

Can a Nation Survive with a Shrinking Population?

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Japan Center for Economic Research

Senior Research Fellow

Jun Saito

Today's Plan

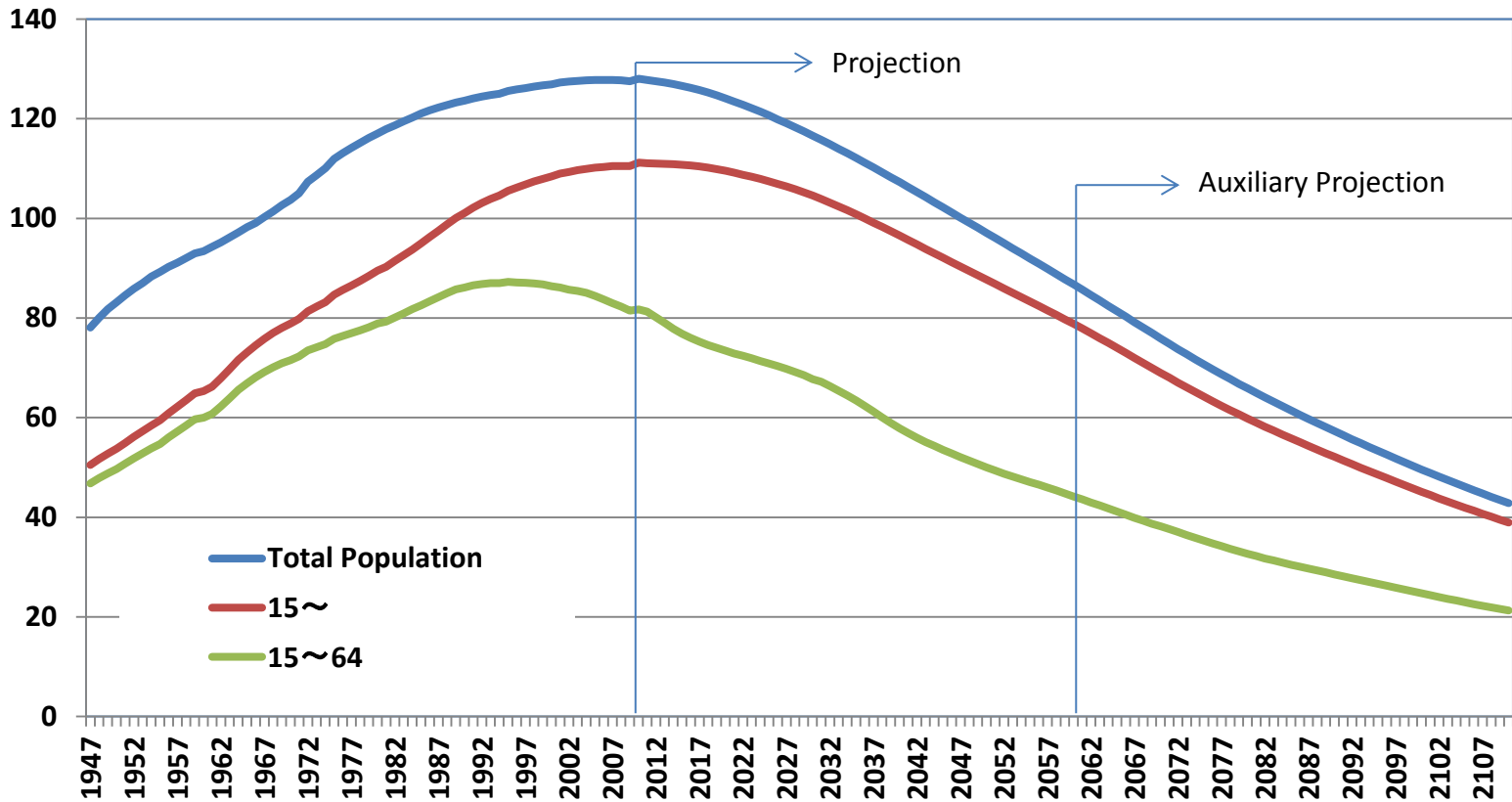
- Demographic projection for Japan.
- Economic consequences of a shrinking population.
- Measures to offset the negative influences of the shrinking population.

LDP President Abe's Announcement (September 24, 2015)

- Abenomics has entered its second stage.
- New set of three arrows is introduced.
 - The new first arrow: “Creating a strong economy that open-ups a brighter future”
 - The new second arrow: “Providing a child care support that fosters family dreams”
 - The new third arrow: “Establishing a social security system that leads to a strong sense of reassurance”
- The target is to maintain a population of 100 million in 50-years time.

Demographic Projection

(million persons)

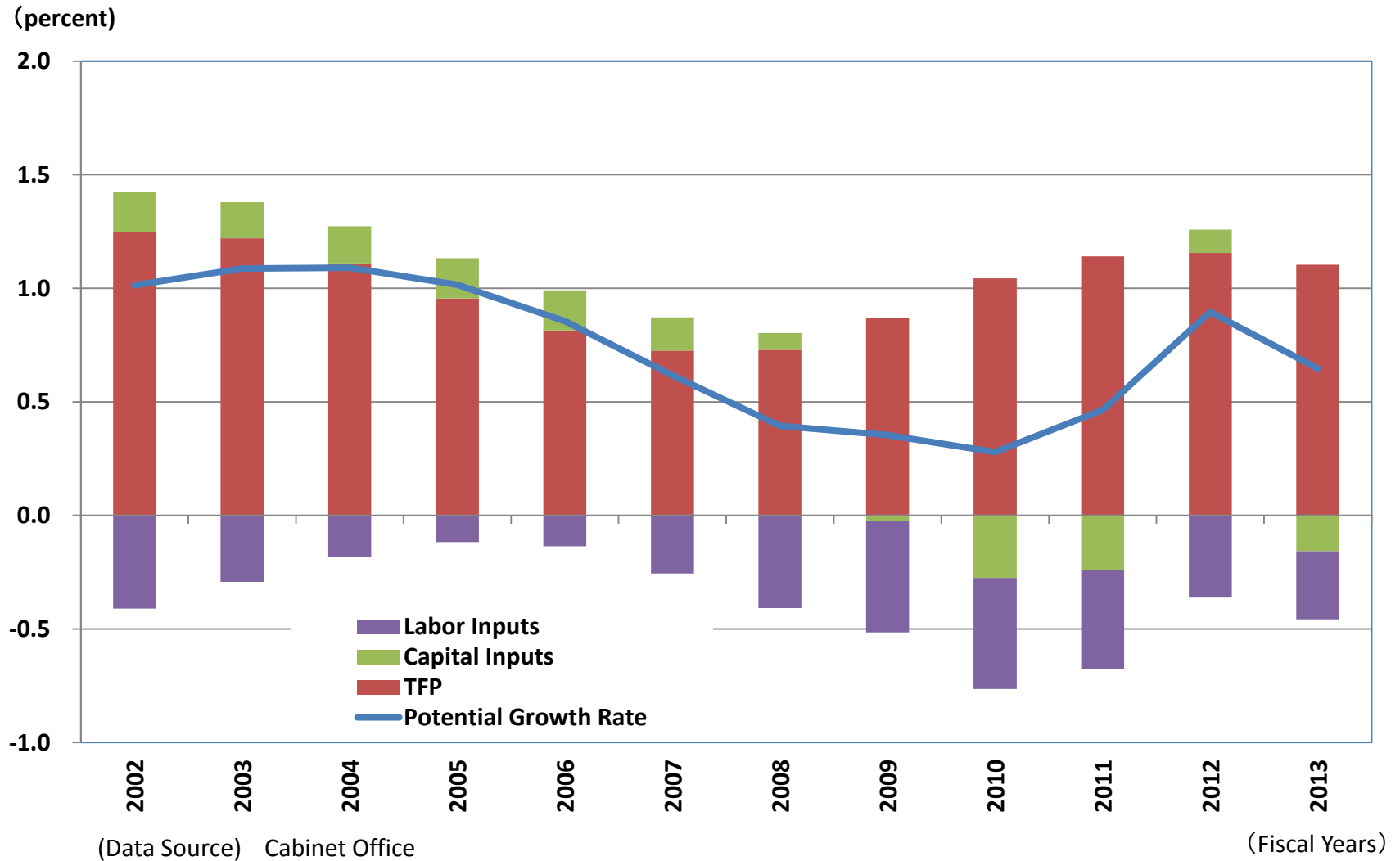


(Data Source) National Institute of Population and Social Security Research, *Population Projection for Japan*, January 2012.

Economic Consequences of a Shrinking Population

- Total population of 128 million in 2010
 - Will shrink by one third by 2060 to 87 million.
 - Will shrink by two thirds by 2110 to 43 million.
- Shrinking population of those over 15, accompanied by a decline in the average participation rate due to aging, will exert a continuous downward pressure on the potential growth rate.

Potential Growth Rate



Economic Consequences of a Shrinking Population

- Potential growth rate is already as low as 0.5 percent. Sustained downward pressure on labor inputs could reduce the potential growth rate further, even to a negative number.
- For a country which is desperately in need of a economic growth necessary to support the reconstruction of the fiscal and social security systems, measures to offset the negative influence of the shrinking population needs to be identified and implemented.

(Option A) Raising Participation Rate

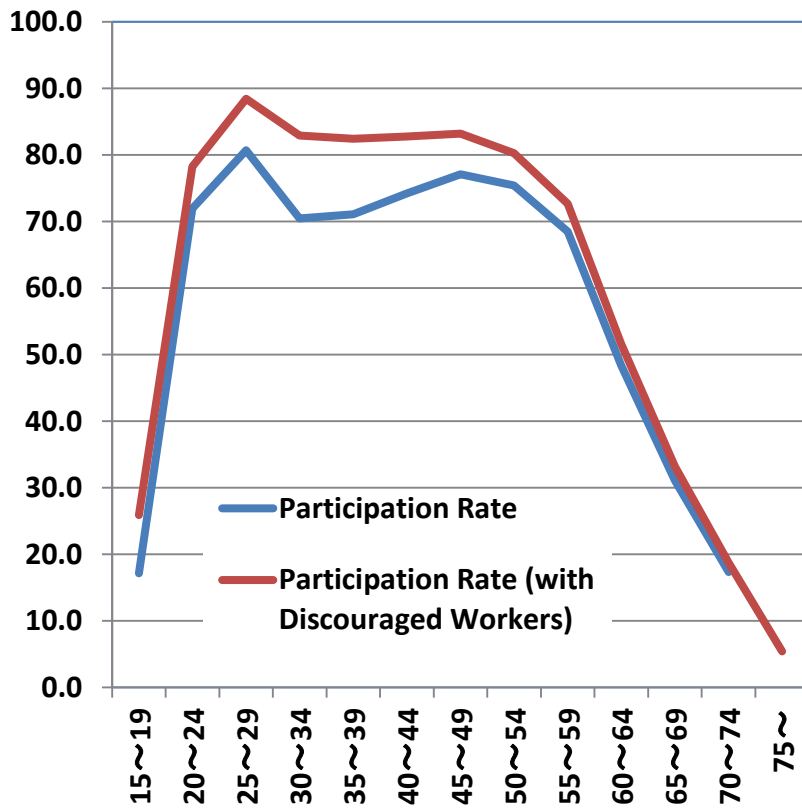
- Participation rate by age groups of females shows a letter M-shaped curve.
- It reflects the difficulties faced by married females who often have to give up their jobs in order to have a family.
- If the situation is improved and the rate rises, it would offset, at least partly, the negative impact coming from shrinking population.

(Option A) Raising Participation Rate

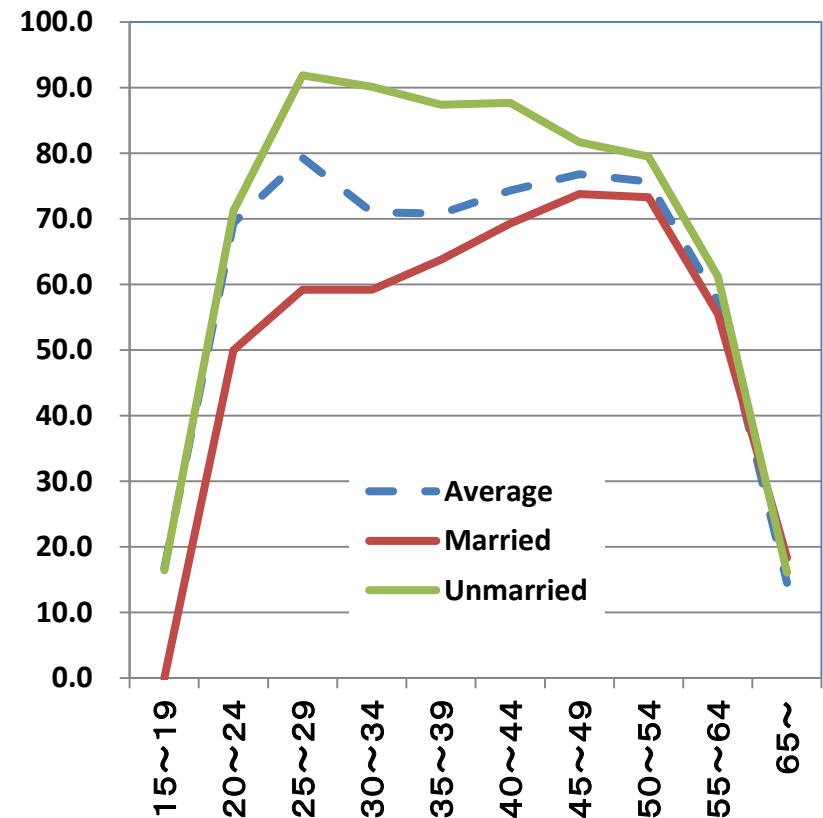
- Improvement has been made, but further progress needs to be made. If discouraged female workers (those who want to work but are discouraged from doing) start to actively look for jobs, letter M-shaped curve will almost disappear.
- What is important is to raise the participation rate while also raising fertility rate.
 - Low participation rate of married females is a concern.

Female Participation Rate

Female participation rate when those who want to work are added in



Female participation rates for the married and the unmarried



(Data Source) Ministry of Internal Affairs and Communications

(Option A) Raising Participation Rate

- However, what could we do when the female participation rate has risen to its maximum, which may be given, for instance, by the rate for males or the rate in the Nordic countries.
- In that sense, raising female participation rate is important but has the effect of offsetting the negative impact from shrinking population (hereafter “offsetting effect”) only in the “medium term”.

(Option B) Raising Productivity

- Raising TFP is often suggested to be the solution in the “long-term”.
- It calls for implementation of measures such as;
 - Deregulation
 - Liberalization of trade and investment
 - Shifting resources from low- to high-productivity sectors
 - Encouraging entry and exit
 - Increase investment in human capital
- There are all undoubtedly important. But they cannot be sustained once they are achieved.

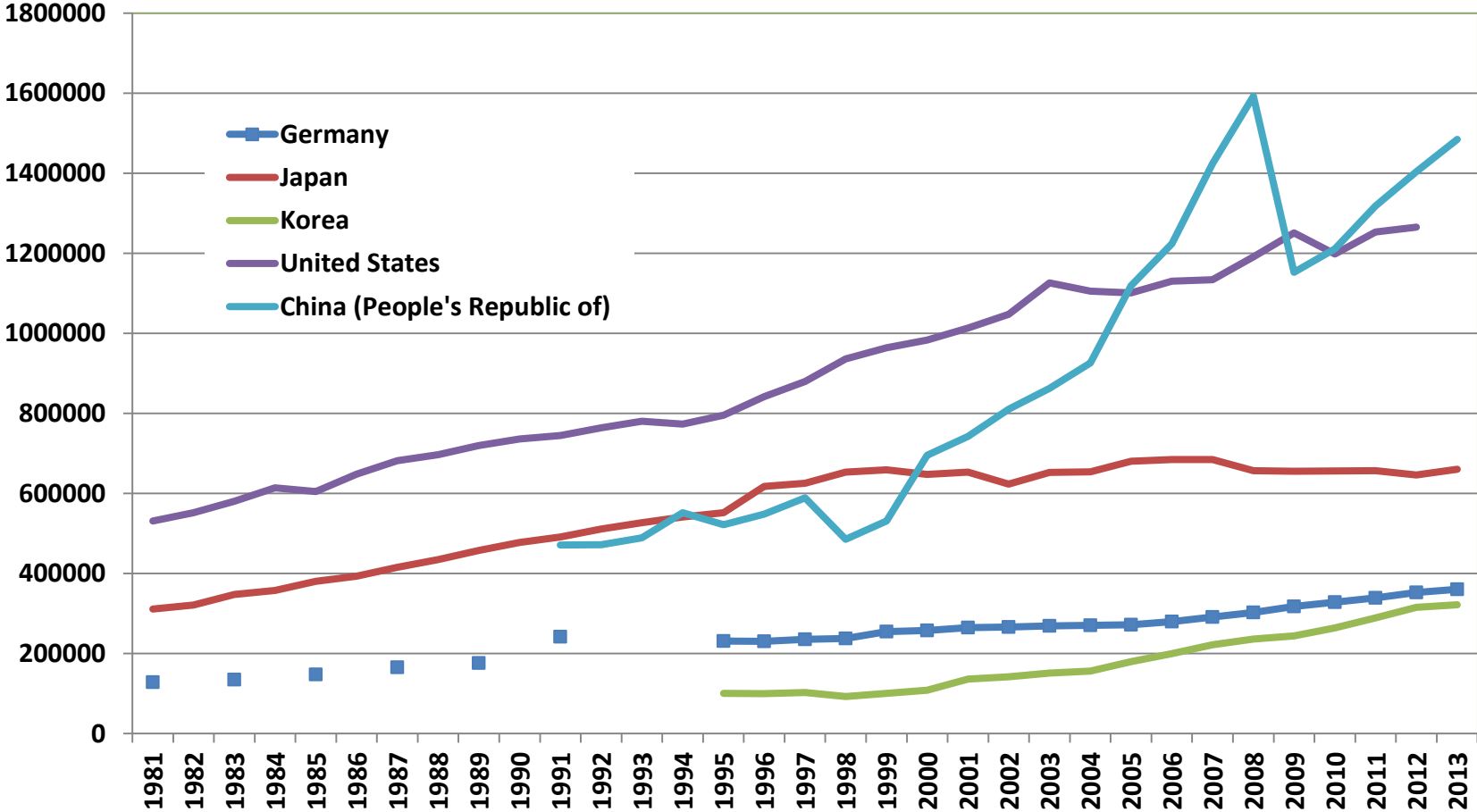
(Option B) Raising Productivity

- Promoting innovation is the most fundamental and sustainable factor in raising TFP.
- If there is no limit to the creativity of mankind, innovation may seem to have unlimited possibility.
- It is also said that aging provides new incentives for innovation; e.g. need for robots to support the aged and/or the long-term care workers.

(Option B) Raising Productivity

- However, the supply-side of innovation may be constrained. Shrinking population means smaller number of scientists and engineers.
 - Kuznets (1960) said that population growth would “produce an absolutely larger number of geniuses, talented men, and generally gifted contributors to new knowledge”. Shrinking population would mean the opposite.
- As a result, there may be less offsetting effect coming from innovation.
- It suggests that there is a risk in depending too much on innovation as a measure in confronting the shrinking population.

Number of Scientist and Engineers

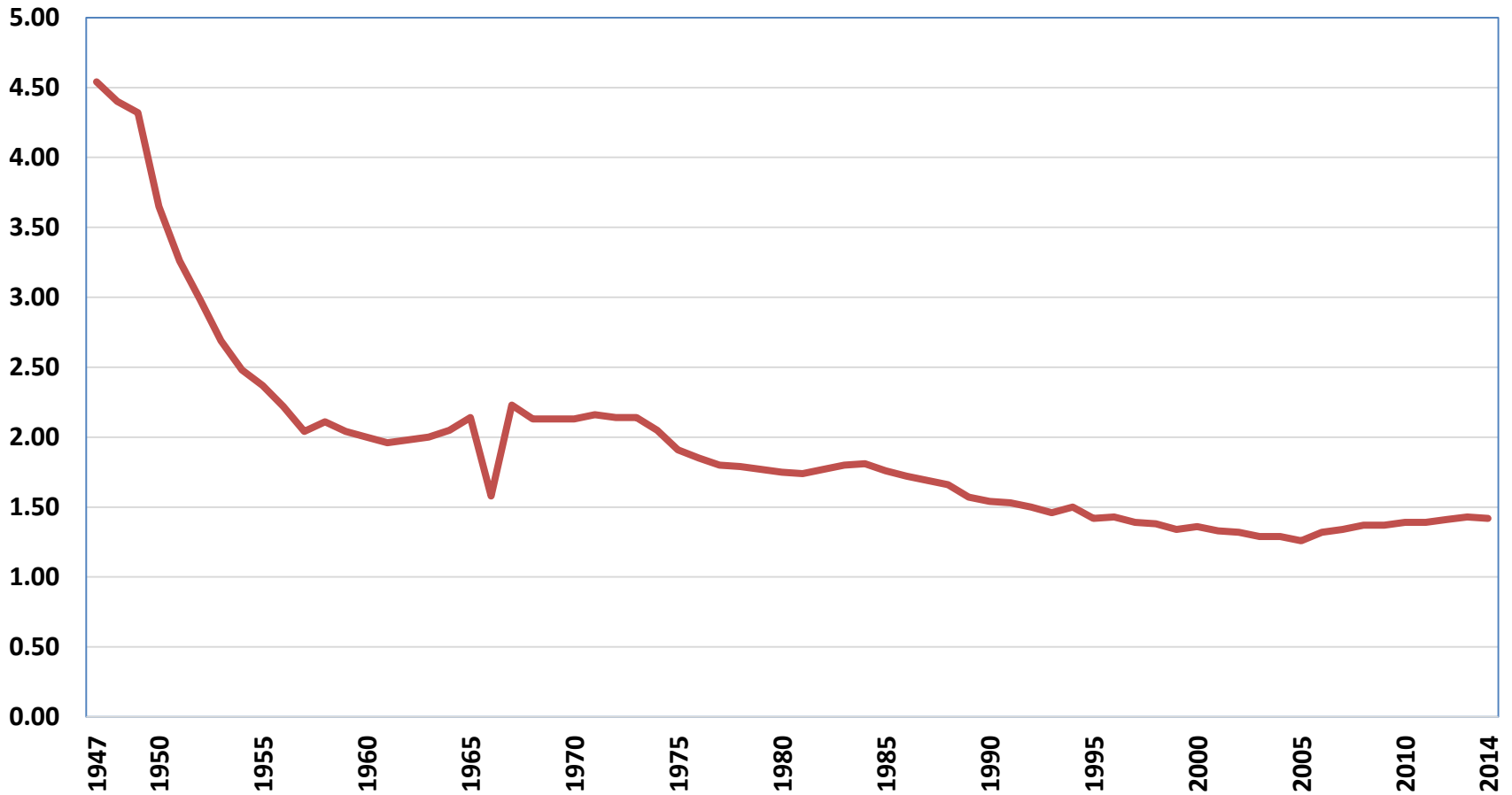


(Data Source) OECD , Main Science and Technology Indicators. Figures are on full-time equivalent (FTE) basis.

(Option C) Raising Fertility Rate

- The most fundamental solution to the shrinking population problem is to raise the fertility rate to at least 2.1 so as to stabilize the level of population.
- Fertility rate in Japan has fallen below 2.1 since 1974, and recorded its lowest at 1.26 in 2005. Since then it has recovered somewhat but is still low at 1.42 in 2014.

Total Fertility Rate



(Data Source) Ministry of Health, Labour and Welfare

Why has the Fertility Rate Fallen?

- Explaining it by economics was initiated by Becker (1960) and followed by others.
- They explain it as a result of a rational choice made by the households:
 - As the income rises, parents tend to prefer quality of their children rather than their quantity.
 - Parents used to rely on their children for their support after retirement. After the establishment of social security system, there has been less dependence on their children.

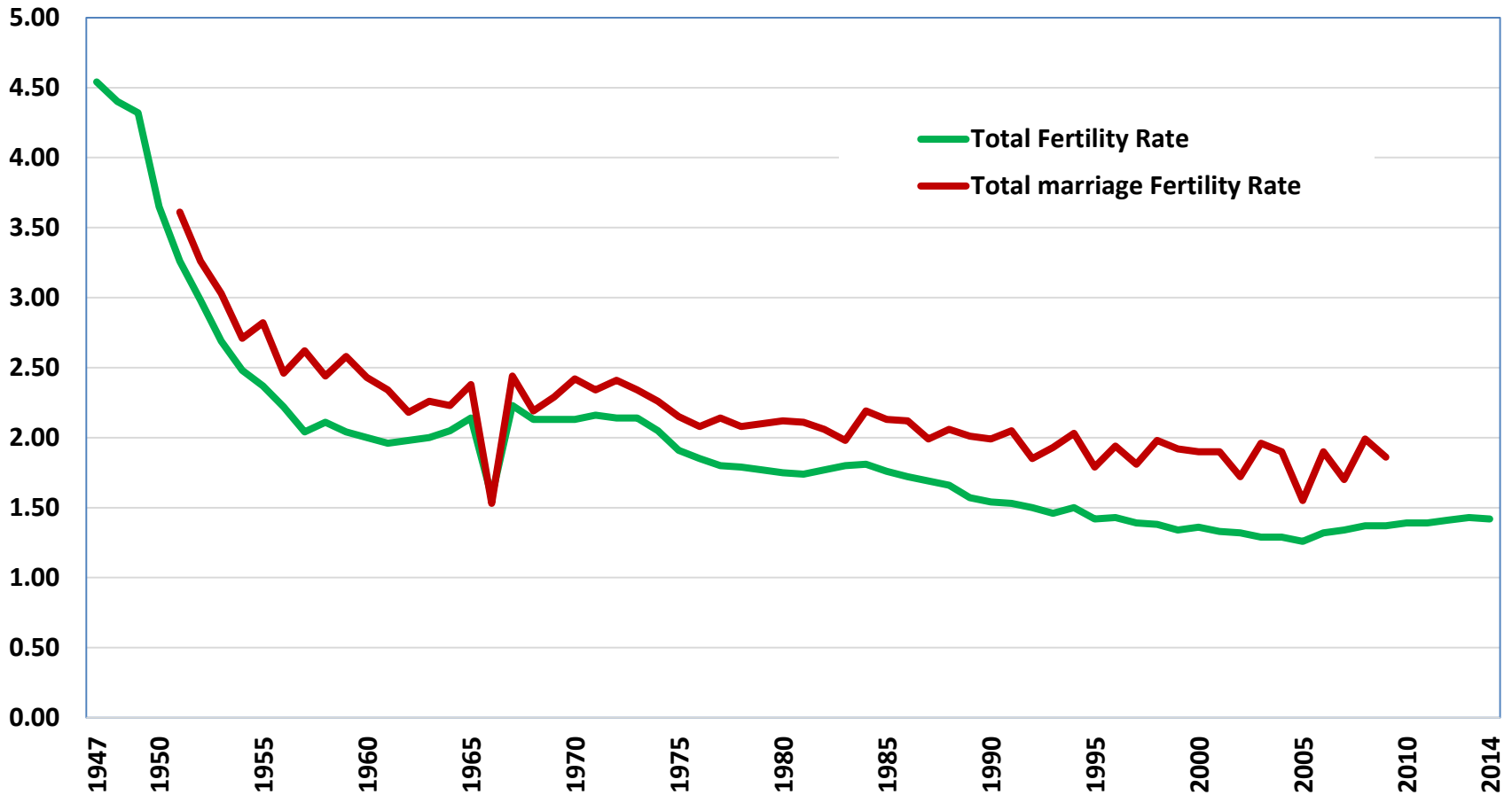
Why has the Fertility Rate Fallen?

- They explain it as a result of a rational choice made by the households (continued):
 - When parents' utility also reflects utility enjoyed by their children, they would tend to spend more on education for a smaller number of children so that they would be able to enjoy higher wages.
 - Opportunity cost of raising children has become higher because of higher wages females would be able to earn in the labor market.

Fertility Rate and Marriage Rate

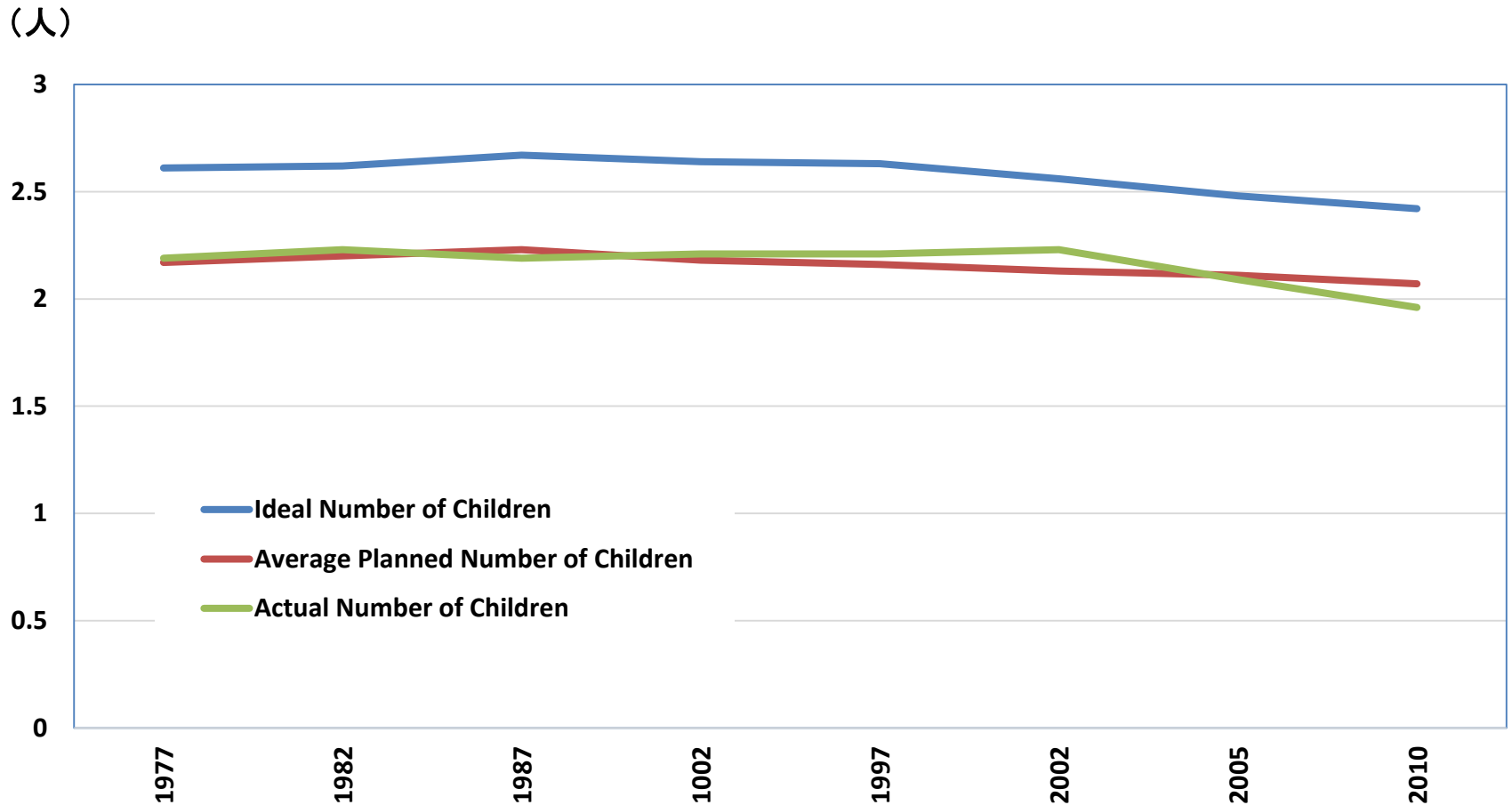
- One important fact that needs to be recognized about the fall in Japanese total fertility rate is that while the it has fallen to 1.42, the fertility rate of a married female is still around 2.
- It reflects the fact that total fertility rate has fallen because there are less married females.
 - Since children are born almost always (more than 95 percent) to married couples, changes in the marriage rate has important implications for changes in the total fertility rate.

Total Married Fertility Rate



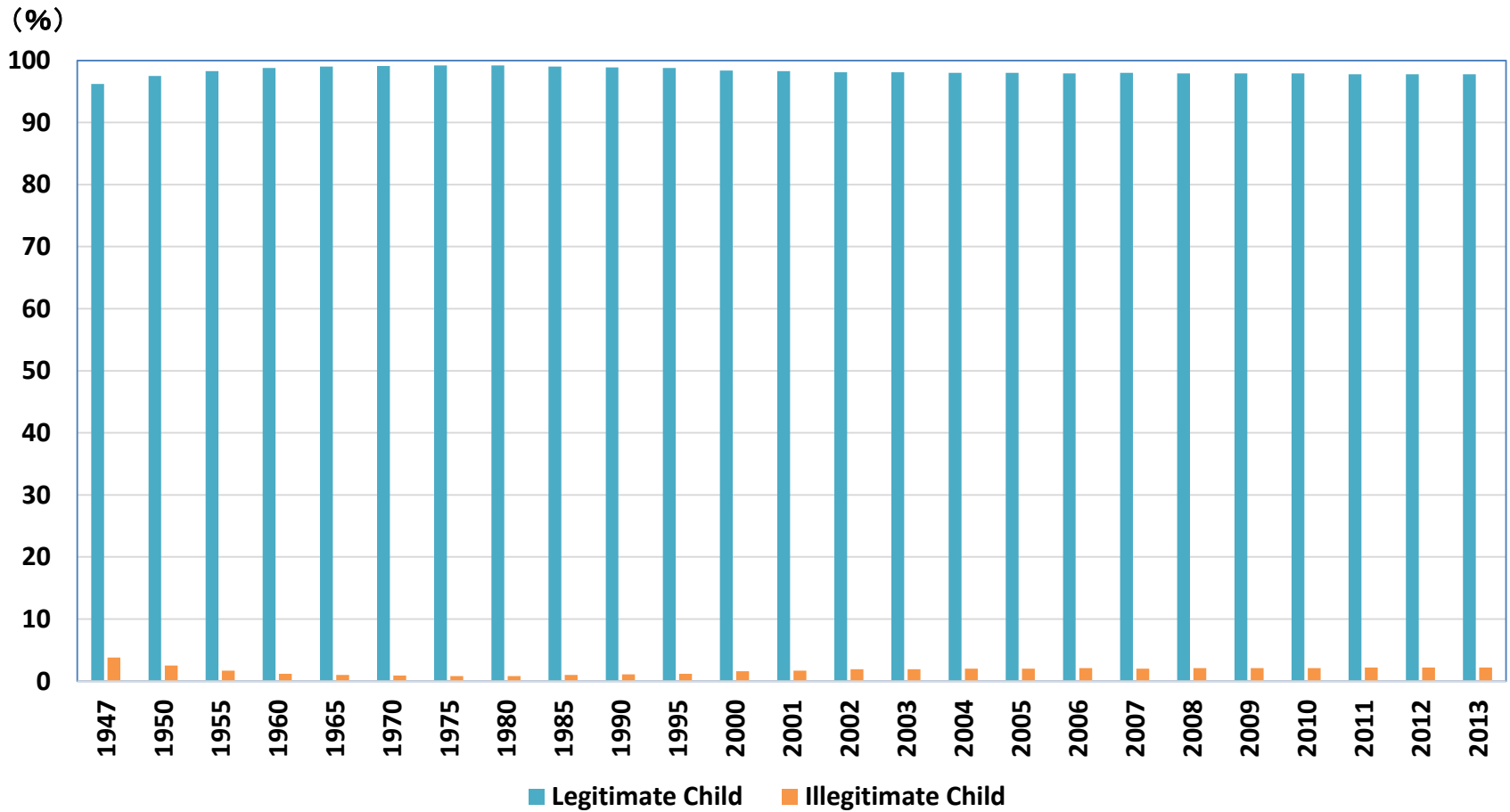
(Data Source) Ministry of Health, Labour and Welfare

Ideal, Planned, and Actual Number of Children for a Married Couple



(Data Source) National Institute of Population and Social Security Research

Legal Status of the Newly Born



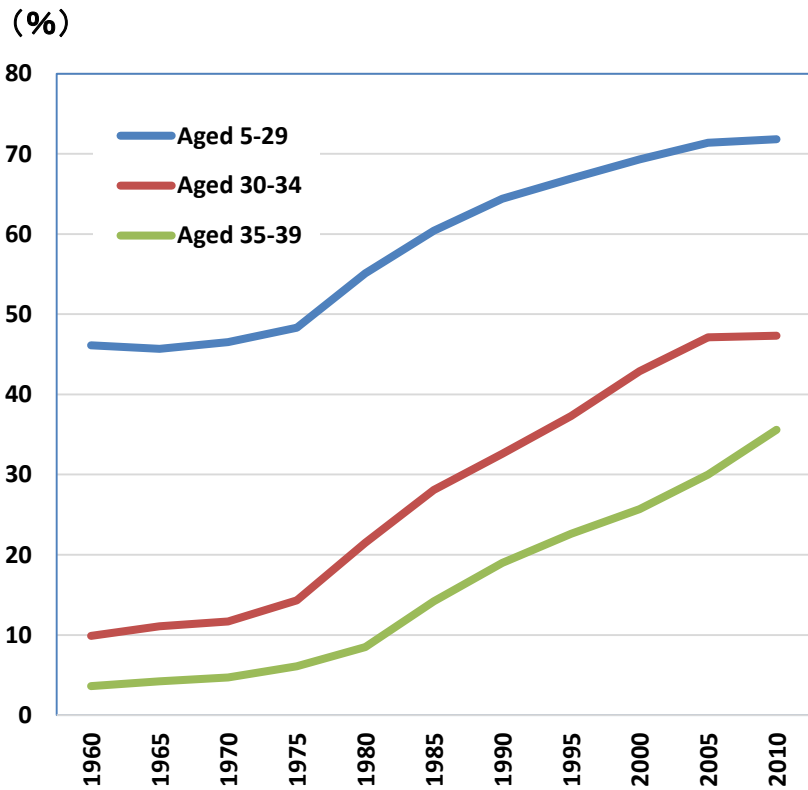
(Data Source) Ministry of Health, Labour and Welfare

Why has the Marriage Rate Fallen?

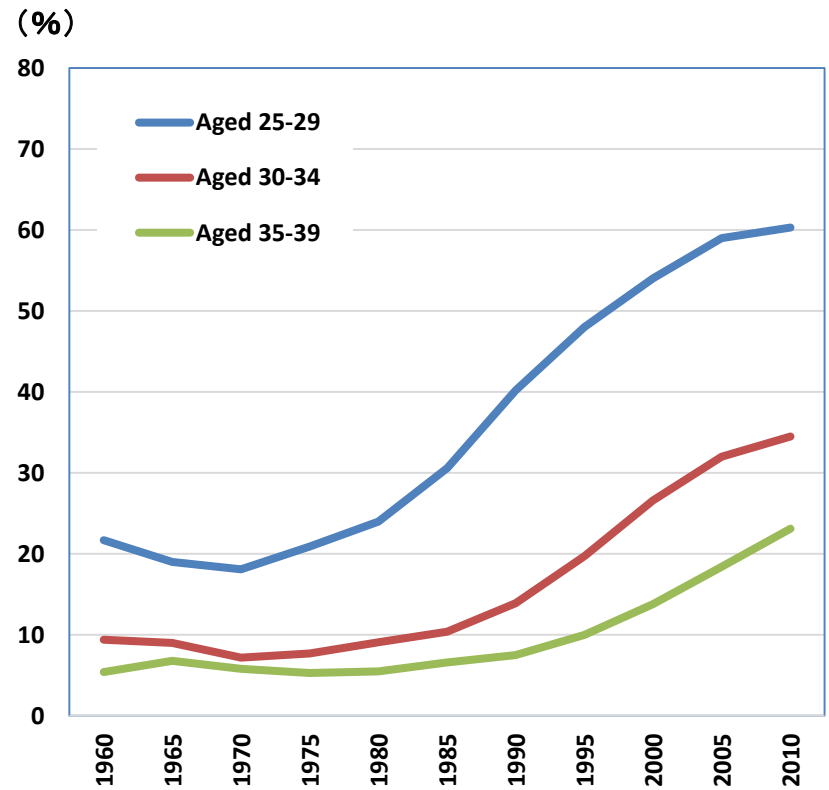
- Marriage rate has fallen because both “deferment of marriage” and “renouncement of marriage” is taking place.
- Deferment of marriage can be seen in the rising trend of the rate of the unmarried in young and middle age groups. As a result, the age of the first marriage and the age of having children are also rising.
- Renouncement of marriage can be seen in the rise in the rate of the unmarried in old age group.

Share of the Unmarried (aged 25 to 39)

Male



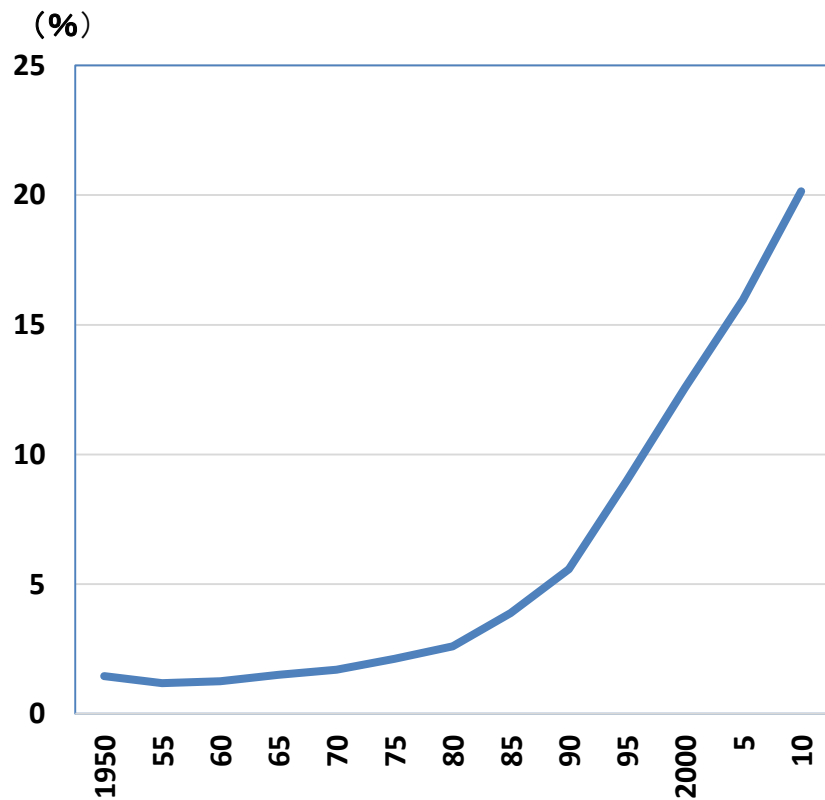
Female



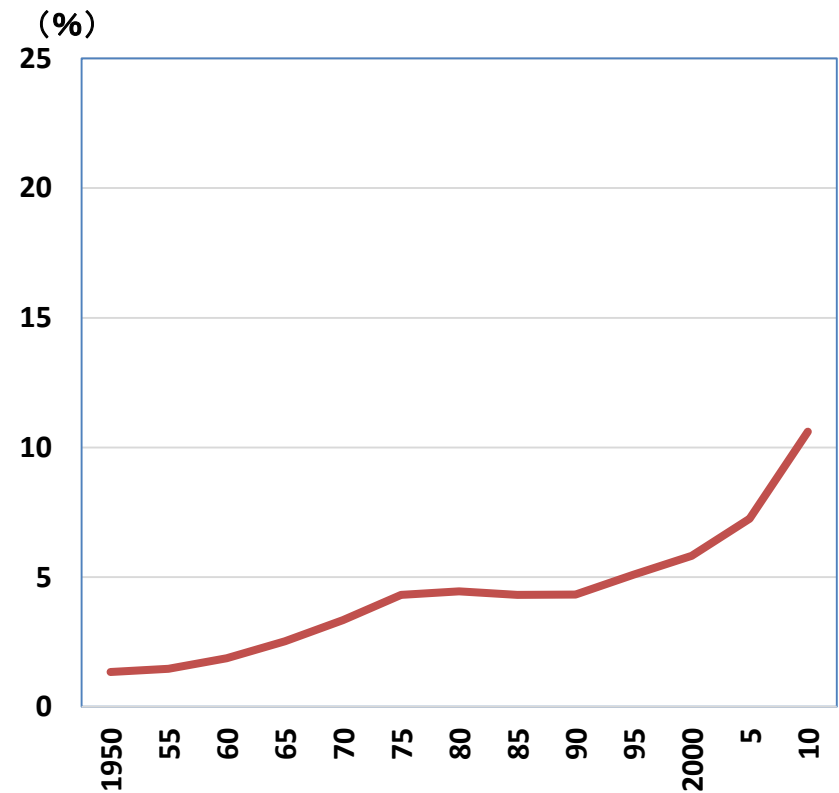
(Data Source) National Institute of Population and Social Security Research

Share of the Unmarried (average of the aged 45 to 54)

Male



Female



(Data Source) National Institute of Population and Social Security Research

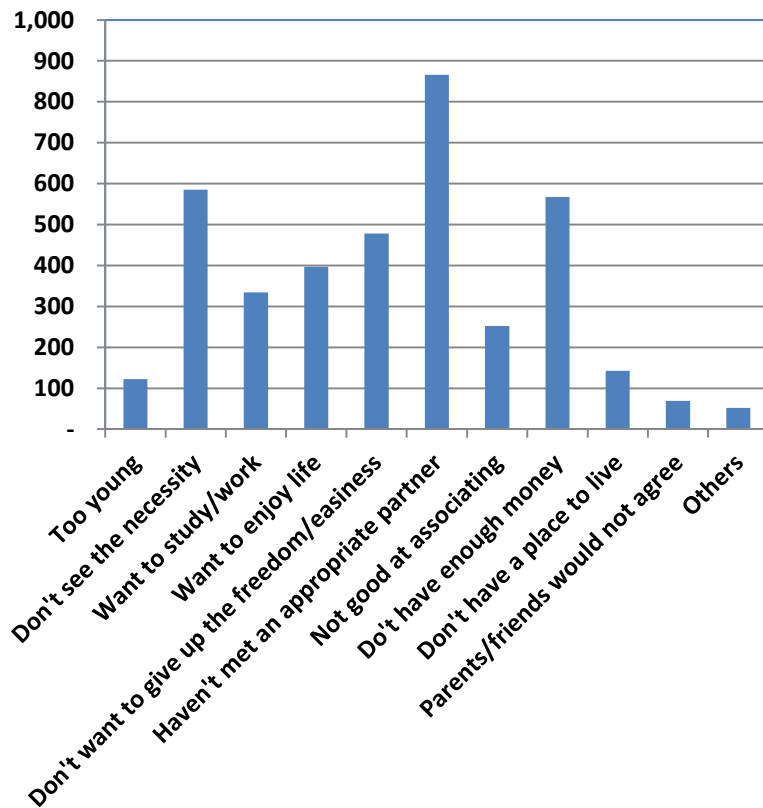
Why has the Marriage Rate Fallen?

- According to a survey, the reasons for staying single are as follows:
 - Have not yet met an appropriate partner.
 - Do not feel the need to get married.
 - Do not want to give up the freedom of staying single.
- According to a survey, the biggest obstacle to marriage is financial matters.

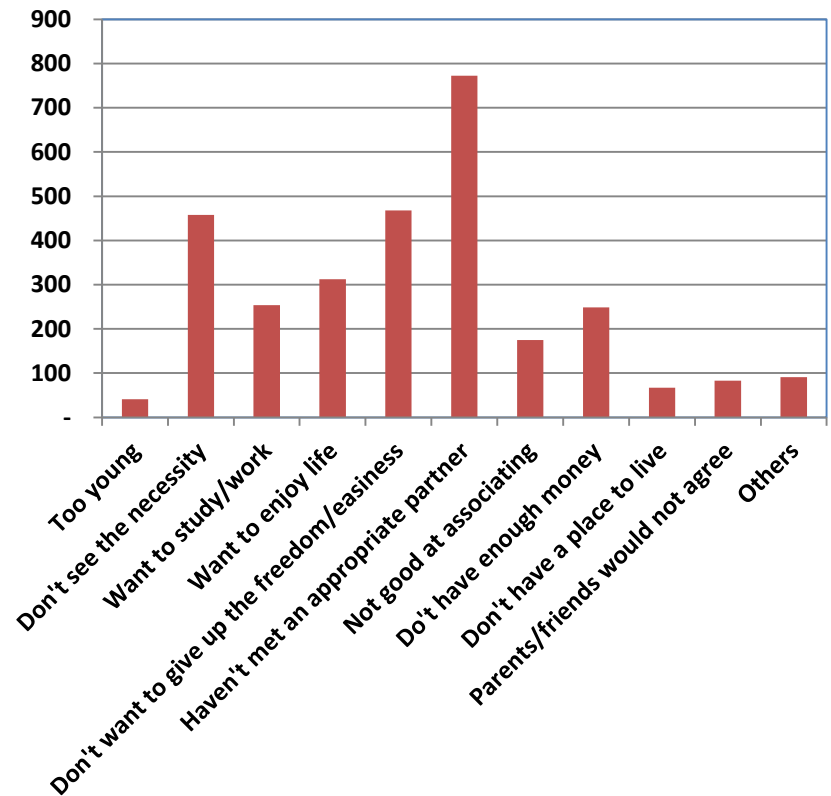
Reasons for Staying Single

(Total of the top three responses)

Male aged 25-34



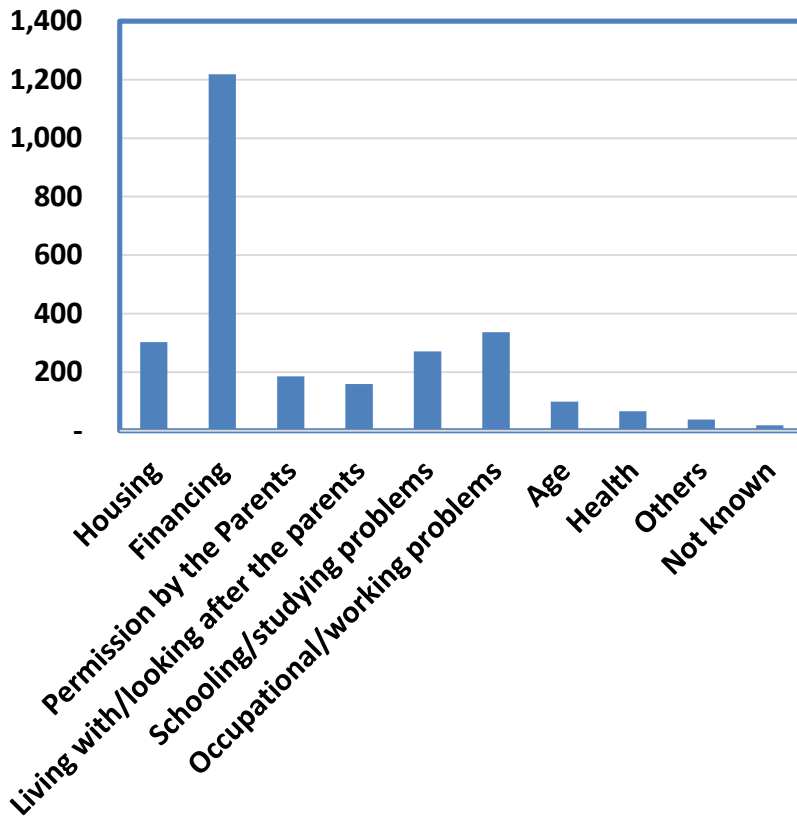
Female aged 25-34



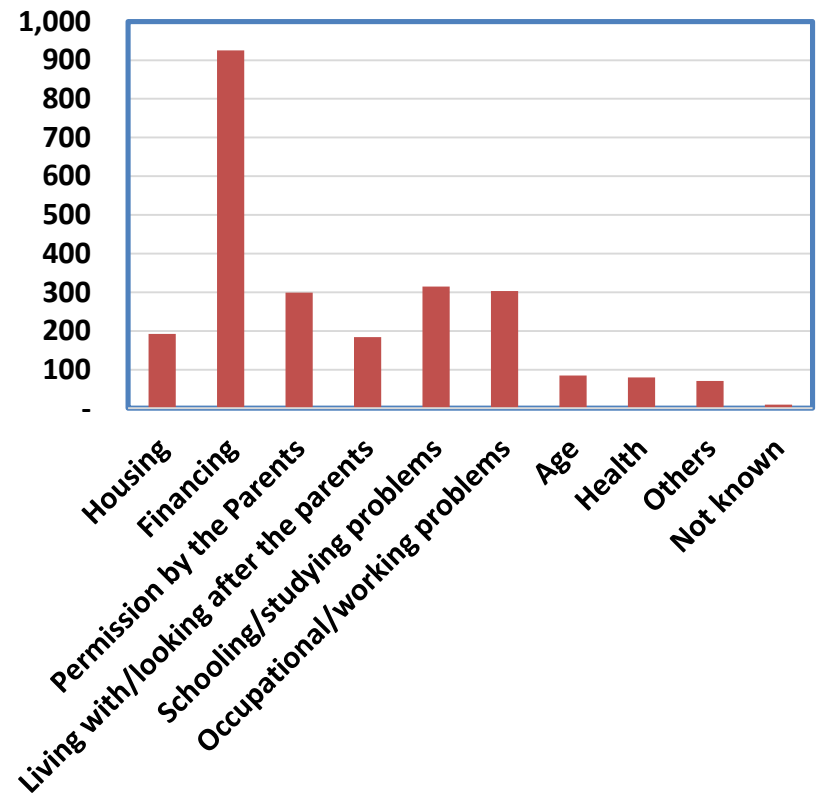
Obstacles to Marriage

(Top response)

Male



Female



Why does Marriage Take Place?

- Explaining marriage by economics was also initiated by Becker (1973) and followed by others.
- They explain it as a result of a rational choice made by individuals. A marriage by a couple enables them to enjoy the following:
 - Economies of scale (save overhead cost)
 - Division of labor according to their comparative advantage (traditional combination of “husbands earn wages, and wives look after their children”)
 - Having a family raises their utility.
 - Risk of longevity can be pooled.

Why has the Marriage Rate Fallen?

- When comparative advantage changes as a result of increasing opportunity for females to work and to earn higher wages, division of labor changes (e.g. to a combination of “both work and look after the children”).
 - If the changes in the social norm lags behind the changes in the comparative advantage, it would make it difficult to find an appropriate partner.

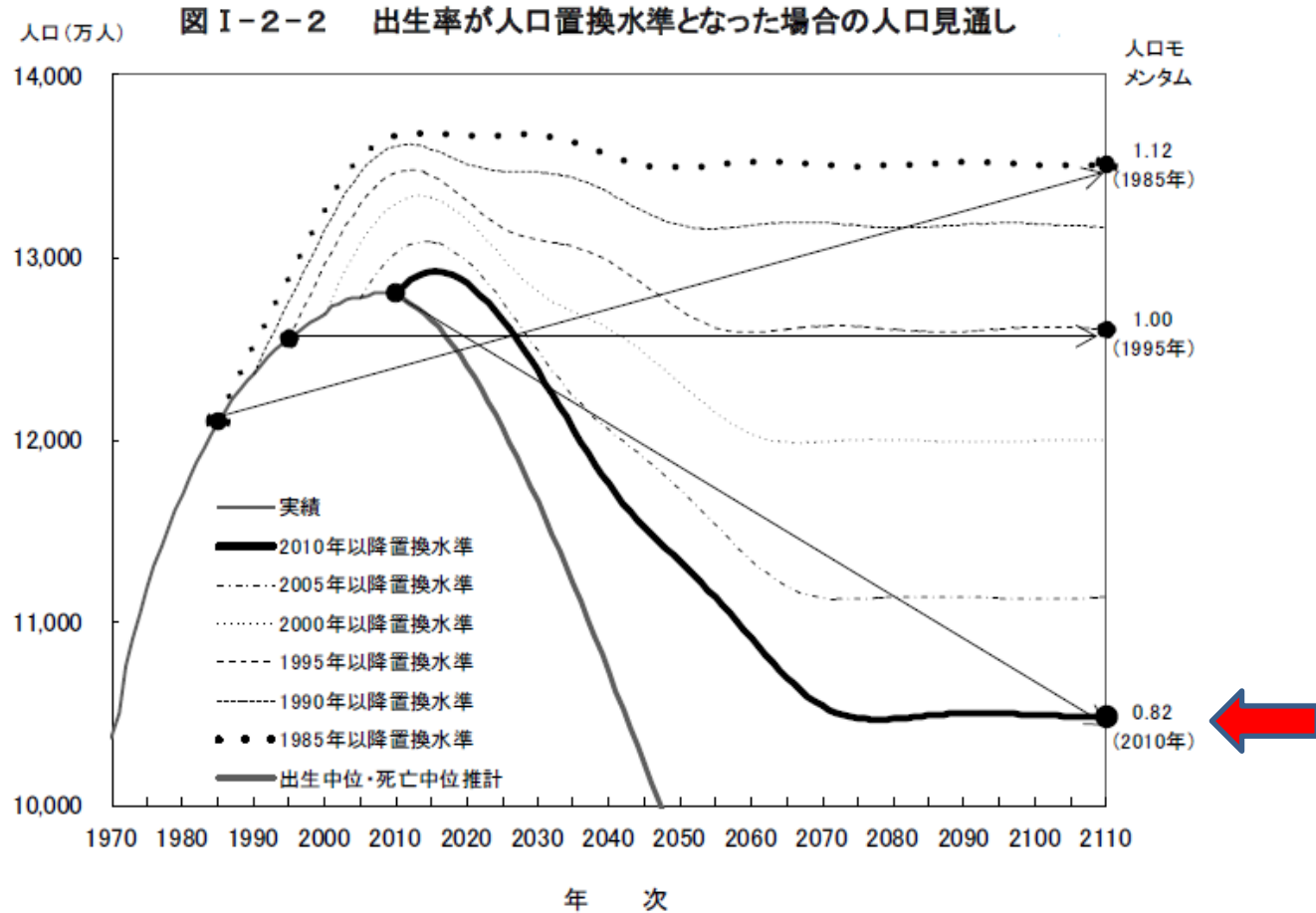
Why has the Marriage Rate Fallen?

- For a stable matching for all to exist, you need same number males and females with clear preference for each of the opposite sex.
 - It becomes difficult when there are increasing uncertainty as to whom and how many you might meet.
- One of the reason for marriage is to have children.
 - Marriage rate would fall when having children become increasingly costly.

(Option C) Raising Fertility Rate

- There is no doubt that raising fertility rate is essential in stabilizing population.
- However, finding the right policy, implementing it, and seeing its impact on the fertility rate is going to take a long time.
- Moreover, even if we are successful in achieving fertility rate to rise to 2.1 next year, we would have to wait until 2070s for the population to stabilize.
- It means that raising fertility rate can only be a “super long-term” solution for the shrinking population problem.

Momentum in Population Changes



(Source) National Institute of Population and Social Security Research

(Option D) Accepting Foreign Workers

- A measure that can fill the gap between a “medium-term” solution and a “super-long-term” solution is accepting foreign workers.
- Accepting foreign workers, especially the unskilled, is currently very limited in Japan.

Current Policy on Foreign Workers

- Some can work unrestrictedly.
 - Spouses of the Japanese
 - Permanent residents and their spouses
 - Long-term residents
- Some skilled workers can also work with permission.
 - Foreigners with status of residence in the professional and technical area
 - Those at the higher end is encouraged to stay longer under the Points-based Preferential Immigration Treatment introduced in 2012
- Unskilled workers are allowed to work only in a restricted way.
 - Trainees under the technical internship program
 - Nurses and long-term care workers under EPA
 - Students with special permission

Current Number of Foreign Workers

- Total (at end-October 2014) 787,627
 - Permanent residents, long-term residents, etc. 338,690
 - Technical intern trainees 145,426
 - Status of residence in professional and technical area 147,296
 - Under permission to engage in activity other than that permitted under the status of residence (e.g. students) 146,701
 - Designated activities (e.g. under EPA arrangement etc.) 9,475
 - Unable to identify 39
- Special permanent residents and diplomats and officials are not included.
 - Ministry of Health, Labour and Welfare

Shares of Foreign Workers in the Labor Force

- Japan 1.2% (2014)
- Germany 9.4% (2009)
- France 5.8% (2009)
- UK 8.2% (2013)
- USA 16.2% (2009)
- Korea 1.8% (2013)
- Singapore 37.9% (2013)

(Data Source) The Japan Institute of Labour Policy and Training

Recent Changes

- There has been plans to accept more foreign workers in the labor-shortage industries.
 - Extend period of stay for technical intern trainees, from three to five years (waiting for Diet approval)
 - Include long-term care as a type of job eligible for technical internship program (waiting for Diet approval) .
 - Accept construction workers for a limited period of time, ending in 2020 (started from FY2015).

Required Number of Foreign Workers

- An estimate by the United Nations (2000)
 - Estimates the number of immigrants necessary to maintain population only by accepting more foreign workers.
 - (a) To maintain total population, total of 17.14 million immigrants are necessary by 2050 (annual average of 340 thousand).
 - (b) To maintain working age population, total of 32.33 million immigrants are necessary by 2050 (annual average of 650 thousand).

(Source) United Nations, *Replacement Migration: Is it a Solution to Declining and Ageing Population?*, 2000.

Required Number of Foreign Workers

- An estimate by the JCER (2014)
 - Estimates the number of immigrants necessary to maintain working age population by both raising fertility rate and accepting more foreign workers.
 - If the fertility rate is raised to 1.8 by 2050, foreign workers need to be increased gradually and to accept 200 thousand workers every year after 2050.
 - Total population of Japan will, in this case, stabilize at 90 million in around 2100. The ratio of foreigner to total population will rise from 1.8% at present, to 6% in 2050, and to 13% in 2100.

(Source) Japan Center for Economic Research, *JCER Long-Term Forecast and Policy Proposal : Maintain Position as a First-tier Nation*, December 2013.

Concluding Remarks

- If we allow shrinking population to continue, we are destined to have more serious problems in the economy and the society.
- If we want to avoid such a situation, we have to make tough decisions, and make it fast.
- Since it is about the future shape of the country, we should allow the young to play a larger role in making the decision.
- Lowering the voting age to 18 can be considered to be a right step towards that direction.

Thank you for listening!

Japan Center for Economic Research

Jun Saito