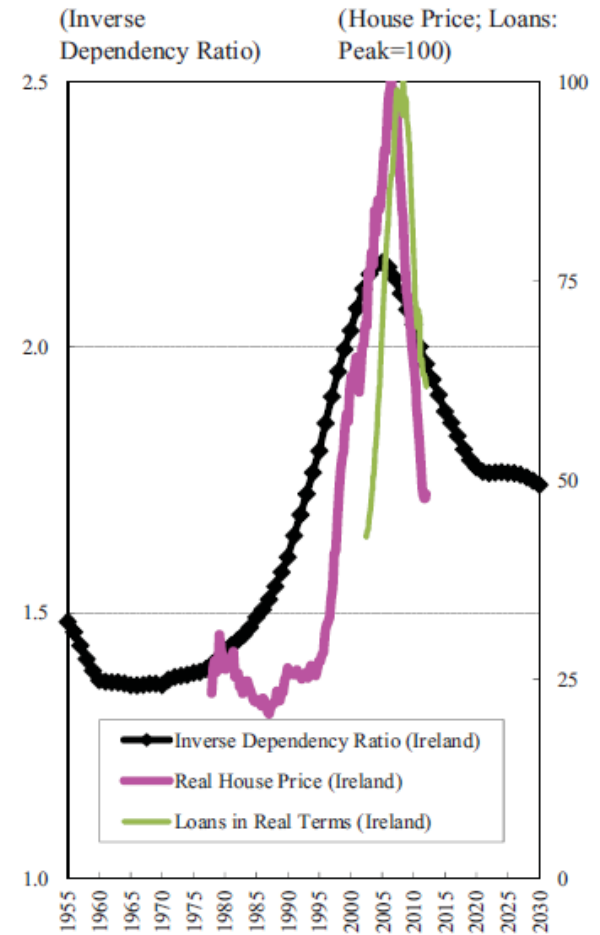
2.1. UK



2.2. Spain



2.3. Ireland



#4 Demographics and politics

- How can we reflect voices of future generation in political process?
- “Silver democracy” is one facet of society. But isn't there any altruism mechanism?

Final words

- In late 1990s, Japan was lonely in the sense that the implications of bursting of bubble and financial crisis are not well understood by foreign policy makers and academics. It was only after global financial crisis erupted that these are reasonably well understood by academics and policy makers outside Japan.
- Today, I feel the same with the state of the debate of demographics, though the situation is improving.
- I am not “fatalist” in the sense that demographics determines the path of the economy. What is critically important is how to adapt “institutions” to changing reality of economy, that is, demographics. Starting point is clear recognition of what is happening in demographics and how it is affecting the economy.

I really hope many academics to tackle
with this important issue of
demographics.

Thank you for your attention.